METALSTEK

CHINA DUAL-USE ITEMS

Import and Export Licence Administration Catalogue

Unofficial English Translation for Reference Only - 2026 Reference Edition

Prepared for international customers and materials professionals by MetalsTek Engineering

This document is an unofficial English translation prepared for reference purposes only. In case of any discrepancy, the original Chinese document shall prevail.

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Important Notice and How to Use This Reference

Unofficial English Translation for Reference Only

This English-language document was prepared by MetalsTek Engineering as a convenience for international customers and materials professionals. It is not an official translation and does not constitute legal advice, a classification ruling, an export-control determination, or authorization to import or export. The original Chinese document and applicable Chinese laws, regulations, rules, control lists and official announcements shall prevail in all cases.

Important HS Code limitation

A match with a Customs Commodity Code (HS Code) does not, by itself, mean that an item is controlled as a dual-use item. The catalogue contains multiple fields, including Control Code, item name and description, reference commodity name and Customs Commodity Code. Classification and licensing analysis must be based on the complete item description and applicable technical conditions; HS Codes are provided only as a customs-declaration reference. Conversely, the absence of a listed HS Code does not override a control that applies under the item description or other applicable rules.

Editorial treatment

Serial numbers, Control Codes and Customs Commodity Codes have been retained from the Chinese source. Chinese descriptive content has been translated into English and reflowed for readability. Page-source notes identify the page of the supplied Chinese PDF from which each entry was extracted.

Catalogue for the Administration of Import and Export Licences for Dual-Use Items and Technologies

Explanatory Notes:

1. This catalog is divided into the 'Import License Management Catalogue for Dual-Use Items and Technologies' and the 'Export License Management Catalogue for Dual-Use Items and Technologies'.

2. The items and technologies listed in this catalog refer to those that are controlled or managed in accordance with the "Export Control Law of the People's Republic of China", the "Cryptography Law of the People's Republic of China", and other relevant laws, administrative regulations, and rules.

3. The import and export of items and technologies listed in this catalog, regardless of whether the items and technologies have customs commodity codes listed in this catalog, shall be subject to the legal procedures for obtaining import and export licenses for dual-use items and technologies.

4. If the items and technologies listed in this catalog and their commercial names and descriptions are inconsistent with relevant laws, administrative regulations, rules, the "Export Control List of Dual-Use Items of the People's Republic of China" and relevant announcements, the relevant laws, administrative regulations, rules, the "Export Control List of Dual-Use Items of the People's Republic of China" and relevant announcements shall prevail.

I. Catalogue for the Administration of Import Licences for Dual-Use Items and Technologies

1. Items Listed in the Schedules to the Regulations on the Administration of Controlled Chemicals

Original Chinese source p. 2

No.	HS Code(s)	Unit
1	2921193000	kg

Commodity Name

Nitrogen mustard gas HN1: N,N-Bis(2-chloroethyl)ethylamine

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
2	2921194000	kg

Commodity Name

Nitrogen mustard HN2: N,N-Bis(2-chloroethyl)methylamine

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
3	2921195000	kg

Commodity Name

Nitrogen mustard HN3: tris(2-chloroethyl)amine

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
4	2930909041	kg

Commodity Name

Sulfur mustard: 2-chloroethyl chloromethyl sulfide

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
5	2930909041	kg

Commodity Name

Mustard gas: bis(2-chloroethyl)sulfide

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
6	2930909041	kg

Commodity Name

Di(2-chloroethylthio)methane

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
7	2930909041	kg

Commodity Name

Bis(2-chloroethyl) sulfide

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
8	2930909041	kg

Commodity Name

1,3-bis(2-chloroethylthio)n-propane

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
9	2930909041	kg

Commodity Name

1,4-bis(2-chloroethylthio)n-butane

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
10	2930909041	kg

Commodity Name

1,5-bis(2-chloroethylthio)n-pentane

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
11	2930909041	kg

Commodity Name

Bis(2-chloroethylthiomethyl)ether

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
12	2930909041	kg

Commodity Name

Oxygen mustard; bis(2-chloroethylthioethyl)ether

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
13	2930909042	kg

Commodity Name

Alkyl (methyl, ethyl, n-propyl, or isopropyl) thiophosphonic acid alkyl (hydrogen or carbon chains with fewer than or equal to 10 carbon atoms, including cycloalkyl)-S-2-dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethyl ester and the corresponding alkylated salt or protonated salt, for example: VX: O-ethyl S-2-diisopropylaminoethyl methylphosphonothioate

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
14	2931900002	kg

Commodity Name

Lewis agent 1: 2-chlorovinyl dichloroarsine

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
15	2931900002	kg

Commodity Name

Lewis agent 2: bis(2-chlorovinyl)chloroarsine

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 2

No.	HS Code(s)	Unit
16	2931900002	kg

Commodity Name

Lewis agent 3: tris(2-chlorovinyl)arsine

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 3

No.	HS Code(s)	Unit
17	2931590001	kg

Commodity Name

Alkyl (methyl, ethyl, n-propyl, or isopropyl) fluoro-phosphonic acid alkyl (carbon chain of 10 atoms or less, including cycloalkyl) esters, for example: Sarin: isopropyl methylphosphonofluoridate Soman: pinacolyl methylphosphonofluoridate

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 3

No.	HS Code(s)	Unit
18	2931499010	kg

Commodity Name

Dialkyl (methyl, ethyl, n-propyl, or isopropyl) amino cyanophosphonic acid alkyl (carbon chain of 10 or fewer carbon atoms, including cycloalkyl) esters, for example: Tabun: diethylamino cyanophosphonic acid ethyl ester

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 3

No.	HS Code(s)	Unit
19	2931590001	kg

Commodity Name

Alkyl (methyl, ethyl, n-propyl, or isopropyl) phosphonyl difluoride, for example: DF: methylphosphonyl difluoride

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 3

No.	HS Code(s)	Unit
20	2931499010	kg

Commodity Name

Alkyl (methyl, ethyl, n-propyl, or isopropyl) phosphonic acid alkyl (hydrogen or a carbon chain with less than or equal to 10 carbon atoms, including cycloalkyl) -2-dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethyl ester and the corresponding alkylated salts or protonated salts, for example: QL: Methyl phosphonic acid ethyl-2-diisopropylaminoethyl ester

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 3

No.	HS Code(s)	Unit
21	2931590001	kg

Commodity Name

Losalen: isopropyl methylclodronate

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 3

No.	HS Code(s)	Unit
22	2931590001	kg

Commodity Name

Chlorthoman: pinamate methylclodronate

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 3

No.	HS Code(s)	Unit
23	2939801000	kg

Commodity Name

Saxitoxin

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 3

No.	HS Code(s)	Unit
24	3002492000	kg

Commodity Name

Ricin

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 3

No.	HS Code(s)	Unit
25	2929909014 2931590050 2931590050	kg

Commodity Name

N-{1-[Dialkyl(amino group with carbon chains of 10 carbons or fewer, including cycloalkyl) amine] alkylene (hydrogen, carbon chains of 10 carbons or fewer, including cycloalkyl)}-P-alkyl (hydrogen, carbon chains of 10 carbons or fewer, including cycloalkyl) phosphonamidates and corresponding alkylated salts or protonated salts. For example: 1. N-[1-(Di-n-decylamino) n-decyl]-P-n-decyl phosphonamidate, CAS Registry Number: 2387495-99-8 2. N-[1-(Diethylamino) ethylene]-P-methyl phosphonamidate, CAS Registry Number: 2387496-12-8

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 4

No.	HS Code(s)	Unit
26	2929909015	kg

Commodity Name

N-[1-dialkyl(amino groups with carbon chains of 10 or fewer carbon atoms, including cycloalkyl)aminomethyl](hydrogen, carbon chains of 10 or fewer carbon atoms, including cycloalkyl)amino fluorophosphate alkyl(hydrogen, carbon chains of 10 or fewer carbon atoms, including cycloalkyl) ester and the corresponding alkylated salts or protonated salts, for example: 1. N-[1-(di-n-decylamino)decyl]amino fluorophosphate n-ester, CAS Registry Number: 2387496-00-4 2. N-[1-(diethylamino)ethyl]amino fluorophosphate methyl ester, CAS Registry Number: 2387496-04-8 3. N-[1-(diethylamino)ethyl]amino fluorophosphate ethyl ester, CAS Registry Number: 2387496-06-0

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 4

No.	HS Code(s)	Unit
27	2931590060	kg

Commodity Name

[Bis(diethylamino)methyl]fluorophosphonamid Chemical Abstracts Service Registry Number: 2387496-14-0

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source pp. 4-5

No.	HS Code(s)	Unit
28	2933399074	kg

Commodity Name

Carbamate Compounds (Dimethylamino Carbamate Pyridyl Quaternary Salts and Bisquaternary Salts) Dimethylamino Carbamate Pyridyl Quaternary Salts: 1-[N,N-dialkyl (carbon chain with ≤10 carbon atoms)-N-(n-hydroxy, cyano, acetoxy) alkyl (carbon chain with ≤10 carbon atoms)]-n-[N-(3-dimethylcarbamoyloxy-α-picolinyl)-N,N-dialkyl (carbon chain with ≤10 carbon atoms)] dibromodecylquaternary salt (n=1-8) For example: 1-[N,N-dimethyl-N-(2-hydroxy)ethyl]-10-[N-(3-dimethylcarbamoyloxy-α-picolinyl)-N,N-dimethyl] dibromodecylquaternary salt CAS Registry Number: 77104-62-2 Bisquaternary Salts of Dimethylamino Carbamate Pyridyl: 1,n-bis[N-(3-dimethylaminocarbamoyloxy-α-picolinyl)-N,N-dialkyl (carbon chain with ≤10 carbon atoms)]-[2,(n-1)-dione] dibromoalkyl quaternary salts (n=2-12) For example: 1,10-bis[N-(3-dimethylaminocarbamoyloxy-α-picolinyl)-N-ethyl-N-methyl]-2,9-dione dibromodecylquaternary salt CAS Registry Number: 77104-00-8

Description

Category 1: Chemicals that can be used as chemical weapons

Original Chinese source p. 5

No.	HS Code(s)	Unit
29	2931460000	kg

Commodity Name

1-propylphosphonic acid cyclic anhydride

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source p. 5

No.	HS Code(s)	Unit
30	2812191010	kg

Commodity Name

Arsenic trichloride

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source p. 5

No.	HS Code(s)	Unit
31	2903591000	kg

Commodity Name

PFIB: 1,1,3,3,3-pentafluoro-2-(trifluoromethyl)-1-propene (also known as: perfluoroisobutene; octafluoroisobutene)

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source p. 5

No.	HS Code(s)	Unit
32	2905191000	kg

Commodity Name

Pinacyl alcohol: 3,3-dimethylbutan-2-ol

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source p. 5

No.	HS Code(s)	Unit
33	2918170000	kg

Commodity Name

2,2-Diphenyl-2-hydroxyacetic acid: Diphenylhydroxyacetic acid; Diphenylglycolic acid

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source pp. 5-6

No.	HS Code(s)	Unit
34	2921120000 2921130000 2921196000 2921140000	kg

Commodity Name

Dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethyl-2-chloro and their corresponding protonated salts, for example: 1. 2-(N,N-Dimethylamino)chloroethane (also known as N,N-dimethylaminoethyl-2-chloro, 2-(N,N-dimethyl)-chloroethylamine) 2. 2-(N,N-Diethylamino)chloroethane (also known as N,N-diethylaminoethyl-2-chloro, 2-(N,N-diethyl)-chloroethylamine) 3. 2-(N,N-Dipropylamino)chloroethane (also known as N,N-dipropylaminoethyl-2-chloro, 2-(N,N-dipropyl)-chloroethylamine) 4. 2-(N,N-Diisopropylamino)chloroethane (also known as N,N-diisopropylaminoethyl-2-chloro, 2-(N,N-diisopropyl)-chloroethylamine) 5. 2-(N,N-Dimethylamino)chloroethane hydrochloride (also known as N,N-dimethylaminoethyl-2-chloro hydrochloride, 2-(N,N-dimethyl)-chloroethylamine hydrochloride) 6. 2-(N,N-Diethylamino)chloroethane hydrochloride (also known as N,N-diethylaminoethyl-2-chloro hydrochloride, 2-(N,N-diethyl)-chloroethylamine hydrochloride) 7. 2-(N,N-Dipropylamino)chloroethane hydrochloride (also known as N,N-dipropylaminoethyl-2-chloro hydrochloride, 2-(N,N-dipropyl)-chloroethylamine hydrochloride) 8. 2-(N,N-Diisopropylamino)chloroethane hydrochloride (also known as N,N-diisopropylaminoethyl-2-chloro hydrochloride, 2-(N,N-diisopropyl)-chloroethylamine hydrochloride)

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source p. 6

No.	HS Code(s)	Unit
35	2922180000 2922192900	kg

Commodity Name

Dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethanol and their corresponding protonated salts except: dimethylaminoethanol and its corresponding protonated salts, diethylaminoethanol and its corresponding protonated salts. Examples: 1. 2-(N,N-di-n-propylamino)ethanol (also known as: N,N-di-n-propylamino-2-ethanol, 2-(N,N-di-n-propyl)ethanolamine, 2-di-n-propylaminoethanol) 2. 2-(N,N-diisopropylamino)ethanol (also known as: N,N-diisopropylamino-2-ethanol, 2-(N,N-diisopropyl)ethanolamine, 2-diisopropylaminoethanol) 3. 2-(N,N-di-n-propylamino)ethanol hydrochloride (also known as: N,N-di-n-propylamino-2-ethanol hydrochloride, 2-(N,N-di-n-propyl)ethanolamine hydrochloride, 2-di-n-propylaminoethanol hydrochloride) 4. 2-(N,N-diisopropylamino)ethanol hydrochloride (also known as: N,N-diisopropylamino-2-ethanol hydrochloride, 2-(N,N-diisopropyl)ethanolamine hydrochloride, 2-diisopropylaminoethanol hydrochloride)

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source p. 6

No.	HS Code(s)	Unit
36	2929902000	kg

Commodity Name

Dialkyl (methyl, ethyl, n-propyl, or isopropyl) amino phosphonyl dihalides, for example: N,N-dimethylphosphonylamino dichloride

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source p. 6

No.	HS Code(s)	Unit
37	2929903000	kg

Commodity Name

Dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminophosphonic acid dialkyl (methyl, ethyl, n-propyl, or isopropyl) ester

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source p. 6

No.	HS Code(s)	Unit
38	2930909042	kg

Commodity Name

Aminophosphonates (O,O-diethyl S-(2-diethylaminoethyl) phosphorothioate and the corresponding alkylated salts or protonated salts)

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source pp. 6-7

No.	HS Code(s)	Unit
39	2930600000 2930909042	kg

Commodity Name

Dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethyl-2-thiol and the corresponding protonated salts, for example: 1.2-(N,N-Dimethylamino)ethanethiol (also known as: N,N-Dimethylamino-β-mercaptoethane, 2-(N,N-Dimethyl)ethanethiolamine) 2.2-(N,N-Diethylamino)ethanethiol (also known as: N,N-Diethylamino-β-2-mercaptoethane, 2-(N,N-Diethyl)ethanethiolamine) 3.2-(N,N-Dipropylamino)ethanethiol (also known as: N,N-Dipropylamino-ethyl-2-thiol, 2-(N,N-Dipropyl)ethanethiolamine) 4.2-(N,N-Diisopropylamino)ethanethiol (also known as: N,N-Diisopropylamino-ethyl-2-thiol, 2-(N,N-Diisopropyl)ethanethiolamine) 5.2-(N,N-Dimethylamino)ethyl Mercaptan Hydrochloride (Also known as: N,N-Dimethylamino-ethyl-2-mercaptan Hydrochloride, 2-(N,N-Dimethyl)ethyl Mercaptan Amine Hydrochloride) 6.2-(N,N-Diethylamino)ethanethiol Hydrochloride (also known as: N,N-Diethylamino-ethyl-2-thiol Hydrochloride, 2-(N,N-Diethyl)ethanethiolamine Hydrochloride) 7.2-(N,N-Dipropylamino)ethanethiol Hydrochloride (Also known as: N,N-Dipropylamino-ethyl-2-thiol Hydrochloride, 2-(N,N-Dipropyl)ethanethiolamine Hydrochloride) 8.2-(N,N-Diisopropylamino)ethyl Mercaptan Hydrochloride (also known as: N,N-Diisopropylamino-ethyl-2-mercaptan Hydrochloride, 2-(N,N-Diisopropyl)ethanethiolamine Hydrochloride)

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source p. 7

No.	HS Code(s)	Unit
40	2930700000	kg

Commodity Name

Thiodiglycol: bis(2-hydroxyethyl) sulfide; thiodiethanol

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source pp. 7-8

No.	HS Code(s)	Unit
41	2930909042 2931510000 2931410000 2931499020 2931440000 2931430000 2931470000 2931499020 2931499020 2931590060 2931590070 2931499020 2931450000 2931499020 3824999950 2931480000	kg

Commodity Name

Chemicals containing one phosphorus atom and having a methyl, ethyl, or (normal or iso) propyl group bonded to the phosphorus atom, excluding cases containing more carbon atoms, except as listed in the first category. Exceptions: Fipronil: S-phenylethyl dithiophosphonate 1. Methylphosphonic dichloride 2. Dimethyl methylphosphonate 3. Propylphosphonic acid 4. Methylphosphonic acid 5. Diethyl ethylphosphonate 6. Cyclic phosphonate ester A Chemical name: Methylphosphonic acid (5-ethyl-2-methyl-2-oxo-1,3,2-dioxaphosphorinane-5-yl) methyl methyl ester CAS registry number: 41203-81-0 7. Cyclic phosphonate ester B Chemical name: Dimethylphosphonic acid di[5-(5-ethyl-2-methyl-2-oxo-1,3,2-dioxaphosphorinane) methyl] ester CAS registry number: 42595-45-9 8. Dimethylphosphonic acid diethylene glycol ester CAS registry number: 294675-51-7 9. Diethyl methylphosphonate 10. Methylphosphonic dichloride 11. Terbufos 12. Monobutyl methylphosphonate 13. Methylphosphonic acid guanidinium salt 14. Diphenyl methylphosphonate 15. Cyclic phosphonate ester CU Chemical name: Mixture of cyclic phosphonate ester A and cyclic phosphonate ester B CAS registry number: 170836-68-7 16. 3,9-Dimethyl-2,4,8,10-tetraoxadi-3,9-diphosphaspiro[5.5]undecane 3,9-dioxide

Description

Category 2: Chemicals that can be used as precursors for the production of chemical weapons Category 2: Chemicals that can be used as precursors for the production of chemical weapons Category 2: Chemicals that can be used as precursors for the production of chemical weapons Category 2: Chemicals that can be used as precursors for the production of chemical weapons Category 2: Chemicals that can be used as precursors for the production of chemical weapons Category 2: Chemicals that can be used as precursors for the production of chemical weapons Category 2: Chemicals that can be used as precursors for the production of chemical weapons Category 2: Chemicals that can be used as precursors for the production of chemical weapons Category 2: Chemicals that can be used as precursors for the production of chemical weapons Category 2: Chemicals that can be used as precursors for the production of chemical weapons Category 2: Chemicals that can be used as precursors for the production of chemical weapons Category 2: Chemicals that can be used as precursors for the production of chemical weapons Category 2: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source p. 8

No.	HS Code(s)	Unit
42	2933391000	kg

Commodity Name

BZ: benzyl glycolate-3-quinuclidinate

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source p. 8

No.	HS Code(s)	Unit
43	2933350000	kg

Commodity Name

Quinuclidine-3-ol

Description

Category II: Chemicals that can be used as precursors for the production of chemical weapons

Original Chinese source p. 8

No.	HS Code(s)	Unit
44	2811120000	kg

Commodity Name

hydrogen cyanide

Description

Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 8

No.	HS Code(s)	Unit
45	2812170000 8506500019	kg

Commodity Name

Sulfuryl chloride; thionyl chloride; sulfuryl oxychloride (excluding single lithium thionyl chloride batteries or battery packs with a sulfuryl chloride filling content of no more than 1 kilogram)

Description

Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 8

No.	HS Code(s)	Unit
46	2812120000	kg

Commodity Name

Phosphorus oxychloride: phosphorus oxychloride; phosphorus oxychloride

Description

Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 8

No.	HS Code(s)	Unit
47	2812110000	kg

Commodity Name

Phosgene: Carbonyl dichloride

Description

Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
48	2812150000	kg

Commodity Name

Sulfur monochloride

Description

Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
49	2812160000	kg

Commodity Name

Sulfur dichloride

Description

Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
50	2812130000	kg

Commodity Name
Phosphorus trichloride

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
51	2812140000	kg

Commodity Name
Phosphorus pentachloride

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
52	2813900010	kg

Commodity Name
Phosphorus pentasulfide

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
53	2837111000	kg

Commodity Name
sodium cyanide

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
54	2837191000	kg

Commodity Name
Potassium cyanide

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
55	2853100000	kg

Commodity Name
cyanogen chloride

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
56	2904910000	kg

Commodity Name
Chloropicrin; chloropicrin; chloropicrin

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
57	2914190010	kg

Commodity Name
pinacolone

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
58	2918190010	kg

Commodity Name
Methyl benzene glycolate

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
59	2920230000	kg

Commodity Name
Trimethyl phosphite

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
60	2920240000	kg

Commodity Name
Triethyl phosphite

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
61	2920210000	kg

Commodity Name
dimethyl phosphite

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
62	2920220000	kg

Commodity Name
diethyl phosphite

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
63	2921110050	kg

Commodity Name
Dimethylamine

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
64	2921110050	kg

Commodity Name
Dimethylamine hydrochloride

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
65	2922150000	kg

Commodity Name
Triethanolamine

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 9

No.	HS Code(s)	Unit
66	2922199041	kg

Commodity Name
Triethanolamine hydrochloride

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 10

No.	HS Code(s)	Unit
67	2922170000	kg

Commodity Name
Ethyldiethanolamine

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 10

No.	HS Code(s)	Unit
68	2922170000	kg

Commodity Name
Methyldiethanolamine

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 10

No.	HS Code(s)	Unit
69	2933399074	kg

Commodity Name
3-Hydroxy-1-methylpiperidine

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 10

No.	HS Code(s)	Unit
70	2933399074	kg

Commodity Name
3-quinuclidinone

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 10

No.	HS Code(s)	Unit
71	3824999950	kg

Commodity Name
Triethanolamine mixture

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 10

No.	HS Code(s)	Unit
72	3824999950	kg

Commodity Name
Methyldiethanolamine mixture

Description
Category III: Chemicals that can be used as main raw materials for the production of chemical weapons

Original Chinese source p. 10

No.	HS Code(s)	Unit
73	-	-

Commodity Name
Production Technology of Category I, Category II, and Category III Controlled Chemicals

Description
Various technical methods for producing Category I, Category II, and Category III controlled chemicals

Original Chinese source p. 10

No.	HS Code(s)	Unit
74	-	-

Commodity Name

Special equipment for monitoring chemicals of Category I, Category II, and Category III

Description

Using various monitoring chemical production technologies, produce specialized equipment required for the synthesis, separation, purification, heat transfer, and automatic control instrumentation in the production of Category I, Category II, and Category III monitored chemicals.

2. Precursor chemicals

Original Chinese source p. 11

No.	HS Code(s)	Unit
1	2939410011	kg

Commodity Name

Ephedrine (ephedrine, ephedrine hydrochloride)

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
2	2939410011	kg

Commodity Name

Ephedrine sulfate

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
3	2939410011	kg

Commodity Name

Racemic ephedrine hydrochloride

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
4	2939410011	kg

Commodity Name

Ephedrine oxalate

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
5	2939420030	kg

Commodity Name

Pseudoephedrine (pseudoephedrine, pseudoephedrine hydrochloride)

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
6	2939420030	kg

Commodity Name
pseudoephedrine sulfate

Description
Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
7	2939490011	kg

Commodity Name
Methylephedrine hydrochloride

Description
Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
8	2939490011	kg

Commodity Name
Racemic methylephedrine hydrochloride

Description
Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
9	2939440000	kg

Commodity Name
Norephedrine and its salts

Description
Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
10	1302140011	kg

Commodity Name
Ephedra extract and extract powder for pesticide production

Description
Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
11	1302140012	kg

Commodity Name
Supply of ephedra extract and extract powder for medicinal purposes

Description
Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
12	1302140019	kg

Commodity Name

Other ephedra extract and extract powder

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
13	1302140020	kg

Commodity Name

Ephedra juice

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
14	1211500011	kg

Commodity Name

Ephedra powder for medicinal purposes

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
15	1211500021	kg

Commodity Name

Ephedra powder for spices

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
16	1211500091	kg

Commodity Name

Other uses of ephedra grass powder

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
17	3004410010 3004420010	kg

Commodity Name

Single preparations of ephedrine salts [referring to ephedrine (pseudoephedrine) hydrochloride tablets, ephedrine hydrochloride injections, and ephedrine sulfate tablets]

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
18	2932930000	kg

Commodity Name

Piperonal (heliotropin, 3,4-methylenedioxybenzaldehyde, myristicin aldehyde)

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
19	2932940000	kg

Commodity Name

Safrole (4-allyl-1,2-methylenedioxybenzene)

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
20	2932910000	kg

Commodity Name

Isoasarone (4-propenyl-1,2-methylenedioxybenzene)

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
21	2939610010	kg

Commodity Name

Ergometrine

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
22	2939620010	kg

Commodity Name

Ergotamine

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
23	2939630010	kg

Commodity Name

Lysergic acid

Description

Can be used to make drugs

Original Chinese source p. 11

No.	HS Code(s)	Unit
24	2914310000	kg

Commodity Name
1-phenyl-2-propanone (phenylacetone)

Description
Can be used to make drugs

Original Chinese source pp. 11-12

No.	HS Code(s)	Unit
25	2924230010	kg

Commodity Name
N-Acetyl-o-aminobenzoic acid (N-acetyl-o-aminobenzoic acid, 2-acetylaminobenzoic acid)

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
26	2932920000	kg

Commodity Name
3,4-methylenedioxyphenyl-2-propanone

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
27	2841610000	kg

Commodity Name
potassium permanganate

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
28	2915240000	kg

Commodity Name
Acetic anhydride (acetic anhydride)

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
29	3301299910	kg

Commodity Name
sassafras oil

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
30	2916340010	kg

Commodity Name
Phenylacetic acid

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
31	2806100000	kg

Commodity Name
Hydrochloric acid (hydrogen chloride)

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
32	2807000010	kg

Commodity Name
sulfuric acid

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
33	2902300000	kg

Commodity Name
Toluene

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
34	2909110000	kg

Commodity Name
Ether

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
35	2914110000	kg

Commodity Name
acetone

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
36	2914120000	kg

Commodity Name
Methyl ethyl ketone (butanone)

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
37	2922431000	kg

Commodity Name
Anthranilic acid (Anthranilic acid)

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
38	2933321000	kg

Commodity Name
Piperidine (hexahydropyridine)

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
39	2903130000	kg

Commodity Name
Chloroform (chloroform)

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
40	2925290020	kg

Commodity Name
Hydroxyimine and its salts

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
41	2914790020	kg

Commodity Name
o-Chlorophenylcyclopentanone

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
42	2914790020	kg

Commodity Name

1-Phenyl-2-bromo-1-propanone (also known as bromobenzylacetone, 2-bromopropiophenone, α-bromopropiophenone, etc.)

Description

Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
43	2926909071	kg

Commodity Name

3-Oxo-2-phenylbutyronitrile (also known as α-cyanoacetophenone, α-phenylacetylacetonitrile, 2-phenylacetylacetonitrile, etc.)

Description

Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
44	2933370000	kg

Commodity Name

N-phenylethyl-4-piperidone

Description

Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
45	2933360000	kg

Commodity Name

4-anilino-N-phenylethylpiperidine

Description

Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
46	2801302000	kg

Commodity Name

Bromine

Description

Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
47	2914399015	kg

Commodity Name

1-phenyl-1-propanone

Description

Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
48	2939490040	kg

Commodity Name
Chlorephedrine

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
49	2918300021	kg

Commodity Name
3-Oxo-2-phenylbutyric acid methyl ester (also known as α-acetylphenylacetic acid methyl ester, α-phenylacetylacetic acid methyl ester)

Description
Can be used to make drugs

Original Chinese source p. 12

No.	HS Code(s)	Unit
50	2924299061	kg

Commodity Name
3-Oxo-2-phenylbutyramide (also known as α-acetylphenylacetamide, α-acetoacetophenone)

Description
Can be used to make drugs

Original Chinese source pp. 12-13

No.	HS Code(s)	Unit
51	2932999093	kg

Commodity Name
2-Methyl-3-[3,4-(methylenedioxy)phenyl]glycidic acid (also known as 3,4-methylenedioxyphenyl-2-propionyl glycidic acid)

Description
Can be used to make drugs

Original Chinese source p. 13

No.	HS Code(s)	Unit
52	2932999093	kg

Commodity Name
2-Methyl-3-[3,4-(methylenedioxy)phenyl]glycidic acid methyl ester (also known as 3,4-methylenedioxyphenyl-2-propyl glycidate)

Description
Can be used to make drugs

Original Chinese source p. 13

No.	HS Code(s)	Unit
53	2926909071	kg

Commodity Name
Phenyl acetonitrile

Description
Can be used to make drugs

Original Chinese source p. 13

No.	HS Code(s)	Unit
54	2932209031	kg

Commodity Name
γ-butyrolactone

Description
Can be used to make drugs

Original Chinese source p. 13

No.	HS Code(s)	Unit
55	2933399073	kg

Commodity Name
4-(N-phenylamino)piperidine

Description
Can be used to make drugs

Original Chinese source p. 13

No.	HS Code(s)	Unit
56	2933399073	kg

Commodity Name
1-tert-Butoxycarbonyl-4-(N-phenylamino)piperidine

Description
Can be used to make drugs

Original Chinese source p. 13

No.	HS Code(s)	Unit
57	2933399073	kg

Commodity Name
N-phenyl-N-(4-piperidyl)propionamide

Description
Can be used to make drugs

Original Chinese source p. 13

No.	HS Code(s)	Unit
58	2907299020	L/kg

Commodity Name
cannabidiol

Description
Can be used to make drugs

Original Chinese source p. 13

No.	HS Code(s)	Unit
59	2918990042	kg

Commodity Name
2-Methyl-3-phenylglycidic acid and its esters

Description
Can be used to make drugs

Original Chinese source p. 13

No.	HS Code(s)	Unit
60	2918300021	kg

Commodity Name

3-Oxo-2-phenylbutyric acid and its esters

Description

Can be used to make drugs

Original Chinese source p. 13

No.	HS Code(s)	Unit
61	2932999093	kg

Commodity Name

2-Methyl-3-[3,4-(methylenedioxy)phenyl]glycidic acid ester compound

Description

Can be used to make drugs

Original Chinese source p. 13

No.	HS Code(s)	Unit
62	2933399073	kg

Commodity Name

4-piperidone

Description

Can be used to make drugs

Original Chinese source p. 13

No.	HS Code(s)	Unit
63	2933399073	kg

Commodity Name

1-tert-butoxycarbonyl-4-piperidone

Description

Can be used to make drugs

3. Radioisotopes

Original Chinese source p. 14

No.	HS Code(s)	Unit
1	2844100010	g/MBq

Commodity Name

Natural uranium and its compounds

Description

-

Original Chinese source p. 14

No.	HS Code(s)	Unit
2	2844100090	g/MBq

Commodity Name

Alloys, dispersions (including cermets), ceramic products, and mixtures containing natural uranium or natural uranium compounds

Description

-

Original Chinese source p. 14

No.	HS Code(s)	Unit
3	2844200010	g/MBq

Commodity Name

Low-enriched uranium with a U-235 concentration of less than 5% and its compounds

Description

-

Original Chinese source p. 14

No.	HS Code(s)	Unit
4	2844200090	g/MBq

Commodity Name

Other U235 enriched uranium, plutonium and their compounds (including their alloys, dispersions, ceramic products, and mixtures)

Description

-

Original Chinese source p. 14

No.	HS Code(s)	Unit
5	2844300000	g/MBq

Commodity Name

U235 depleted uranium, thorium and their compounds

Description

-

Original Chinese source p. 14

No.	HS Code(s)	Unit
6	2844431010 2844439021	g/MBq

Commodity Name

Radium-226 and its compounds

Description

-

Original Chinese source p. 14

No.	HS Code(s)	Unit
7	2844421010 2844421020 2844421090 2844431090	g/MBq

Commodity Name

Other radium and radium salts

Description

-

Original Chinese source p. 14

No.	HS Code(s)	Unit
8	2844432000	g/MBq

Commodity Name

Radioactive cobalt and radioactive cobalt salts

Description

-

Original Chinese source p. 14

No.	HS Code(s)	Unit
9	2844439010	g/MBq

Commodity Name

Uranium-233 and its compounds

Description

-

Original Chinese source pp. 14-15

No.	HS Code(s)	Unit
10	2844410010 2844429010 2844439030 2844429090 2844439040 2844439050 2844439090 2844440000 2844410090	g/MBq

Commodity Name

Other radioactive isotopes and their compounds

Description

Tritium, tritride compounds, and mixtures of tritium, as well as products containing any of the above substances (tritium-to-hydrogen atom ratio exceeding one thousandth), excluding products containing tritium (in any form) less than 1.48×103GBq. Radioactive nuclides with a α emission particle with a α half-life of 10 days or more but less than 200 years (1. elemental; 2. compounds containing any such radionuclides with a total activity of 37GBq/kg or greater α; 3. Mixtures containing any such radioactive nuclides with a total activity of 37GBq/kg or greater α; 4. Products containing any of the above substances excluding products containing α activity less than 3.7GBq). Other radioactive elements, isotopes, and their compounds (radioactive elements other than subheadings 284410, 284420, 284430, isotopes).

Note: Excluding exempt radioactive isotopes and their compounds.

4. Commercial cryptography import license list

Original Chinese source p. 16

No.	HS Code(s)	Unit
1	8517110010 8517180010	units/kg

Commodity Name

encrypted telephone

Description

A fixed-line or mobile phone that uses cryptographic technology to achieve functions such as data transmission encryption protection, containing a symmetric cryptographic algorithm with a key length of more than 64 bits, an asymmetric cryptographic algorithm based on integer factorization with a key length of more than 768 bits, or an asymmetric cryptographic algorithm based on elliptic curves with a key length of more than 128 bits.

Original Chinese source p. 16

No.	HS Code(s)	Unit
2	8443311010 8443319020 8443329010	units/kg

Commodity Name

encrypted fax machine

Description

A fax machine that uses cryptographic technology to achieve functions such as encrypted data transmission protection, including symmetric cryptographic algorithms with a key length of more than 64 bits, asymmetric cryptographic algorithms based on integer factorization with a key length of more than 768 bits, or asymmetric cryptographic algorithms based on elliptic curves with a key length of more than 128 bits.

Original Chinese source p. 16

No.	HS Code(s)	Unit
3	8543709950	units/kg

Commodity Name

Password machine (password card)

Description

Devices whose primary function is to perform cryptographic operations (including cryptographic cards) and that have the following two characteristics: 1) symmetric encryption algorithms with key lengths of more than 64 bits, asymmetric encryption algorithms based on integer factorization with key lengths of more than 768 bits, or asymmetric encryption algorithms based on elliptic curves with key lengths of more than 128 bits; 2) a symmetric encryption algorithm encryption and decryption speed of over 10 Gbps.

Original Chinese source p. 16

No.	HS Code(s)	Unit
4	8517622920 8517623920	units/kg

Commodity Name

Encrypted VPN device

Description

Devices with IPSec/SSL VPN as the main function, and having the following two characteristics: 1) containing symmetric cryptographic algorithms with a key length of more than 64 bits, asymmetric cryptographic algorithms based on integer factorization with a key length of more than 768 bits, or asymmetric cryptographic algorithms based on elliptic curves with a key length of more than 128 bits; 2) an encrypted communication rate of more than 10 Gbps.

Notes:

1. The scope of goods in the "Catalogue for the Administration of Import and Export Licenses for Dual-Use Items and Technologies" is based on the names and descriptions of the goods, and the customs commodity codes are for customs declaration reference only.

2. For goods that involve adjusting customs commodity codes and have obtained dual-use items and technology import and export licenses, they can be used until March 31, 2026, within the validity period of the license.

II. Catalogue for the Administration of Export Licences for Dual-Use Items and Technologies

1. Items Listed in the Export Control List of Dual-Use Items

(1) Specialized materials and related equipment, chemical products, microorganisms, and toxins

1A Systems, equipment and components

Original Chinese source p. 17

No.	Control Code	HS Code(s)	Unit
1	1A202	-	kg

Item Name and Description

Tubular composite structures with the following two characteristics: a. inner diameter 75–400 mm; b. made of any 'fiber or filament material' controlled under 1C210.a or carbon fiber impregnated resin materials controlled under 1C210.c.

Reference Commodity Name

tubular composite structure

Original Chinese source p. 17

No.	Control Code	HS Code(s)	Unit
2	1A225	3815120010	kg

Item Name and Description

A platinum-plated catalyst specifically designed or prepared for recovering tritium from heavy water or for producing heavy water, used to accelerate the hydrogen isotope exchange reaction between hydrogen and water.

Reference Commodity Name

Platinum coating catalyst

Original Chinese source p. 17

No.	Control Code	HS Code(s)	Unit
3	1A226	-	kg

Item Name and Description

Special packing for separating heavy water from natural water with the following two characteristics: a. Made of phosphor bronze mesh chemically treated to enhance wettability; b. Designed for vacuum distillation towers.

Reference Commodity Name

Special filler

Original Chinese source p. 17

No.	Control Code	HS Code(s)	Unit
4	1A227	-	-

Item Name and Description

High-density (lead glass or other materials) radiation shielding windows with all of the following characteristics, and frames specifically designed for them: a. "Cold area" greater than 0.09 m^2; b. Density greater than 3 g/cm^3; c. Thickness greater than or equal to 100 mm. Technical note: In item 1A227.a, the "cold area" refers to the visible area of the window exposed to the lowest radiation level in the design application.

Reference Commodity Name

High-density radiation shielding window, and a specially designed frame for it

1B Testing, Inspection and Production Equipment

Original Chinese source p. 17

No.	Control Code	HS Code(s)	Unit
5	1B003.a	8203200010 8204110010 8204120010 8205400010 8205900010 8206000010 8480419010 7326901910	kg/piece, kg/piece, kg

Item Name and Description

Process equipment such as tools, molds, and fixtures specifically designed for titanium, aluminum, and their alloys for 'superplastic forming'/'diffusion bonding' to manufacture any of the following items: Technical description: 1. 'Superplastic forming' refers to the extremely high elongation and resistance to fracture exhibited by superplastic metal materials under specific temperature and strain rate conditions. a. Aircraft structural components or spacecraft structural components;

Reference Commodity Name

Process equipment such as tools, molds, and fixtures specifically designed for manufacturing aircraft structural components or spacecraft structural components

Original Chinese source p. 17

No.	Control Code	HS Code(s)	Unit
6	1B003.b	8203200010 8204110010 8204120010 8205400010 8205900010 8206000010 8480419010 7326901910	-

Item Name and Description

b. aerospace or aerospace engines;

Reference Commodity Name

Process equipment such as tools, molds, and fixtures specially designed for the manufacture of aircraft engines or aerospace engines

Original Chinese source p. 18

No.	Control Code	HS Code(s)	Unit
7	1B003.c	8203200010 8204110010 8204120010 8205400010 8205900010 8206000010 8480419010 7326901910	-

Item Name and Description

Superplastic forming is a forming process in which superplastic metal sheets are used as the workpiece material in a mold cavity to achieve forming in order to obtain parts of various desired shapes. 2. 'Diffusion bonding' refers to a forming process in which two material surfaces in contact move closer under the action of temperature and pressure, undergo local plastic deformation, atoms diffuse with each other, and a diffusion layer is formed at the interface, thereby achieving a reliable connection. c. Parts specially designed for aircraft structures or spacecraft structures;

Reference Commodity Name

Process equipment such as tools, molds, and fixtures specifically designed for manufacturing components of aircraft structures or spacecraft structures

Original Chinese source p. 18

No.	Control Code	HS Code(s)	Unit
8	1B003.d	8203200010 8204110010 8204120010 8205400010 8205900010 8206000010 8480419010 7326901910	-

Item Name and Description

d. Components specially designed for aircraft engines or aerospace engines.

Reference Commodity Name

Process equipment such as tools, molds, and fixtures specifically designed for manufacturing aero-engine or aerospace engine components

Original Chinese source p. 18

No.	Control Code	HS Code(s)	Unit
9	1B101.a	8479899955	units/kg

Item Name and Description

Equipment and related parts and accessories for manufacturing composite material components: a. Coordinate measuring machines or multi-coordinate linked and programmed control fiber winding machines and computers specially designed for them;

Reference Commodity Name

Fiber winding machines and computers specially designed for them

Original Chinese source p. 18

No.	Control Code	HS Code(s)	Unit
10	1B101.b	-	unit

Item Name and Description

b. Spreading machines with two or more coordinates that are 'numerically controlled' and program-controlled;

Reference Commodity Name

Tape laying machine

Original Chinese source p. 18

No.	Control Code	HS Code(s)	Unit
11	1B101.c	-	unit

Item Name and Description

c. Complete sets of accessories for fiber-structure composite material weaving machines and their modification accessories;

Reference Commodity Name

Complete set of accessories for fiber structure composite material weaving machines and their retrofit accessories

Original Chinese source p. 18

No.	Control Code	HS Code(s)	Unit
12	1B101.d	-	unit

Item Name and Description

d. Equipment used for producing polymer fibers (e.g., polyacrylonitrile, viscose, and polycarbon silane), including specialized devices that apply tension to fibers during heating;

Reference Commodity Name

Equipment used for producing synthetic fibers, including specialized equipment that applies tension to the fibers during the heating process

Original Chinese source p. 18

No.	Control Code	HS Code(s)	Unit
13	1B101.e	-	unit

Item Name and Description

e. Equipment used for vapor deposition of elements and compounds on a heated fiber substrate;

Reference Commodity Name

Equipment for vapor deposition of elements and compounds

Original Chinese source p. 18

No.	Control Code	HS Code(s)	Unit
14	1B101.f	-	unit

Item Name and Description

f. Wet spinning equipment for refractory ceramics (e.g., alumina);

Reference Commodity Name

Wet spinning equipment for refractory ceramics

Original Chinese source p. 18

No.	Control Code	HS Code(s)	Unit
15	1B101.g	-	unit

Item Name and Description

g. Equipment for special treatment of fiber surfaces;

Reference Commodity Name

Fiber surface treatment equipment

Original Chinese source p. 18

No.	Control Code	HS Code(s)	Unit
16	1B101.h	-	unit

Item Name and Description

h. Equipment for the production of prepregs and preforms;

Reference Commodity Name

Prepreg and preform production equipment

Original Chinese source p. 18

No.	Control Code	HS Code(s)	Unit
17	1B101.i	-	unit

Item Name and Description

i. Used for preformed parts of composite structural components, laminated sheets, and products for pressing, curing, casting, hot pressing, or bonding, including injection molds, core molds, press molds, and tooling fixtures.

Reference Commodity Name

Injection molds, core molds, compression molds and fixtures for preforms

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
18	1B102	-	unit

Item Name and Description

Equipment used to produce atomized or spherical metal powders controlled under 1C111.b in a controlled environment.

Reference Commodity Name

Atomized or spherical metal powder production equipment

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
19	1B115.a.1	-	unit

Item Name and Description

Liquid propellant and solid propellant production equipment: a. Production equipment used for manufacturing the liquid propellant controlled under item 1C111.a: 1. Storage and transportation equipment;

Reference Commodity Name

Storage and transportation equipment for the production of liquid propellants

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
20	1B115.a.2	-	unit

Item Name and Description

2. preparation equipment;

Reference Commodity Name

Preparation equipment for the production of liquid propellants

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
21	1B115.a.3	-	unit

Item Name and Description

3. Acceptance test equipment;

Reference Commodity Name

Acceptance test equipment for the production of liquid propellants

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
22	1B115.b.1	-	unit

Item Name and Description

b. Production equipment used for the solid propellants controlled under item 1C111.b: 1. Storage and transportation equipment;

Reference Commodity Name

Storage and transportation equipment for solid propellant production

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
23	1B115.b.2	-	unit

Item Name and Description

2. curing equipment;

Reference Commodity Name

Curing equipment for the production of solid propellants

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
24	1B115.b.3	-	unit

Item Name and Description

3. pouring equipment;

Reference Commodity Name

Pouring equipment for the production of solid propellants

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
25	1B115.b.4	-	unit

Item Name and Description

4. pressing equipment;

Reference Commodity Name

Pressing equipment for the production of solid propellants

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
26	1B115.b.5	-	unit

Item Name and Description

5. Acceptance test equipment;

Reference Commodity Name

Acceptance test equipment for the production of solid propellants

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
27	1B115.b.6	-	unit

Item Name and Description

6. machining equipment;

Reference Commodity Name

Machining equipment for the production of solid propellants

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
28	1B115.b.7	-	unit

Item Name and Description

7. Pultrusion equipment.

Reference Commodity Name

Pultrusion equipment for the production of solid propellants

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
29	1B116	-	piece

Item Name and Description

Specially designed nozzles are used in the process of decomposing reactive gases on injection molds, core molds, or other substrates under high temperatures of 1300~2900°C and pressures of 130~20000Pa, producing thermal derivatives.

Reference Commodity Name

Specially designed nozzles

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
30	1B117	8479820010	units/kg

Item Name and Description

Has the following two characteristics, used for the production of items controlled under 1C111.b with an intermittent mixer: a. Total capacity greater than 110L; b. Equipped with at least one off-center mixing shaft.

Reference Commodity Name

batch mixer

Original Chinese source p. 19

No.	Control Code	HS Code(s)	Unit
31	1B118	8479820010	units/kg

Item Name and Description

Has the following two characteristics, used for continuous mixers producing items controlled by 1C111.b: a. Has two or more mixing shafts; b. Has a mixing chamber that can be opened.

Reference Commodity Name

Continuous mixer

Original Chinese source p. 20

No.	Control Code	HS Code(s)	Unit
32	1B119	-	unit

Item Name and Description

Fluid energy mill used to produce items controlled under 1C111.b.

Reference Commodity Name

fluid energy crusher

Original Chinese source p. 20

No.	Control Code	HS Code(s)	Unit
33	1B201.a	8479899960	units/kg

Item Name and Description

Winding machines and related equipment: a. Winding machines with all of the following characteristics: 1. Equipped with positioning, winding, and coiling actions, capable of adjusting and programming on two or more axes; 2. Specifically designed for manufacturing composite structures or laminated products from fiber and filament materials; 3. Capable of winding cylindrical tubes with an inner diameter of 75–650 mm and a length of greater than or equal to 300 mm;

Reference Commodity Name

Winding machine

Original Chinese source p. 20

No.	Control Code	HS Code(s)	Unit
34	1B201.b	8537101110	pieces/kg

Item Name and Description

b. Used for the adjustment and programming controllers of winding machines regulated under item 1B201.a;

Reference Commodity Name

Regulating and programming controllers

Original Chinese source p. 20

No.	Control Code	HS Code(s)	Unit
35	1B201.c	8479909010	kg

Item Name and Description

c. Used for the precision mandrels of winding machines controlled under item 1B201.a.

Reference Commodity Name

Precision mandrel

Original Chinese source p. 20

No.	Control Code	HS Code(s)	Unit
36	1B225	8543300020	units/kg

Item Name and Description

An electrolytic cell capable of producing more than 250g of fluorine per hour.

Reference Commodity Name

Electrolyzer

Original Chinese source p. 20

No.	Control Code	HS Code(s)	Unit
37	1B226	8401200000	pieces/kg

Item Name and Description

An electromagnetic isotope separator designed or equipped for one or more ion sources, capable of providing a total ion beam current greater than or equal to 50 mA. Explanation: 1. Control item 1B226 regulates separators that can enrich stable isotopes and uranium isotopes. A separator capable of separating lead isotopes with a one atomic mass unit difference can certainly enrich uranium isotopes with a three atomic mass unit difference. 2. Control item 1B226 regulates separators where both the ion source and collector are within a magnetic field, as well as separators where both are arranged outside the magnetic field. Technical note: A single 50 mA ion source can separate less than 3 grams of highly enriched uranium (HEU) per year from naturally abundant feed material.

Reference Commodity Name

Electromagnetic isotope separator

Original Chinese source p. 20

No.	Control Code	HS Code(s)	Unit
38	1B228	8419409010	units/kg

Item Name and Description

A hydrogen low-temperature distillation tower with all the following characteristics: a. The internal temperature during operation is less than or equal to -238°C; b. The internal pressure during operation is 0.5–5 MPa (5–50 atmospheres); c. Made of any of the following materials: 1. Austenitic 300 series stainless steel specified by the International Automotive Engineers Society, with low sulfur content and a grain size of grade 5 or above according to ASTM standards (or equivalent national standards); 2. Equivalent materials that are low-temperature resistant and compatible with hydrogen (H□); d. An internal diameter of at least 30 cm, with an "effective length" of at least 4 m. Technical note: "Effective length" refers to the effective height of packing material in a packed tower or the effective height of internal contact trays in a plate tower.

Reference Commodity Name

Hydrogen-cryogenic distillation tower

Original Chinese source p. 20

No.	Control Code	HS Code(s)	Unit
39	1B229.a	-	unit

Item Name and Description

Water-Hydrogen Sulfide Exchange Plate Column and Its Internal Contactors: Note: Exchange columns specifically designed or equipped for heavy water production are controlled according to the "Nuclear Export Control List of the People's Republic of China." a. Water-hydrogen sulfide exchange plate columns with all of the following characteristics: 1. Standard working pressure equal to or greater than 2 MPa; 2. Made of austenitic fine-grain carbon steel with an ASTM grade (or equivalent national standard) of 5 or above; 3. Diameter equal to or greater than 1.8 m;

Reference Commodity Name

Water-hydrogen sulfide exchange plate tower

Original Chinese source p. 21

No.	Control Code	HS Code(s)	Unit
40	1B229.b	-	unit

Item Name and Description

Technical Description: The internals of the tower are various types of sectoral plates, with an effective assembled diameter of greater than or equal to 1.8 m. They are designed to facilitate countercurrent contact and are made of stainless steel resistant to corrosion by hydrogen sulfide and water mixtures, with a carbon content of less than or equal to 0.03%. These internals can be sieve plates, floating valve trays, bubble cap trays, or grid trays. b. The internals of water-hydrogen sulfide exchange plate towers regulated under item 1B229.a.

Reference Commodity Name

Internal contactor of water-hydrogen sulfide exchange plate tower

Original Chinese source p. 21

No.	Control Code	HS Code(s)	Unit
41	1B230	-	unit

Item Name and Description

A pump with all of the following features, capable of circulating potassium amide catalyst solutions that are either diluted with or concentrated in liquid ammonia (KNH / NH): a. Airtight (i.e., sealed); b. Capacity greater than 8.5 m³/h; c. Having any of the following characteristics: 1. For concentrated potassium amide solution (greater than or equal to 1%), operating pressure 1.5–60 MPa (15–600 atmospheres); 2. For diluted potassium amide solution (less than 1%), operating pressure 20–60 MPa (200–600 atmospheres).

Reference Commodity Name

pump

Original Chinese source p. 21

No.	Control Code	HS Code(s)	Unit
42	1B231.a	-	unit

Item Name and Description

Tritium facilities, plants, and their equipment: a. Facilities or plants used for the production, recovery, extraction, concentration, or processing of tritium;

Reference Commodity Name

Facilities or plants for the production, recycling, extraction, concentration, or processing of tritium

Original Chinese source p. 21

No.	Control Code	HS Code(s)	Unit
43	1B231.b.1	8418612010 8418692010	units/kg

Item Name and Description

b. Equipment for tritium facilities or plants: 1. Refrigeration units for hydrogen or helium capable of cooling to -250°C or lower, with a heat dissipation capacity greater than 150 W;

Reference Commodity Name

Hydrogen or helium refrigeration unit

Original Chinese source p. 21

No.	Control Code	HS Code(s)	Unit
44	1B231.b.2	-	unit

Item Name and Description

2. Hydrogen isotope storage and purification systems that use metal hydrides as storage or purification media.

Reference Commodity Name

Hydrogen isotope storage system and purification system

Original Chinese source p. 21

No.	Control Code	HS Code(s)	Unit
45	1B232	-	-

Item Name and Description

A turbo evaporator or turbo evaporator-compressor device with the following two characteristics: a. The outlet temperature during operation is less than or equal to -238□; b. The hydrogen throughput is greater than or equal to 1000 kg/h.

Reference Commodity Name

Turbo evaporator or turbo evaporator-compressor unit

Original Chinese source p. 21

No.	Control Code	HS Code(s)	Unit
46	1B233.a	-	-

Item Name and Description

Lithium isotope separation facilities, plants, systems, and equipment: Note: certain a. lithium isotope separation facilities or plants in the plasma separation process;

Reference Commodity Name

Lithium isotope separation facility or plant

Original Chinese source p. 21

No.	Control Code	HS Code(s)	Unit
47	1B233.b.1	8401200000	pieces/kg

Item Name and Description

b. Lithium isotope separation based on the lithium-mercury amalgam process involves: 1. Specially designed liquid-liquid exchange packed towers for lithium amalgam;

Reference Commodity Name

Lithium amalgam liquid-liquid exchange packed tower

Original Chinese source p. 22

No.	Control Code	HS Code(s)	Unit
48	1B233.b.2	-	unit

Item Name and Description

Lithium isotope separation equipment and components that can be directly used for uranium enrichment are controlled according to the "Nuclear Export Control List of the People's Republic of China." Note: 2. Mercury or lithium-mercury amalgam pump;

Reference Commodity Name

Mercury or lithium amalgam pump

Original Chinese source p. 22

No.	Control Code	HS Code(s)	Unit
49	1B233.b.3	8401200000	pieces/kg

Item Name and Description

3. Lithium amalgam electrolyzer;

Reference Commodity Name

Lithium amalgam electrolyzer

Original Chinese source p. 22

No.	Control Code	HS Code(s)	Unit
50	1B233.b.4	8401200000	pieces/kg

Item Name and Description

4. Evaporator for concentrating lithium hydroxide solutions.

Reference Commodity Name

Evaporator for concentrating lithium hydroxide solution

Original Chinese source p. 22

No.	Control Code	HS Code(s)	Unit
51	1B233.c	-	pieces/kg

Item Name and Description

c. Ion exchange systems specifically designed for lithium isotope separation, as well as parts specifically designed for them;

Reference Commodity Name

Ion exchange system, and components specially designed for it

Original Chinese source p. 22

No.	Control Code	HS Code(s)	Unit
52	1B233.d	-	pieces/kg

Item Name and Description

d. Chemical exchange systems specifically designed for lithium isotope separation (using crown ethers, cryptands, and spherands), as well as components specifically designed for them.

Reference Commodity Name

Chemical exchange system, and components specially designed for it

Original Chinese source p. 22

No.	Control Code	HS Code(s)	Unit
53	1B234	-	-

Item Name and Description

High-explosive safety casings, chambers, containers, and other similar sealing devices designed for testing high-energy explosives or explosive devices with the following two characteristics: a. Intended to fully contain explosives with an explosive equivalent of 2 kg TNT or more; b. Featuring design elements or characteristics capable of transmitting diagnostic or measurement information in real time or with a delay.

Reference Commodity Name

High explosive safety shells, detonation chambers, containers, and other similar sealing devices

1C Material

Original Chinese source p. 22

No.	Control Code	HS Code(s)	Unit
54	1C004	8101940001 8101991001 8101999001	-

Item Name and Description

Tungsten-nickel-iron alloys or tungsten-nickel-copper alloys with all of the following characteristics: a. density greater than 17.5 g/cm³; b. elastic limit exceeding 800 MPa; c. ultimate tensile strength greater than 1270 MPa; d. elongation exceeding 8%.

Reference Commodity Name

Tungsten-nickel-iron alloy or tungsten-nickel-copper alloy

Original Chinese source p. 22

No.	Control Code	HS Code(s)	Unit
55	1C102	-	kg

Item Name and Description

Multiple impregnated pyrolytic carbon-carbon materials.

Reference Commodity Name

Multiple impregnated pyrolytic carbon-carbon composites

Original Chinese source p. 22

No.	Control Code	HS Code(s)	Unit
56	1C107	-	kg

Item Name and Description

Ceramic composites with a "dielectric constant" less than 6 in the frequency range of 100~10000Hz.

Reference Commodity Name

ceramic composites

Original Chinese source p. 22

No.	Control Code	HS Code(s)	Unit
57	1C108.a	3801100040	kg

Item Name and Description

Graphite and its products: a. Artificial fine-grained bulk graphite measured at a temperature of 20°C having all of the following characteristics: 1. Density greater than 1.72 g/cm³; 2. 'Tensile fracture strain' greater than or equal to 0.7%; 3. 'Coefficient of thermal expansion' less than or equal to 2.75×10□⁶/°C;

Reference Commodity Name

Artificial fine grain monolithic graphite

Original Chinese source p. 22

No.	Control Code	HS Code(s)	Unit
58	1C108.b	3801100040 3801909010 6815190020	kg

Item Name and Description

b. Artificial graphite materials and their products with all of the following characteristics: 1. Purity greater than 99.9%; 2. Flexural strength greater than 30 MPa; 3. Density greater than 1.73 g/cm³;

Reference Commodity Name

Artificial graphite materials and products

Original Chinese source pp. 22-23

No.	Control Code	HS Code(s)	Unit
59	1C108.c	2504101000 2504109100 3801901000 3801909010 3824999921 6815190020	kg

Item Name and Description

c. Natural flake graphite and its products (including spheroidal graphite, expanded graphite, etc.).

Reference Commodity Name

Natural flake graphite and its products

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
60	1C111.a.1	2825101010	kg

Item Name and Description

Propellant: a. Liquid propellant: 1. Hydrazine with a purity of over 70%;

Reference Commodity Name

Hydrazine with purity above 70%

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
61	1C111.a.2	2928000010	kg

Item Name and Description

2. Trimethylhydrazine;

Reference Commodity Name

Trimethylhydrazine

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
62	1C111.a.3	2928000020	kg

Item Name and Description

3. Methylhydrazine;

Reference Commodity Name

Methylhydrazine

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
63	1C111.a.4	3824999921	kg

Item Name and Description

4. Mixed amines;

Reference Commodity Name

Mixed amines

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
64	1C111.a.5	2811290020	kg

Item Name and Description

5. dinitrogen tetroxide;

Reference Commodity Name

dinitrogen tetroxide

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
65	1C111.a.6	2808000010	kg

Item Name and Description

6. red fume nitric acid;

Reference Commodity Name

red fume nitric acid

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
66	1C111.b.1.a	8109210010 8109290010	kg

Item Name and Description

b. Solid propellants and their components: 1. Composed of particles smaller than 500 μm, regardless of being spherical, ellipsoidal, atomized, flake-like, or crushed, and containing metal powder of any of the following metals or their alloys in an amount greater than or equal to 97% by weight: a. Zirconium;

Reference Commodity Name

Metal powder containing metallic zirconium or its alloys

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
67	1C111.b.1.b	2804500030	kg

Item Name and Description

b. boron;

Reference Commodity Name

Metal powder containing metallic boron or its alloys

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
68	1C111.b.1.c	8104300010	kg

Item Name and Description

c. magnesium;

Reference Commodity Name

Metal powder containing magnesium metal or its alloys

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
69	1C111.b.1.d	8108203010	kg

Item Name and Description

d. titanium;

Reference Commodity Name

Metal powder containing metallic titanium or its alloys

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
70	1C111.b.1.e	2844200010 2844200090	g/MBq

Item Name and Description

e. uranium;

Reference Commodity Name

Metal powder containing uranium metal or its alloys

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
71	1C111.b.1.f	8101100010	kg

Item Name and Description

f. Tungsten;

Reference Commodity Name

Metal powder containing metallic tungsten or its alloys

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
72	1C111.b.1.g	7903900010	kg

Item Name and Description

g. zinc;

Reference Commodity Name

Metal powder containing metallic zinc or its alloys

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
73	1C111.b.1.h	2805301510	kg

Item Name and Description

h. cerium;

Reference Commodity Name

Metal powder containing metallic cerium or its alloys

Original Chinese source p. 23

No.	Control Code	HS Code(s)	Unit
74	1C111.b.2	2829900010	kg

Item Name and Description

2. Spherical ammonium perchlorate (perchloric ammonium) with particle size less than 500 μm;

Reference Commodity Name

Spherical ammonium perchlorate

Original Chinese source pp. 23-24

No.	Control Code	HS Code(s)	Unit
75	1C111.b.3	7603100010	kg

Item Name and Description

3. Spherical aluminum powder with all of the following characteristics: a. uniform particles; b. aluminum content greater than or equal to 97% (by weight); c. particle size less than 500 μm;

Reference Commodity Name

Spherical aluminum powder

Original Chinese source p. 24

No.	Control Code	HS Code(s)	Unit
76	1C111.b.4	2804500030	kg

Item Name and Description

4. Boron slurry with an energy density greater than 40×10^{6} J/kg;

Reference Commodity Name

Boron slurry

Original Chinese source p. 24

No.	Control Code	HS Code(s)	Unit
77	1C111.b.5.a	2933990062	kg

Item Name and Description

5. Nitroamines: a. Octogen (cyclotetramethylene tetranitramine, HMX);

Reference Commodity Name

Ottokin

Original Chinese source p. 24

No.	Control Code	HS Code(s)	Unit
78	1C111.b.5.b	2933990062	kg

Item Name and Description

b. Heksogen (cyclotrimethylenetrinitramine RDX);

Reference Commodity Name

RDX

Original Chinese source p. 24

No.	Control Code	HS Code(s)	Unit
79	1C111.b.6.a	3601000040	kg

Item Name and Description

6. Composite propellants: a. Molded colloidal propellants;

Reference Commodity Name

Molded colloidal propellant

Original Chinese source p. 24

No.	Control Code	HS Code(s)	Unit
80	1C111.b.6.b	3601000040	kg

Item Name and Description

b. Propellants containing nitro adhesive and more than 5% aluminum powder;

Reference Commodity Name

Propellant containing nitrated binder and aluminum powder

Original Chinese source p. 24

No.	Control Code	HS Code(s)	Unit
81	1C111.b.7.a	3902900030	kg

Item Name and Description

7. Polymers: a. Carboxyl-terminated polybutadiene (CTPB);

Reference Commodity Name

carboxyl-terminated polybutadiene

Original Chinese source p. 24

No.	Control Code	HS Code(s)	Unit
82	1C111.b.7.b	3902900030	kg

Item Name and Description

b. Hydroxyl-terminated polybutadiene (HTPB);

Reference Commodity Name

Hydroxyl-terminated polybutadiene

Original Chinese source p. 24

No.	Control Code	HS Code(s)	Unit
83	1C111.b.8	2921199011	kg

Item Name and Description

8. Triethylamine ignition agent.

Reference Commodity Name

Triethylamine ignition agent

Original Chinese source p. 24

No.	Control Code	HS Code(s)	Unit
84	1C117.b	8102100001	-

Item Name and Description

The following materials: b. Molybdenum and alloy particles with a molybdenum content (by weight) of greater than or equal to 97% and a particle size of less than or equal to 50×10-6 m (50 μm), used for manufacturing missile components;

Reference Commodity Name

Molybdenum powder

Original Chinese source pp. 24-25

No.	Control Code	HS Code(s)	Unit
85	1C117.c	8101940001 8101991001 8101999001 7106919001 7106929001	-

Item Name and Description

c. Solid tungsten with all the following characteristics, used for manufacturing missile components: 1. Solid tungsten with any of the following characteristics (excluding granules and powders): a. Tungsten and tungsten alloys not controlled under items 1C226 and 1C241 with a tungsten content of 97% or more by weight; b. Tungsten-copper with a tungsten content of 80% or more by weight; c. Tungsten-silver with a tungsten content of 80% or more by weight (silver content 2% or more); 2. Capable of being machined into any of the following products: a. Cylinders with a diameter of 120 mm or more and a length of 50 mm or more; b. Tubes with an inner diameter of 65 mm or more, wall thickness of 25 mm or more, and a length of 50 mm or more; c. Blocks with dimensions of 120 mm × 120 mm × 50 mm or more.

Reference Commodity Name

solid tungsten

Original Chinese source p. 25

No.	Control Code	HS Code(s)	Unit
86	1C117.d.1	2841801000 3824999923	-

Item Name and Description

d. Tungsten related materials: 1. Ammonium paratungstate

Reference Commodity Name

Ammonium paratungstate

Original Chinese source p. 25

No.	Control Code	HS Code(s)	Unit
87	1C117.d.2	2825901200 2825901910 2825901920 3824999923	-

Item Name and Description

2. Tungsten oxide

Reference Commodity Name

Tungsten oxide

Original Chinese source p. 25

No.	Control Code	HS Code(s)	Unit
88	1C117.d.3	2849902000 3824300010 3824999923	-

Item Name and Description

3. Tungsten carbide not controlled under 1C226

Reference Commodity Name

Tungsten carbide not controlled under 1C226

Original Chinese source p. 25

No.	Control Code	HS Code(s)	Unit
89	1C118	-	-

Item Name and Description

Titanium-stabilized duplex stainless steel with all of the following characteristics: a. Chromium content 17% to 26.5% (by weight) and nickel content 4.5% to 7% (by weight); b. Ferrite-austenite microstructure (also known as "duplex" microstructure), in which the volume fraction of austenite is greater than or equal to 10%; c. Having any one of the following shapes: 1. Ingots or bars with all dimensions greater than or equal to 100 mm; 2. Sheets with a width greater than or equal to 600 mm and a thickness less than or equal to 3 mm; 3. Pipes with an outer diameter greater than or equal to 600 mm and a wall thickness less than or equal to 3 mm.

Reference Commodity Name

Titanium Stabilized Duplex Stainless Steel

Original Chinese source p. 25

No.	Control Code	HS Code(s)	Unit
90	1C202.a	7604291010 7608201010 7608209110 7608209910 7616991010	kg

Item Name and Description

Aluminum alloys and titanium alloys: Technical description: The "capable" mentioned in item 1C202 refers to alloys that can achieve specific specifications both before and after heat treatment. a. Aluminum alloys with the following two properties: 1. Ultimate tensile strength at 20°C can reach 460MPa or higher; 2. Pipes or cylindrical solid bars with an outer diameter greater than 75 mm (including forgings).

Reference Commodity Name

Aluminum alloy

Original Chinese source p. 25

No.	Control Code	HS Code(s)	Unit
91	1C202.b	8108904010 8108901010	kg

Item Name and Description

b. Titanium alloys with the following two characteristics: 1. Ultimate tensile strength can reach 900 MPa or higher at 20°C; 2. Tubes or cylindrical solid bars (including forgings) with an outer diameter greater than 75 mm.

Reference Commodity Name

Titanium alloy

Original Chinese source p. 25

No.	Control Code	HS Code(s)	Unit
92	1C210.a.1	6815110010	kg

Item Name and Description

"Fibrous or filamentary materials", prepreg blanks, and composite structures: a. Carbon or aromatic polyamide "fibrous or filamentary materials" having any of the following characteristics: 1. 'Specific modulus' greater than or equal to 1.27×10^7 m;

Reference Commodity Name

Carbon fiber or filament materials with the characteristics listed in 1C210.a

Original Chinese source p. 26

No.	Control Code	HS Code(s)	Unit
93	1C210.a.2	-	kg

Item Name and Description

2. 'Tensile strength ratio' greater than or equal to 2.35×10^5 m; Note: Item 1C210.a does not control aromatic polyamide 'fiber or filament materials' with 0.25% or more (by weight) ester-based fiber surface modifiers.

Reference Commodity Name

Aromatic polyamide fiber or filament material having the characteristics listed in 1C210.a

Original Chinese source p. 26

No.	Control Code	HS Code(s)	Unit
94	1C210.b	7019110010 7019120020 7019130010 7019140010 7019150010 7019190012 7019610010 7019620010 7019631010 7019110010 7019120020 7019130010 7019140010 7019150010 7019190012 7019610010 7019620010 7019631010 7019632010 7019639010 7019641010 7019649010 7019651010 7019659010 7019661010 7019669010 7019691010 7019692010 7019693010 7019699010 7019710010 7019721010 7019729010 7019731010 7019739010 7019909110 7019909210 7019909910	kg

Item Name and Description

b. Glass "fiber or filament materials" with the following two characteristics: 1. "Specific modulus" greater than or equal to 3.18×10^6 m; 2. "Specific tensile strength" greater than or equal to 7.62×10^4 m;

Reference Commodity Name

Fiberglass or filament materials

Original Chinese source p. 26

No.	Control Code	HS Code(s)	Unit
95	1C210.c	6815131020 6815131030 7019902110 7019902910 7019909920	kg

Item Name and Description

c. Continuous filaments, tows, yarns, or tapes no wider than 15 mm (prepregs) made from carbon or glass 'fiber or filament materials' controlled under 1C210.a or 1C210.b, impregnated with thermosetting resin. Technical note: The matrix of the composite material is made of resin.

Reference Commodity Name

Continuous filaments, rovings, yarns, or tapes (prepreg blanks) made of 1C210.a carbon fiber or filament materials and impregnated with thermosetting resin

Original Chinese source pp. 26-27

No.	Control Code	HS Code(s)	Unit
96	1C210.c	-	-

Item Name and Description

c. Continuous filaments, tows, yarns, or tapes no wider than 15 mm (prepregs) made from carbon or glass 'fiber or filament materials' controlled under 1C210.a or 1C210.b, impregnated with thermosetting resin. Technical note: The matrix of the composite material is made of resin.

Reference Commodity Name

Continuous filaments, rovings, yarns, or tapes (prepreg blanks) made of 1C210.b glass fiber or filament material and impregnated with thermosetting resin

Original Chinese source p. 27

No.	Control Code	HS Code(s)	Unit
97	1C216	-	-

Item Name and Description

Martensitic age-hardening steel with an ultimate tensile strength that can reach 1950 MPa or higher at 20°C. Description: Item 1C216 does not control all martensitic age-hardening steel with any linear dimension less than or equal to 75 mm. Technical Note: The term 'can' in item 1C216 refers to martensitic age-hardening steel that can achieve the specified indicators both before and after heat treatment.

Reference Commodity Name

maraging steel

Original Chinese source p. 27

No.	Control Code	HS Code(s)	Unit
98	1C225	2845200010 2845900001	g/MBq

Item Name and Description

Boron-10 (10B) isotope enriched to levels greater than its natural isotopic abundance in various boron materials, including elemental boron, compounds, boron-containing mixtures, and products made from the above materials, as well as waste or fragments of the above materials and products. Note: Boron-containing mixtures controlled under item 1C225 include boron-bearing materials. Technical Note: The natural isotopic abundance of boron-10 is approximately 18.5 percent by weight (20 percent by atom).

Reference Commodity Name

Boron material

Original Chinese source p. 27

No.	Control Code	HS Code(s)	Unit
99	1C226	3824300010 3824999923	kg

Item Name and Description

Tungsten, tungsten carbide, and alloys containing more than 90% tungsten (by weight) with the following two characteristics: a. Inner diameter of 100–300 mm, in the form of a hollow cylindrical symmetric body (including cylindrical sector sections); b. Weight exceeding 20 kg. Note: Item 1C226 is not controlled if it is a tungsten product specifically designed as a counterweight or for γ-ray collimators.

Reference Commodity Name

Tungsten, tungsten carbide and tungsten alloys

Original Chinese source p. 27

No.	Control Code	HS Code(s)	Unit
100	1C227	2805120010	kg

Item Name and Description

Calcium with the following two characteristics: a. The content of metallic impurities (excluding magnesium) is less than one per thousand (by weight); b. The boron content is less than one in one hundred thousand (by weight).

Reference Commodity Name

calcium

Original Chinese source p. 27

No.	Control Code	HS Code(s)	Unit
101	1C228	-	kg

Item Name and Description

Magnesium with the following two characteristics: a. The content of metallic impurities (except calcium) is less than 0.02% by weight; b. The boron content is less than 0.001% by weight.

Reference Commodity Name

magnesium

Original Chinese source p. 27

No.	Control Code	HS Code(s)	Unit
102	1C229	8106101011 8106101019 8106109010 8106901011 8106901021 8106901091 8106909010	kg

Item Name and Description

Bismuth with the following two characteristics: a. purity greater than or equal to 99.99% (by weight); b. silver content less than one ten-thousandth (by weight).

Reference Commodity Name

bismuth

Original Chinese source p. 27

No.	Control Code	HS Code(s)	Unit
103	1C230	8112120000 8112130000 8112190000	kg

Item Name and Description

Beryllium metal, alloys with a beryllium content higher than 50% by weight, beryllium compounds and products made from the aforementioned materials, as well as waste or scrap of the aforementioned materials and products. Note: Item 1C230 does not control the following materials: 1. Metal windows for X-ray machines or borehole logging devices; 2. Beryllium oxide products or semi-finished products specially designed for electronic components or used as electronic circuit substrates; 3. Beryl in the form of sapphire or aquamarine (beryllium aluminum silicate).

Reference Commodity Name

Beryllium metal, beryllium alloys, beryllium compounds and products made from the aforementioned materials, as well as waste or scrap of the aforementioned materials and products

Original Chinese source p. 28

No.	Control Code	HS Code(s)	Unit
104	1C231	8112310011 8112310091 8112390010 8112310011 8112310091 8112390010 8112310011 8112390010	kg

Item Name and Description

Hafnium metal, alloys with a hafnium content of more than 60% by weight, hafnium compounds with a hafnium content of more than 60% by weight, and products made from the aforementioned materials, as well as waste or scrap of the aforementioned materials and products.

Reference Commodity Name

Hafnium metal, hafnium alloys, hafnium compounds, and products made from the above materials

Original Chinese source p. 28

No.	Control Code	HS Code(s)	Unit
105	1C232	2845400000 2845900040	g/MBq

Item Name and Description

Helium-3 (3He), mixtures containing helium-3, and products or devices containing any of the above substances. Note: Item 1C232 does not control products or devices containing less than 1 g of helium-3.

Reference Commodity Name

Helium-3 (3He), mixtures containing helium-3, and products or devices containing any of the above substances

Original Chinese source p. 28

No.	Control Code	HS Code(s)	Unit
106	1C233	2845300010 2845900001	g, units

Item Name and Description

Lithium-6 isotope (6Li) enriched to a level higher than its natural isotopic abundance, and products or devices containing enriched lithium, including elemental lithium, alloys, compounds, or lithium-containing mixtures and products made from these materials, as well as waste or scrap of these materials and products. Note: Item 1C233 does not control thermoluminescent dosimeters. Technical note: The natural isotopic abundance of lithium-6 is approximately 6.5% by weight (7.5% by atomic percentage).

Reference Commodity Name

Lithium-6 isotope (6Li) enriched to greater than its natural isotopic abundance of lithium

Original Chinese source p. 28

No.	Control Code	HS Code(s)	Unit
107	1C234	8109210090 8109290090 8109310000 8109390000 8109910090 8109990000 2825600090	kg

Item Name and Description

Zirconium and zirconium products with a hafnium-to-zirconium content ratio of less than 1:500 by weight, including metallic zirconium, alloys containing more than 50% zirconium by weight, compounds, and products made from the above materials, as well as waste and scrap of the above materials and products. Note: Item 1C234 does not control zirconium foil with a thickness of 0.1 mm or less.

Reference Commodity Name

Metal zirconium, zirconium alloys, compounds and products thereof

Original Chinese source p. 28

No.	Control Code	HS Code(s)	Unit
108	1C235	2844410010	g/MBq

Item Name and Description

Mixtures of tritium and hydrogen atoms with a tritium-to-hydrogen atom ratio exceeding one per thousand, tritides, and tritium, as well as products and devices containing any of the above substances. Note: Item 1C235 does not control products or devices containing tritium (in any form) in amounts less than 1.48×10^3 GBq.

Reference Commodity Name

Tritium, tritides and tritium mixtures

Original Chinese source p. 28

No.	Control Code	HS Code(s)	Unit
109	1C236.a	2844429010 2844439030	g/MBq

Item Name and Description

The following forms are suitable for producing radioactive nuclides for neutron sources based on α-n reactions: Actinium-225, Curium-244, Polonium-209, Actinium-227, Einsteinium-253, Polonium-210, Californium-253, Einsteinium-254, Radium-223, Curium-240, Gadolinium-148, Thorium-227, Curium-241 a. Elemental form;

Reference Commodity Name

radionuclide element

Original Chinese source p. 28

No.	Control Code	HS Code(s)	Unit
110	1C236.b	2844429010 2844439030	g/MBq

Item Name and Description

b. Any compound containing this type of radioactive nuclide with a total activity greater than or equal to 37 GBq/kg;

Reference Commodity Name

radionuclide compounds

Original Chinese source p. 28

No.	Control Code	HS Code(s)	Unit
111	1C236.c	2844429010 2844439030	g/MBq

Item Name and Description

c. Any mixture of such radionuclides containing a total activity of greater than or equal to 37 GBq/kg;

Reference Commodity Name

mixture of radionuclides

Original Chinese source pp. 28-29

No.	Control Code	HS Code(s)	Unit
112	1C236.d	2844429010 2844439030	g/MBq

Item Name and Description

d. Products or devices containing any of the substances mentioned above. Plutonium-236, Thorium-228, Curium-242, Plutonium-238, Uranium-230, Curium-243, Polonium-208, Uranium-232. Note: Item 1C236 does not control products or devices containing an activity of less than 3.7 GBq.

Reference Commodity Name

Radionuclide products or devices

Original Chinese source p. 29

No.	Control Code	HS Code(s)	Unit
113	1C237	2844431010 2844439021 2844439029	g/MBq, units

Item Name and Description

Radium-226 (226Ra), radium-226 alloys, radium-226 compounds, mixtures containing radium-226, and products made from the above materials, as well as products or devices containing any of the above substances. Note: Item 1C237 does not control the following items: 1. Medical radium applicators; 2. Products or devices containing less than 0.37 GBq of any form of radium-226.

Reference Commodity Name

Radium-226, alloy, compound, mixture

Original Chinese source p. 29

No.	Control Code	HS Code(s)	Unit
114	1C238	2812901910	kg

Item Name and Description

Chlorine trifluoride (ClF). 3

Reference Commodity Name

Chlorine trifluoride (ClF) 3

Original Chinese source p. 29

No.	Control Code	HS Code(s)	Unit
115	1C239.a	2933990062 3602009010 3602001010	kg

Item Name and Description

High explosives or mixtures containing more than 2% (by weight) of any of the following substances: a. (Cyclo)Tetraacetone Tetranitrate (HMX) (CAS 2691-41-0);

Reference Commodity Name

High-energy explosives or mixtures containing (cyclo)tetramethylenetetranitramine

Original Chinese source p. 29

No.	Control Code	HS Code(s)	Unit
116	1C239.b	2933990062 3602009010 3602001010	kg

Item Name and Description

b. (Cyclo)triamino-trinitro methane (RDX) (CAS 121-82-4);

Reference Commodity Name

High-energy explosives or mixtures containing (cyclo)triaminomethylnitroamine

Original Chinese source p. 29

No.	Control Code	HS Code(s)	Unit
117	1C239.c	2921590030 3602009010 3602001010	kg

Item Name and Description

c. Triaminotrinitrobenzene (TATB) (CAS 3058-38-6);

Reference Commodity Name

High explosives or mixtures containing triaminotrinitrobenzene

Original Chinese source p. 29

No.	Control Code	HS Code(s)	Unit
118	1C239.d	2934999084 3602009010 3602001010	kg

Item Name and Description

d. Amino dinitrobenzofuroxan or 7-amino-4,6-dinitrobenzofuroxan-1-oxide (ADNBF) (CAS 97096-78-1);

Reference Commodity Name

High-energy explosives or mixtures containing amino dinitrobenzofuroxan or 7-amino-4,6-dinitrobenzofuroxan-1-oxide

Original Chinese source p. 29

No.	Control Code	HS Code(s)	Unit
119	1C239.e	2921290020 3602009010 3602001010	kg

Item Name and Description

e. 1,1-Diamino-2,2-dinitroethylene (DADE or FOX-7) (CAS 145250-81-3);

Reference Commodity Name

High-energy explosives or mixtures containing 1,1-diamino-2,2-dinitroethylene

Original Chinese source pp. 29-30

No.	Control Code	HS Code(s)	Unit
120	1C239.f	2933290020 3602009010 3602001010	kg

Item Name and Description

f. 2,4-Dinitroimidazole (DNI) (CAS 5213-49-0);

Reference Commodity Name

High-energy explosives or mixtures containing 2,4-dinitroimidazole

Original Chinese source p. 30

No.	Control Code	HS Code(s)	Unit
121	1C239.g	2934999084 3602009010 3602001010	kg

Item Name and Description

g. Diamino-oxidized azofuran (DAAOF or DAAF) (CAS 78644-89-0);

Reference Commodity Name

High-energy explosives or mixtures containing diamino-oxidized azo furan

Original Chinese source p. 30

No.	Control Code	HS Code(s)	Unit
122	1C239.h	2921519030 3602009010 3602001010	kg

Item Name and Description

h. 2,4-Diamino-3,6-dinitrobenzene (DATB) (CAS 1630-08-6);

Reference Commodity Name

High explosives or mixtures containing diaminotrinitrobenzene

Original Chinese source p. 30

No.	Control Code	HS Code(s)	Unit
123	1C239.i	2933990061 3602009010 3602001010	kg

Item Name and Description

i. Dinitroglycouril (DNGU or DINGU) (CAS 55510-04-8);

Reference Commodity Name

High explosives or mixtures containing dinitroglycoluril

Original Chinese source p. 30

No.	Control Code	HS Code(s)	Unit
124	1C239.j	2933399071 3602009010 3602001010	kg

Item Name and Description

j. 2,6-Di(aminoglycol)-3,5-dinitropyridine (PYX) (CAS 38082-89-2);

Reference Commodity Name

High-energy explosives or mixtures containing 2,6-bis(hydroxylamino)-3,5-dinitropyridine

Original Chinese source p. 30

No.	Control Code	HS Code(s)	Unit
125	1C239.k	2921590030 3602009010 3602001010	kg

Item Name and Description

k. 3,3′-Diamino-2,2′,4,4′,6,6′-hexanitrobiphenyl or di-picryl amine (DIPAM) (CAS 17215-44-0);

Reference Commodity Name

High-energy explosives or mixtures containing 3,3′-diamino-2,2′,4,4′,6,6′-hexanitrobiphenyl or bis-bisamide

Original Chinese source p. 30

No.	Control Code	HS Code(s)	Unit
126	1C239.l	2934999084 3602009010 3602001010	kg

Item Name and Description

1. Diaminoazofuran (DAAzF) (CAS 78644-90-3);

Reference Commodity Name

High explosives or mixtures containing diaminoazofurazan

Original Chinese source p. 30

No.	Control Code	HS Code(s)	Unit
127	1C239.m	2933990061 3602009010 3602001010	kg

Item Name and Description

m. 1,4,5,8-Tetranitro-azinopyrazine[4,5-d]pyrazine (TNP) (CAS 229176-04-9);

Reference Commodity Name

High-energy explosive or mixture containing 1,4,5,8-tetranitro-diazinopyrazine[4,5-d]

Original Chinese source p. 30

No.	Control Code	HS Code(s)	Unit
128	1C239.n	2904209010 3602009010 3602001010	kg

Item Name and Description

n. Hexanitrostilbene (HNS) (CAS 20062-22-0);

Reference Commodity Name

High explosives or mixtures containing hexanitrostilbene

Original Chinese source p. 30

No.	Control Code	HS Code(s)	Unit
129	1C239.o	3602009010 3602001010	kg

Item Name and Description

o. Various 'explosives' with a crystal density greater than 1.8 g/cm³ and a detonation velocity exceeding 8000 m/s.

Reference Commodity Name

Various explosives with a crystal density greater than 1.8 g/cm³ and a detonation velocity exceeding 8000 m/s

Original Chinese source p. 30

No.	Control Code	HS Code(s)	Unit
130	1C240.a	7504001000	kg

Item Name and Description

Nickel powder and porous nickel metal: Note: Nickel powder specially prepared for the manufacture of gas diffusion membranes, according to the People's Republic of China. Nickel powder with the following two characteristics: 1. Nickel purity greater than or equal to 99% (by weight); 2. Average particle size measured according to ASTM B330 standard or equivalent national standard is less than 10 μm;

Reference Commodity Name

Nickel powder

Original Chinese source pp. 30-31

No.	Control Code	HS Code(s)	Unit
131	1C240.b	-	kg

Item Name and Description

b. Porous nickel metal produced from materials controlled under item 1C240.a of the National Nuclear Export Control List. Explanation: Item 1C240 does not control the following materials: 1. Nickel powder in filament form; 2. Single porous nickel metal sheets with an area of less than or equal to 1000 cm². Technical Description: Item 1C240.b refers to metal formed by pressing and sintering materials controlled under item 1C240.a, resulting in a structure containing many interconnected fine pores throughout.

Reference Commodity Name

porous nickel metal

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
132	1C241	-	kg

Item Name and Description

Alloys with the following two characteristics: rhenium, alloys with a rhenium content of 90% or more by weight, and alloys with a combined rhenium and tungsten content of 90% or more by weight: a. inner diameter 100–300 mm, in the form of a hollow cylindrical symmetrical body (including cylindrical sector segments); b. weight greater than 20 kg.

Reference Commodity Name

Rhenium, rhenium alloy, rhenium-tungsten alloy

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
133	1C350.a	2811111000 2811119000	kg

Item Name and Description

Chemicals not controlled under item 1C450: Technical description: CAS is the abbreviation for Chemical Abstracts Service registry number. a. Hydrogen fluoride (CAS 7664-39-3) (also known as hydrofluoric acid);

Reference Commodity Name

hydrogen fluoride

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
134	1C350.b	2826199040	kg

Item Name and Description

b. Potassium fluoride (CAS 7789-23-3);

Reference Commodity Name

Potassium fluoride

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
135	1C350.c	2826192010	kg

Item Name and Description

c. Sodium fluoride (CAS 7681-49-4);

Reference Commodity Name

sodium fluoride

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
136	1C350.d	2830101000	kg

Item Name and Description

d. Sodium sulfide (CAS 1313-82-2);

Reference Commodity Name

sodium sulfide

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
137	1C350.e	2826199040	kg

Item Name and Description

e. Potassium hydrogen fluoride (CAS 7789-29-9);

Reference Commodity Name

Potassium hydrogen fluoride

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
138	1C350.f	2826192020	kg

Item Name and Description

f. Sodium fluoride (CAS 1333-83-1);

Reference Commodity Name

sodium bifluoride

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
139	1C350.g	2826191010	kg

Item Name and Description

g. Ammonium fluoride (CAS 1341-49-7);

Reference Commodity Name

Ammonium bifluoride

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
140	1C350.h	2921199020	kg

Item Name and Description

h. Diisopropylamine (CAS 108-18-9);

Reference Commodity Name

diisopropylamine

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
141	1C350.i	2922192210	kg

Item Name and Description

i. 2-Diethylaminoethanol (CAS 100-37-8) (also called N,N-diethyl ethanolamine);

Reference Commodity Name

2-Diethanolamine (also called N,N-diethylaminoethanol)

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
142	1C350.j	2905590020	kg

Item Name and Description

j. 2-Chloroethanol (CAS 107-07-3);

Reference Commodity Name

2-Chlorohydrin

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
143	1C350.k	2829900020	kg

Item Name and Description

K. Potassium perchlorate (CAS7778-74-7).

Reference Commodity Name

Potassium perchlorate

Original Chinese source p. 31

No.	Control Code	HS Code(s)	Unit
144	1C351.a.1	3002493010	kg/plant

Item Name and Description

a. Virus: 1. Chikungunya virus (Chikungunyavirus);

Reference Commodity Name

chikungunya virus

Original Chinese source pp. 31-32

No.	Control Code	HS Code(s)	Unit
145	1C351.a.2	3002493010	kg/plant

Item Name and Description

2. Crimean-Congo hemorrhagic fever virus (also known as Xinjiang hemorrhagic fever virus) Crimean-Congo hemorrhagic fever virus (syn. Xinjiang hemorrhagic fever virus), a human and zoonotic "pathogenic microorganism", toxin and its subunit, animal "pathogenic microorganism": Note: 1. The various "pathogenic microorganisms" controlled under item 1C351, including bacteria, toxic strains, and various live cultures, as well as biological materials (e.g., cells, tissues, serum, infected animals, etc.) or non-biological materials containing such "pathogenic microorganisms"; whether these "pathogenic microorganisms" are natural or genetically modified, they are subject to export control, except those in the form of "vaccines". 2. The various "toxins" controlled under item 1C351 do not include toxins for immunization, nor pharmaceutical products approved by national authorities for human or animal use. 3. Item 1C351 also controls newly discovered or biologically significantly altered organisms within China that can affect humans or animals.

Reference Commodity Name

Crimean-Congo hemorrhagic fever virus (also known as Xinjiang hemorrhagic fever virus)

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
146	1C351.a.3	3002493010	kg/plant

Item Name and Description

3. Dengue virus;

Reference Commodity Name

Dengue virus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
147	1C351.a.4	3002493010	kg/plant

Item Name and Description

4. Eastern equine encephalitis virus (Eastern equine encephalitis virus);

Reference Commodity Name

Eastern equine encephalitis virus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
148	1C351.a.5	3002493010	kg/plant

Item Name and Description

5. Ebola virusEbolavirus;

Reference Commodity Name

Ebola virus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
149	1C351.a.6	3002493010	kg/plant

Item Name and Description

6. Hantaan virus (Hantaan virus);

Reference Commodity Name

hantavirus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
150	1C351.a.7	3002493010	kg/plant

Item Name and Description

7. Junín virus (JUNV);

Reference Commodity Name

Dove (Hu) Ning virus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
151	1C351.a.8	3002493010	kg/plant

Item Name and Description

8. Lassa fever virus;

Reference Commodity Name

Lassa fever virus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
152	1C351.a.9	3002493010	kg/plant

Item Name and Description

9. Lymphocytic choriomeningitis virus

Reference Commodity Name

lymphocytic choriomeningitis virus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
153	1C351.a.10	3002493010	kg/plant

Item Name and Description

10. Ma Qiubo virus Machupovirus;

Reference Commodity Name

Ma Qiubo virus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
154	1C351.a.11	3002493010	kg/plant

Item Name and Description

11. Marburg virus Marburgvirus;

Reference Commodity Name

marburg virus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
155	1C351.a.12	3002493010	kg/plant

Item Name and Description

12. Monkeypox virus Monkeypox virus;

Reference Commodity Name

monkeypox virus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
156	1C351.a.13	3002493010	kg/plant

Item Name and Description

13. Rift Valley fever virus Rift Valley fever virus;

Reference Commodity Name

Rift Valley fever virus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
157	1C351.a.14	3002493010	kg/plant

Item Name and Description

14. Tick-borne encephalitis virus (also known as Russian Spring-Summer encephalitis virus) Tick-borne encephalitis virus (syn. Russian Spring-Summer encephalitis virus);

Reference Commodity Name

Tick-borne encephalitis virus (also known as Russian spring-summer encephalitis virus)

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
158	1C351.a.15	3002493010	kg/plant

Item Name and Description

15. Smallpox virus Variolavirus;

Reference Commodity Name

smallpox virus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
159	1C351.a.16	3002493010	kg/plant

Item Name and Description

16. Venezuelan equine encephalitis virus

Reference Commodity Name

Venezuelan equine encephalitis virus

Original Chinese source p. 32

No.	Control Code	HS Code(s)	Unit
160	1C351.a.17	3002493010	kg/plant

Item Name and Description

17. Western equine encephalitis virus

Reference Commodity Name

Western equine encephalitis virus

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
161	1C351.a.18	3002493010	kg/plant

Item Name and Description

Pathogenic microorganisms that cause serious damage to human health and zoonotic pathogens of humans and animals, animal pathogenic microorganisms. 18. White pox virus;

Reference Commodity Name

whitepox virus

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
162	1C351.a.19	3002493010	kg/plant

Item Name and Description

19. Yellow fever virus (Yellowfevervirus);

Reference Commodity Name

yellow fever virus

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
163	1C351.a.20	3002493010	kg/plant

Item Name and Description

20. Japanese encephalitis virus (also known as B encephalitis virus) Japanese encephalitis virus;

Reference Commodity Name

Japanese encephalitis virus (also known as Japanese encephalitis virus)

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
164	1C351.a.21	3002493010	kg/plant

Item Name and Description

21. Kyasanur Forest virus

Reference Commodity Name

Kosanur Forest Disease Virus

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
165	1C351.a.22	3002493010	kg/plant

Item Name and Description

22. Louping ill virus

Reference Commodity Name

jumping disease virus

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
166	1C351.a.23	3002493010	kg/plant

Item Name and Description

23. Murray Valley encephalitis virus

Reference Commodity Name

Murray Valley encephalitis virus

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
167	1C351.a.24	3002493010	kg/plant

Item Name and Description

24. Omsk haemorrhagic fever virus

Reference Commodity Name

Omsk hemorrhagic fever virus

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
168	1C351.a.25	3002493010	kg/plant

Item Name and Description

25. Oropouche virus Oropouchevirus;

Reference Commodity Name

Oropouche virus

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
169	1C351.a.26	3002493010	kg/plant

Item Name and Description

26. Powassan virus;

Reference Commodity Name

powassan virus

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
170	1C351.a.27	3002493010	kg/plant

Item Name and Description

27. Rociovirus Rociovirus;

Reference Commodity Name

Rossio virus

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
171	1C351.a.28	3002493010	kg/plant

Item Name and Description

28. St. Louis encephalitis virus;

Reference Commodity Name

St. Louis encephalitis virus

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
172	1C351.a.29	3002493010	kg/plant

Item Name and Description

29. Hendra virus (also known as equine morbillivirus) Hendravirus (syn. Equine morbillivirus);

Reference Commodity Name

Hendra virus (also called equine morbillivirus)

Original Chinese source p. 33

No.	Control Code	HS Code(s)	Unit
173	1C351.a.30	3002493010	kg/plant

Item Name and Description

30. South American hemorrhagic fever viruses (Sabia strain, Flexal strain, Guanarito strain) South American hemorrhagic fever (Sabia, Flexal, Guanarito);

Reference Commodity Name

South American hemorrhagic fever viruses (Sabia strain, Flexal strain, Guanarito strain)

Original Chinese source pp. 33-34

No.	Control Code	HS Code(s)	Unit
174	1C351.a.31	3002493010	kg/plant

Item Name and Description

31. Pulmonary and renal syndrome hemorrhagic fever viruses (Seoul strain, Dobrava strain, Puumala strain, Sin Nombre strain) Pulmonary & renal syndrome-haemorrhagic fever viruses (Seoul, Dobrava, Puumala, Sin Nombre);

Reference Commodity Name

Hantavirus causing pulmonary and renal syndrome (Seoul strain, Dobrava strain, Puumala strain, Sin Nombre strain)

Original Chinese source p. 34

No.	Control Code	HS Code(s)	Unit
175	1C351.a.32	3002493010	kg/plant

Item Name and Description

32. Nipah virus

Reference Commodity Name

nipah virus

Original Chinese source p. 34

No.	Control Code	HS Code(s)	Unit
176	1C351.a.33	3002493010	kg/plant

Item Name and Description

33. High-dangerous coronaviruses such as severe acute respiratory syndrome coronavirus (SARS-CoV), Middle East respiratory syndrome coronavirus (MERS-CoV), novel coronavirus (SARS-CoV-2);

Reference Commodity Name

Highly dangerous coronaviruses such as Severe Acute Respiratory Syndrome coronavirus, Middle East Respiratory Syndrome coronavirus, and novel coronavirus

Original Chinese source p. 34

No.	Control Code	HS Code(s)	Unit
177	1C351.a.34	3002493010	kg/plant

Item Name and Description

34. African swine fever virus;

Reference Commodity Name

African swine fever virus

Original Chinese source p. 34

No.	Control Code	HS Code(s)	Unit
178	1C351.a.35	3002493010	kg/plant

Item Name and Description

35. Avian influenza virus Avianinfluenzavirus (subtypes confirmed to be pathogenic to humans and/or poultry, such as H5N1, H5N6, H7N9, etc.);

Reference Commodity Name

Avian influenza viruses (subtypes confirmed to be pathogenic to humans and/or birds, such as H5N1, H5N6, H7N9, etc.).

Original Chinese source p. 34

No.	Control Code	HS Code(s)	Unit
179	1C351.a.36	3002493010	kg/plant

Item Name and Description

36. Bluetongue virus Bluetongue virus;

Reference Commodity Name

bluetongue virus

Original Chinese source p. 34

No.	Control Code	HS Code(s)	Unit
180	1C351.a.37	3002493010	kg/plant

Item Name and Description

37. Foot-and-mouth disease virus (Foot-and-mouth disease virus);

Reference Commodity Name

foot and mouth disease virus

Original Chinese source p. 34

No.	Control Code	HS Code(s)	Unit
181	1C351.a.38	3002493010	kg/plant

Item Name and Description

38. Goatpox virus Goatpox virus;

Reference Commodity Name

goatpox virus

Original Chinese source p. 34

No.	Control Code	HS Code(s)	Unit
182	1C351.a.39	3002493010	kg/plant

Item Name and Description

39. Pseudorabies virus Herpesvirus (syn. Aujeszky's disease);

Reference Commodity Name

pseudorabies virus

Original Chinese source p. 34

No.	Control Code	HS Code(s)	Unit
183	1C351.a.40	3002493010	kg/plant

Item Name and Description

40. Classical swine fever virus (Hog cholera virus) (syn. Swine fever virus);

Reference Commodity Name

swine fever virus

Original Chinese source p. 34

No.	Control Code	HS Code(s)	Unit
184	1C351.a.41	3002493010	kg/plant

Item Name and Description

41. Rabies virus Lyssa virus;

Reference Commodity Name

rabies virus

Original Chinese source pp. 34-35

No.	Control Code	HS Code(s)	Unit
185	1C351.a.42	3002493010	kg/plant

Item Name and Description

42. Newcastle disease virus;

Reference Commodity Name

Newcastle disease virus

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
186	1C351.a.43	3002493010	kg/plant

Item Name and Description

43. Small ruminant plague virus Peste des petits ruminants virus;

Reference Commodity Name

peste des petits ruminants virus

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
187	1C351.a.44	3002493010	kg/plant

Item Name and Description

44. Swine vesicular disease virus;

Reference Commodity Name

swine vesicular disease virus

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
188	1C351.a.45	3002493010	kg/plant

Item Name and Description

45. Rinderpest virus;

Reference Commodity Name

rinderpest virus

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
189	1C351.a.46	3002493010	kg/plant

Item Name and Description

46. Sheeppox virus Sheeppoxvirus;

Reference Commodity Name

sheeppox virus

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
190	1C351.a.47	3002493010	kg/plant

Item Name and Description

47. Teschovirus

Reference Commodity Name

Jeschen disease virus

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
191	1C351.a.48	3002493010	kg/plant

Item Name and Description

48. Vesicular stomatitis virus;

Reference Commodity Name

vesicular stomatitis virus

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
192	1C351.a.49	3002493010	kg/plant

Item Name and Description

49. Lumpy skin disease virus (also known as nodular skin disease virus) Lumpy skin disease virus;

Reference Commodity Name

Lumpy skin disease virus (also known as nodular skin disease virus)

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
193	1C351.a.50	3002493010	kg/plant

Item Name and Description

50. African horse sickness virus;

Reference Commodity Name

African horse disease virus

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
194	1C351.b.1	3002493010	kg/plant

Item Name and Description

b. Rickettsia: 1. Coxiella burnetii

Reference Commodity Name

Coxiella burnetii

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
195	1C351.b.2	3002493010	kg/plant

Item Name and Description

2. Bartonella (also known as five-day fever Bartonella, Kun's Rickettisia type) Bartonella quintana (syn. Rochalimea quintana, Rickettsia quintana);

Reference Commodity Name

Batong body (also known as five-day fever batong body, Kun's Rickett's body)

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
196	1C351.b.3	3002493010	kg/plant

Item Name and Description

3. Rickettsia prowazekii

Reference Commodity Name

Rickettsia prowazekii

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
197	1C351.b.4	3002493010	kg/plant

Item Name and Description

4. Rickettsia rickettsii

Reference Commodity Name

Rickettsia rickettsii

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
198	1C351.c.1	3002493010	kg/plant

Item Name and Description

c. Bacteria: 1. Bacillus anthracis;

Reference Commodity Name

Bacillus anthracis

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
199	1C351.c.2	3002493010	kg/plant

Item Name and Description

2. Cattle Brucella Brucella abortus;

Reference Commodity Name

Brucella bovis

Original Chinese source p. 35

No.	Control Code	HS Code(s)	Unit
200	1C351.c.3	3002493010	kg/plant

Item Name and Description

3. Sheep Brucella Brucella melitensis;

Reference Commodity Name

Brucella melitensis

Original Chinese source p. 36

No.	Control Code	HS Code(s)	Unit
201	1C351.c.4	3002493010	kg/plant

Item Name and Description

4. Pig strain Brucella suis;

Reference Commodity Name

Brucella suis

Original Chinese source p. 36

No.	Control Code	HS Code(s)	Unit
202	1C351.c.5	3002493010	kg/plant

Item Name and Description

5. Psittacosis Chlamydia Chlamydiapsittaci;

Reference Commodity Name

Chlamydia psittaci

Original Chinese source p. 36

No.	Control Code	HS Code(s)	Unit
203	1C351.c.6	3002493010	kg/plant

Item Name and Description

6. Clostridium botulinum

Reference Commodity Name

Clostridium botulinum

Original Chinese source p. 36

No.	Control Code	HS Code(s)	Unit
204	1C351.c.7	3002493010	kg/plant

Item Name and Description

7. Francisella tularensis;

Reference Commodity Name

Francisella tularensis

Original Chinese source p. 36

No.	Control Code	HS Code(s)	Unit
205	1C351.c.8	3002493010	kg/plant

Item Name and Description

8. Glanders Burkholderia (also called Pseudomonas mallei) Burkholderia mallei (syn. Pseudomonas mallei);

Reference Commodity Name

Burkholderia mallei (also called Pseudomonas mallei)

Original Chinese source p. 36

No.	Control Code	HS Code(s)	Unit
206	1C351.c.9	3002493010	kg/plant

Item Name and Description

9. Burkholderia pseudomallei (also known as Pseudomonas pseudomallei), the bacterium of melioidosis (also called pseudo-melioidosis Pseudomonas);

Reference Commodity Name

Burkholderia pseudomallei-like bacteria (also known as pseudomonal bacteria related to melioidosis)

Original Chinese source p. 36

No.	Control Code	HS Code(s)	Unit
207	1C351.c.10	3002493010	kg/plant

Item Name and Description

10. Typhoid Salmonella Salmonella typhi;

Reference Commodity Name

Salmonella typhi

Original Chinese source p. 36

No.	Control Code	HS Code(s)	Unit
208	1C351.c.11	3002493010	kg/plant

Item Name and Description

11. Bacillus Shigella dysenteriae of dysentery;

Reference Commodity Name

Shigella dysenteriae

Original Chinese source p. 36

No.	Control Code	HS Code(s)	Unit
209	1C351.c.12	3002493010	kg/plant

Item Name and Description

12. Vibrio cholerae

Reference Commodity Name

Vibrio cholerae

Original Chinese source p. 36

No.	Control Code	HS Code(s)	Unit
210	1C351.c.13	3002493010	kg/plant

Item Name and Description

13. Yersinia pestis, the plague bacterium;

Reference Commodity Name

Yersinia pestis

Original Chinese source p. 36

No.	Control Code	HS Code(s)	Unit
211	1C351.c.14	3002493010	kg/plant

Item Name and Description

14. Gas-producing Clostridium perfringens, epsilon toxin-producing Clostridium perfringens, epsilon toxin-producing types;

Reference Commodity Name

Clostridium perfringens, epsilon-toxin-producing type

Original Chinese source pp. 36-37

No.	Control Code	HS Code(s)	Unit
212	1C351.c.15	3002493010	kg/plant

Item Name and Description

15. Shiga toxin-producing Escherichia coli (STEC), O157 and other Shiga toxin-producing serotypes

Reference Commodity Name

Shiga toxin-producing Escherichia coli (STEC), O157 and other Shiga toxin-producing serotypes

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
213	1C351.c.16	3002493010	kg/plant

Item Name and Description

16. Tetanus bacillus Clostridium tetani;

Reference Commodity Name

Clostridium tetani

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
214	1C351.c.17	3002493010	kg/plant

Item Name and Description

17. Legionella pneumophila

Reference Commodity Name

Legionella pneumophila

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
215	1C351.c.18	3002493010	kg/plant

Item Name and Description

18. Yersinia pseudotuberculosis;

Reference Commodity Name

Yersinia pseudotuberculosis

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
216	1C351.c.19	3002493010	kg/plant

Item Name and Description

19. Filamentous mycoplasma filamentous subspecies Mycoplasma mycoides;

Reference Commodity Name

Mycoplasma mycoides subsp.

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
217	1C351.d.1	3002499020	kg

Item Name and Description

d. Toxins and their subunits: 1. Botulinum toxins;

Reference Commodity Name

botulinum toxin

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
218	1C351.d.2	3002499020	kg

Item Name and Description

2. Gas gangrene Clostridium toxins Clostridium perfringenstoxins;

Reference Commodity Name

Clostridium perfringens toxin

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
219	1C351.d.3	3002499020	kg

Item Name and Description

3. Conotoxins;

Reference Commodity Name

Conotoxins

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
220	1C351.d.4	3002499020	kg

Item Name and Description

4. Shiga toxins

Reference Commodity Name

Shiga toxin

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
221	1C351.d.5	3002499020	kg

Item Name and Description

5. Shiga-like toxins

Reference Commodity Name

Shiga-like toxin

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
222	1C351.d.6	3002499020	kg

Item Name and Description

6. Staphylococcus aureus enterotoxins;

Reference Commodity Name

Staphylococcus aureus enterotoxin

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
223	1C351.d.7	2939809010	kg

Item Name and Description

7. Tetrodotoxin;

Reference Commodity Name

tetrodotoxin

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
224	1C351.d.8	3002499020	kg

Item Name and Description

8. Microcystins (syn. Cyanoginosins);

Reference Commodity Name

Microcystin

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
225	1C351.d.9	3002499020	kg

Item Name and Description

9□ Aflatoxins;

Reference Commodity Name

Aflatoxin

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
226	1C351.d.10	3002499020	kg

Item Name and Description

10. Abrin;

Reference Commodity Name

abrin

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
227	1C351.d.11	3002499020	kg

Item Name and Description

11. Choleratoxin

Reference Commodity Name

cholera toxin

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
228	1C351.d.12	3002499020	kg

Item Name and Description

12. Diacetoxyscirpenol from Fusarium scirpenol

Reference Commodity Name

Diacetyl fusarenol

Original Chinese source p. 37

No.	Control Code	HS Code(s)	Unit
229	1C351.d.13	3002499020	kg

Item Name and Description

13. T-2 toxin T-2 toxin;

Reference Commodity Name

T-2 toxin

Original Chinese source p. 38

No.	Control Code	HS Code(s)	Unit
230	1C351.d.14	3002499020	kg

Item Name and Description

14. HT-2 toxin HT-2 toxin;

Reference Commodity Name

HT-2 toxin

Original Chinese source p. 38

No.	Control Code	HS Code(s)	Unit
231	1C351.d.15	3002499020	kg

Item Name and Description

15. Yao Liansu Modeccintoxin;

Reference Commodity Name

Medicinalis

Original Chinese source p. 38

No.	Control Code	HS Code(s)	Unit
232	1C351.d.16	3002499020	kg

Item Name and Description

16. Volkensintoxin

Reference Commodity Name

Wolinsu

Original Chinese source p. 38

No.	Control Code	HS Code(s)	Unit
233	1C351.d.17	3002499020	kg

Item Name and Description

17. Mistletoe Lectin I Viscum Album Lectin 1 (syn. Viscumin).

Reference Commodity Name

Mistletoe Lectin I

Original Chinese source p. 38

No.	Control Code	HS Code(s)	Unit
234	1C353.a	3002904010	kg

Item Name and Description

Genetic Material and Genetically Modified Organisms: Technical Description: 1. Genetic material includes chromosomes, genomes, plasmids, transposons, and vectors (whether genetically modified or not). 2. Nucleic acid sequences related to the pathogenicity of microorganisms controlled under this list refer to the following specific sequences related to the microorganisms controlled under this list: a. The sequence itself or its transcription or translation products can cause significant harm to human, animal, or plant health; b. By insertion, replacement, integration, or deletion, the sequence can enhance the ability of microorganisms controlled under this list or any other organism to cause serious damage to human, animal, or plant health. 3. Nucleic acid sequences associated with the pathogenicity of enterohemorrhagic Escherichia coli (O157 serotype) and other Shiga toxin-producing strains are not controlled, whereas nucleic acid sequences encoding Shiga toxin or its subunits are controlled. a. Genetic material containing nucleic acid sequences related to the pathogenicity of microorganisms controlled under this list;

Reference Commodity Name

Genetic material of nucleic acid sequences related to microbial pathogenicity

Original Chinese source p. 38

No.	Control Code	HS Code(s)	Unit
235	1C353.b	3002904010	kg

Item Name and Description

b. Genetic material containing the nucleic acid sequences of toxins regulated by this list and their subunits;

Reference Commodity Name

The genetic material of the toxin and its subunit nucleic acid sequences

Original Chinese source p. 38

No.	Control Code	HS Code(s)	Unit
236	1C353.c	3002904010	kg

Item Name and Description

c. Genetically modified organisms containing nucleic acid sequences associated with the pathogenicity of microorganisms controlled by the list;

Reference Commodity Name

Genetically modified organisms with nucleic acid sequences associated with microbial pathogenicity

Original Chinese source p. 38

No.	Control Code	HS Code(s)	Unit
237	1C353.d	3002904010	kg

Item Name and Description

d. Genetically modified organisms containing nucleic acid sequences of toxins and their subunits controlled by the inventory of encoded toxins.

Reference Commodity Name

Genetically modified organisms of toxins and their subunit nucleic acid sequences

Original Chinese source p. 39

No.	Control Code	HS Code(s)	Unit
238	1C354.a.1	3002493010	kg/plant

Item Name and Description

Plant 'pathogenic microorganisms': Explanation: 1. The types of 'pathogenic microorganisms' controlled under item 1C354 include bacteria, viral strains, and various live cultures, as well as various biological materials containing such 'pathogenic microorganisms' (e.g., cells, tissues, serum, infected animals, etc.) or non-biological materials; whether these 'pathogenic microorganisms' are natural or genetically modified, they are subject to export control, except when they exist in the form of 'vaccines.' 2. Item 1C354 also controls other plant 'pathogenic microorganisms' newly discovered within China or whose biological characteristics have significantly changed, which can cause serious damage to plant health. a. Virus: 1. Andean potato latent tymovirus.

Reference Commodity Name

Andean potato latent turnip yellow mosaic virus

Original Chinese source p. 39

No.	Control Code	HS Code(s)	Unit
239	1C354.a.2	3002493010	kg/plant

Item Name and Description

2. Potato spindle tuber viroid

Reference Commodity Name

potato spindle tuber viroid

Original Chinese source p. 39

No.	Control Code	HS Code(s)	Unit
240	1C354.a.3	3002493010	kg/plant

Item Name and Description

3. Banana bunchy top virus;

Reference Commodity Name

banana bunchy top virus

Original Chinese source p. 39

No.	Control Code	HS Code(s)	Unit
241	1C354.b.1	3002493010	kg/plant

Item Name and Description

b. Bacteria: 1. Xanthomonas albilineans

Reference Commodity Name

Xanthomonas albicans

Original Chinese source p. 39

No.	Control Code	HS Code(s)	Unit
242	1C354.b.2	3002493010	kg/plant

Item Name and Description

2. Xanthomonas campestris pv. citri, the pathogenic variant of wild mustard affecting citrus;

Reference Commodity Name

Xanthomonas campestris citrus pathogenic variety

Original Chinese source p. 39

No.	Control Code	HS Code(s)	Unit
243	1C354.b.3	3002493010	kg/plant

Item Name and Description

3. Xanthomonas oryzae pv. oryzae (also known as the rice bacterial blight pathogen) (syn. Pseudomonas campestris pv. oryzae);

Reference Commodity Name

Xanthomonas oryzae pv. oryzae (also known as the pathogen causing bacterial leaf blight in rice)

Original Chinese source p. 39

No.	Control Code	HS Code(s)	Unit
244	1C354.b.4	3002493010	kg/plant

Item Name and Description

4. Clavibacter michiganensis subsp. sepedonicus, the potato rot subspecies (syn. Corynebacterium michiganense subsp. Sepedonicum or Corynebacterium sepedonicum);

Reference Commodity Name

Corynebacterium michiganensis subsp.

Original Chinese source p. 39

No.	Control Code	HS Code(s)	Unit
245	1C354.b.5	3002493010	kg/plant

Item Name and Description

5. Ralstonia solanacearum races 2 and 3 of the Solanaceae (also known as Solanaceae pseudomonas or Solanaceae Burkholderia) (syn. Pseudomonas solanacearum races 2 and 3 or Burkholderia solanacearum races 2 and 3)

Reference Commodity Name

Subspecies 2 and 3 of the genus Ralstonia in the Solanaceae family (also known as Solanaceae pseudomonads or Solanaceae Burkholderia)

Original Chinese source p. 40

No.	Control Code	HS Code(s)	Unit
246	1C354.b.6	3002493010	kg/plant

Item Name and Description

6. Harshly cultivating Xylella fastidiosa;

Reference Commodity Name

Xylella fastidiosa

Original Chinese source p. 40

No.	Control Code	HS Code(s)	Unit
247	1C354.c.1	3002499020	kg/plant

Item Name and Description

c. Fungi: 1. Coffee berry pathogen toxigenic variant Colletotrichum coffeanum var. Virulans (syn. Colletotrichum kahawae);

Reference Commodity Name

Caffeospora virulent var.

Original Chinese source p. 40

No.	Control Code	HS Code(s)	Unit
248	1C354.c.2	3002499020	kg/plant

Item Name and Description

2. Cochliobolus miyabeanus (also known as rice long smut fungus) Cochliobolus miyabeanus (syn. Helminthosporium oryzae);

Reference Commodity Name

Spirospora miyabei (also known as Helminthosporium oryzae)

Original Chinese source p. 40

No.	Control Code	HS Code(s)	Unit
249	1C354.c.3	3002499020	kg/plant

Item Name and Description

3. Microcyclus ulei (also known as South American leaf blight fungus) Microcyclus ulei (syn. Dothidella ulei);

Reference Commodity Name

Microcyclella wuschii (also known as South American leaf blight)

Original Chinese source p. 40

No.	Control Code	HS Code(s)	Unit
250	1C354.c.4	3002499020	kg/plant

Item Name and Description

4. Stem rust fungus Puccinia graminis (syn. Puccinia graminis f.sp. tritici);

Reference Commodity Name

Puccinia graminearum

Original Chinese source p. 40

No.	Control Code	HS Code(s)	Unit
251	1C354.c.5	3002499020	kg/plant

Item Name and Description

5. Stripe rust fungus Puccinia striiformis (syn. Puccinia glumarum);

Reference Commodity Name

rust fungus

Original Chinese source p. 40

No.	Control Code	HS Code(s)	Unit
252	1C354.c.6	3002499020	kg/plant

Item Name and Description

6. Rice blast fungus Pyricularia grisea (syn. Pyricularia oryzae, Magnaporthe oryzae);

Reference Commodity Name

Magnaporthe oryzae

Original Chinese source p. 40

No.	Control Code	HS Code(s)	Unit
253	1C354.c.7	3002499020	kg/plant

Item Name and Description

7. Twig disease fungus Deuterophoma tracheiphila (syn. Phoma tracheiphila);

Reference Commodity Name

A. tuberophila

Original Chinese source p. 40

No.	Control Code	HS Code(s)	Unit
254	1C354.c.8	3002499020	kg/plant

Item Name and Description

8. Noli-stem spore fungus (also known as Candida) Monilia rorei (syn. Moniliophthora rorei).

Reference Commodity Name

Agaricus nolii (also known as Candida).

Original Chinese source pp. 40-41

No.	Control Code	HS Code(s)	Unit
255	1C450.a.1	2931590001	kg

Item Name and Description

a. Chemicals that can be used as chemical weapons: 1. Alkyl (methyl, ethyl, n-propyl, or isopropyl) phosphonofluoridates (chemicals under monitoring with 10 or fewer carbon atoms*: Note: Export control of items under 1C450 applies according to the Provisions on the Administration of Chemicals Under Monitoring of the People's Republic of China. Matters not stipulated in the Provisions on the Administration of Chemicals Under Monitoring shall be implemented by the competent department of industry and information technology of the State Council in accordance with the Export Control Law of the People's Republic of China and the Regulations on Export Control of Dual-Use Items of the People's Republic of China.) including carbon chains (including cycloalkyl) esters. For example: Sarin: Isopropyl methylphosphonofluoridate (CAS 107-44-8) Soman: Pinacolyl methylphosphonofluoridate (CAS 96-64-0)

Reference Commodity Name

Alkyl (methyl, ethyl, n-propyl, or isopropyl) fluoro-phosphonic acid alkyl (carbon chain of 10 atoms or less, including cycloalkyl) esters, for example: Sarin: isopropyl methylphosphonofluoridate Soman: pinacolyl methylphosphonofluoridate

Original Chinese source p. 41

No.	Control Code	HS Code(s)	Unit
256	1C450.a.2	2931499010	kg

Item Name and Description

2. Dialkyl (methyl, ethyl, n-propyl, or isopropyl) amino-cyanophosphonate alkyl esters (carbon chains with less than or equal to 10 carbon atoms, including cycloalkanes), for example: Tabun: Diethylamino-cyanophosphonate ethyl ester (CAS 77-81-6)

Reference Commodity Name

Dialkyl (methyl, ethyl, n-propyl, or isopropyl) amino cyanophosphonic acid alkyl (carbon chains with 10 or fewer carbon atoms, including cycloalkanes) esters, for example: Tabun: diethylamino cyanophosphonic acid ethyl ester

Original Chinese source p. 41

No.	Control Code	HS Code(s)	Unit
257	1C450.a.3	2930909042	kg

Item Name and Description

3. Alkyl (methyl, ethyl, n-propyl, or isopropyl) phosphonothioates of alkyl (hydrogen or carbon chains with 10 or fewer carbon atoms, including cycloalkyl) -S-2-dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethyl esters and the corresponding alkylated salts or protonated salts. For example: VX: O-ethyl S-2-diisopropylaminoethyl methylphosphonothioate (CAS 50782-69-9)

Reference Commodity Name

Alkyl (methyl, ethyl, n-propyl, or isopropyl) phosphonothioic acid alkyl (hydrogen or a carbon chain of 10 or fewer carbon atoms, including cycloalkyl)-S-2-dialkylaminoethyl ester (methyl, ethyl, n-propyl, or isopropyl) and the corresponding alkylated salts or protonated salts, for example: VX: O-ethyl S-2-diisopropylaminoethyl methylphosphonothioate

Original Chinese source pp. 41-42

No.	Control Code	HS Code(s)	Unit
258	1C450.a.4	2930909041	kg

Item Name and Description

4. Mustard Gas 2-Chloroethyl Chloromethyl Sulfide (CAS 2625-76-5) Mustard Gas: Bis(2-chloroethyl) sulfide (CAS 505-60-2) Bis(2-chloroethylthio)methane (CAS 63869-13-6) Sesquimustard: 1,2-Bis(2-chloroethylthio)ethane (CAS 3563-36-8) 1,3-Bis(2-chloroethylthio)propane (CAS 63905-10-2) 1,4-Bis(2-chloroethylthio)butane (CAS 142868-93-7) 1,5-Bis(2-chloroethylthio)pentane (CAS 142868-94-8) Bis(2-chloroethylthiomethyl) ether (CAS 63918-90-1) O-Mustard: Di(2-chloroethylthioethyl) ether (CAS 63918-89-8)

Reference Commodity Name

Sulfur mustard gas 2-Chloroethyl chloromethyl sulfide mustard gas: bis(2-chloroethyl) sulfide bis(2-chloroethylthio)methane sesquimustard: 1,2-bis(2-chloroethylthio)ethane 1,3-bis(2-chloroethylthio)propane 1,4-bis(2-chloroethylthio)butane 1,5-bis(2-chloroethylthio)pentane bis(2-chloroethylthiomethyl) ether (CAS 63918-90-1) O-mustard gas: bis(2-chloroethylthioethyl) ether

Original Chinese source p. 42

No.	Control Code	HS Code(s)	Unit
259	1C450.a.5	2931900002	kg

Item Name and Description

5. Lewisite Agents
Lewisite 1: 1,2-Dichloroethenyl arsenic (CAS 541-25-3)
Lewisite 2: Bis(2-chloroethenyl)arsinous chloride (CAS 40334-69-8)
Lewisite 3: Tris(2-chloroethenyl)arsine (CAS 40334-70-1)

Reference Commodity Name

Louis' Reagent 1: 1,2-Dichloroethenylarsine
Louis' Reagent 2: Di(2-chloroethenyl)arsine
Louis' Reagent 3: Tri(2-chloroethenyl)arsine

Original Chinese source p. 42

No.	Control Code	HS Code(s)	Unit
260	1C450.a.6	2921193000 2921194000 2921195000	kg

Item Name and Description

6. Nitrogen Mustard Gas HN1: N,N-Di(2-chloroethyl)ethylamine (CAS 538-07-8) HN2: N,N-Di(2-chloroethyl)methylamine (CAS 51-75-2) HN3: Tris(2-chloroethyl)amine (CAS 555-77-1)

Reference Commodity Name

Nitrogen mustard HN1: N,N-di(2-chloroethyl)ethylamine
HN2: N,N-di(2-chloroethyl)methylamine
HN3: Tris(2-chloroethyl)amine

Original Chinese source p. 42

No.	Control Code	HS Code(s)	Unit
261	1C450.a.7	2939801000	kg

Item Name and Description

7. Stonehouse clam toxin (CAS 35523-89-8)

Reference Commodity Name

Saxitoxin

Original Chinese source p. 42

No.	Control Code	HS Code(s)	Unit
262	1C450.a.8	3002492000	kg

Item Name and Description

8. Ricin (CAS 9009-86-3)

Reference Commodity Name

Ricin

Original Chinese source pp. 42-43

No.	Control Code	HS Code(s)	Unit
263	1C450.a.9	2929909014 2931590050 2931590050	kg

Item Name and Description

9. N-{1-[Dialkyl (carbon chain with 10 or fewer carbon atoms, including cycloalkyl) amino] alkyl (hydrogen, carbon chain with 10 or fewer carbon atoms, including cycloalkyl)}-P-alkyl (hydrogen, carbon chain with 10 or fewer carbon atoms, including cycloalkyl) phosphonamidates and the corresponding alkylated salts or protonated salts, for example: N-[1-(Di-n-decylamino) n-decyl]-P-n-decylphosphonamidate (CAS 2387495-99-8); N-[1-(Diethylamino) ethyl]-P-methylphosphonamidate (CAS 2387496-12-8)

Reference Commodity Name

N-{1-[Dialkyl (carbon chains with 10 or fewer carbon atoms, including cycloalkyl) amino] alkylene (hydrogen, carbon chains with 10 or fewer carbon atoms, including cycloalkyl)}-P-alkyl (hydrogen, carbon chains with 10 or fewer carbon atoms, including cycloalkyl) phosphonamidates and the corresponding alkylated salts or protonated salts, for example: N-[1-(Di-n-decylamino) n-decyl] P-n-decyl phosphonamidate, N-[1-(Diethylamino) ethyl] P-methyl phosphonamidate

Original Chinese source pp. 43-44

No.	Control Code	HS Code(s)	Unit
264	1C450.a.10	2929909015	kg

Item Name and Description

10. N-[1-dialkyl(amino group with a carbon chain of 10 or fewer carbon atoms, including cycloalkyl)] alkyl (hydrogen, carbon chain of 10 or fewer carbon atoms, including cycloalkyl) aminofluorophosphate alkyl ester (hydrogen, carbon chain of 10 or fewer carbon atoms, including cycloalkyl) and corresponding alkylated salts or protonated salts, for example: N-[1-(di-n-decylamino)decyl] aminofluorophosphate n-decyl ester (CAS 2387496-00-4) N-[1-(diethylamino)ethyl] aminofluorophosphate methyl ester (CAS 2387496-04-8) N-[1-(diethylamino)ethyl] aminofluorophosphate ethyl ester (CAS 2387496-06-0)

Reference Commodity Name

N-[1-dialkyl(amino group with carbon chains of 10 or fewer carbon atoms, including cycloalkyl) alkyl] aminomethylene (hydrogen or carbon chains of 10 or fewer carbon atoms, including cycloalkyl) fluoro phosphoryl alkyl (hydrogen or carbon chains of 10 or fewer carbon atoms, including cycloalkyl) ester and the corresponding alkylated salts or protonated salts, for example: N-[1-(di-n-decylamino) n-decyl] aminofluorophosphate n-decyl ester; N-[1-(diethylamino) ethyl] aminofluorophosphate methyl ester; N-[1-(diethylamino) ethyl] aminofluorophosphate ethyl ester

Original Chinese source p. 44

No.	Control Code	HS Code(s)	Unit
265	1C450.a.11	2931590060	kg

Item Name and Description

11. [Bis(diethylamino)methylidene]fluorophosphonamide (CAS 2387496-14-0)

Reference Commodity Name

[Bis(diethylamino)methylene]methylfluorophosphonamide

Original Chinese source pp. 44-45

No.	Control Code	HS Code(s)	Unit
266	1C450.a.12	2933399074	kg

Item Name and Description

12. Carbamate compounds (quaternary salts and bisquaternary salts of dimethylaminocarbamoylpyridyl esters): a. Quaternary salts of dimethylaminocarbamoylpyridyl esters: 1-[N,N-dialkyl (carbon chain with 10 or fewer carbon atoms)-N-(n-hydroxy, cyano, acetoxy) alkyl (carbon chain with 10 or fewer carbon atoms)]-n-[N-(3-dimethylaminocarbamoyloxy-α-picolinyl)-N,N-dialkyl (carbon chain with 10 or fewer carbon atoms)] dibromodecyl ammonium salts (n=1-8) For example: 1-[N,N-dimethyl-N-(2-hydroxy)ethyl]-10-[N-(3-dimethylaminocarbamoyloxy-α-picolinyl)-N,N-dimethyl] dibromodecyl ammonium salt (CAS 77104-62-2). b. Bisquaternary salts of dimethylaminocarbamoylpyridyl esters:
1,n-bis[N-(3-dimethylaminocarbamoyloxy-α-picolinyl)-N,N-dialkyl (carbon chain with 10 or fewer carbon atoms)]-[2,(n-1)-dione] dibromoalkan ammonium salts (n=2-12) For example: 1,10-bis[N-(3-dimethylaminocarbamoyloxy-α-picolinyl)-N-ethyl-N-methyl]-2,9-dione-dibromodecyl ammonium salt (CAS 77104-00-8).

Reference Commodity Name

Carbamate Compounds (Quaternary Salts and Bisquaternary Salts of Dimethylamino Carbamate Pyridyl Esters): a. Quaternary Salts of Dimethylamino Carbamate Pyridyl Esters: 1-[N,N-dialkyl (carbon chain of 10 or fewer carbon atoms)-N-(n-hydroxy, cyano, acetoxy)alkyl (carbon chain of 10 or fewer carbon atoms)]-n-[N-(3-dimethylaminocarbonyloxy-α-picolinyl)-N,N-dialkyl (carbon chain of 10 or fewer carbon atoms)] dibromodecylammonium salts (n=1-8), for example: 1-[N,N-dimethyl-N-(2-hydroxy)ethyl]-10-[N-(3-dimethylaminocarbonyloxy-α-picolinyl)-N,N-dimethyl]dibromodecylammonium salt. b. Bisquaternary Salts of Dimethylamino Carbamate Pyridyl Esters: 1,n-bis[N-(3-dimethylaminocarbonyloxy-α-picolinyl)-N,N-dialkyl (carbon chain of 10 or fewer carbon atoms)]-[2,(n-1)-dione] dibromoalkylammonium salts (n=2-12), for example:
1,10-bis[N-(3-dimethylaminocarbonyloxy-α-picolinyl)-N-ethyl-N-methyl]-2,9-dione-dibromodecylammonium salt.

Original Chinese source p. 45

No.	Control Code	HS Code(s)	Unit
267	1C450.a.13	2931590001	kg

Item Name and Description

13. Alkyl (methyl, ethyl, n-propyl, or isopropyl) phosphonyl difluoride, for example: DF: methylphosphonyl difluoride (CAS 676-99-3)

Reference Commodity Name

Alkyl (methyl, ethyl, n-propyl, or isopropyl) phosphonyl difluoride, for example: DF: methylphosphonyl difluoride

Original Chinese source p. 45

No.	Control Code	HS Code(s)	Unit
268	1C450.a.14	2931499010	kg

Item Name and Description

14. Alkyl (methyl, ethyl, n-propyl, or isopropyl) phosphonic acid alkyl (hydrogen or a carbon chain with 10 or fewer carbon atoms, including cycloalkyl) -2-dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethyl ester and the corresponding alkylated salts or protonated salts. For example: QL: Methylphosphonic acid ethyl-2-diisopropylaminoethyl ester (CAS 57856-11-8)

Reference Commodity Name

Alkyl (methyl, ethyl, n-propyl, or isopropyl) phosphonic acid alkyl (hydrogen or a carbon chain of 10 or fewer carbon atoms, including cycloalkyl) -2-dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethyl ester and the corresponding alkylated salts or protonated salts. For example: QL: Methyl phosphonic acid ethyl-2-diisopropylaminoethyl ester

Original Chinese source p. 45

No.	Control Code	HS Code(s)	Unit
269	1C450.a.15	2931590001	kg

Item Name and Description

15. Clorsulon: Isopropyl methylphosphonochloridate (CAS 1445-76-7)

Reference Commodity Name

Losalen: isopropyl methylclodronate

Original Chinese source pp. 45-46

No.	Control Code	HS Code(s)	Unit
270	1C450.a.16	2931590001	kg

Item Name and Description

16. Clorsulon: Methyl chlorphosphonate fenamiphos (CAS 7040-57-5)

Reference Commodity Name

Chlorthoman: Methylclodronate pinacolate

Original Chinese source p. 46

No.	Control Code	HS Code(s)	Unit
271	1C450.b.1	2930909042	kg

Item Name and Description

b. Chemicals that can be used as precursors for the production of chemical weapons: 1. Aminophosphonates: O,O-diethyl S-(2-diethylaminoethyl) phosphorothioate and the corresponding alkylated salts or protonated salts (CAS 78-53-5)

Reference Commodity Name

Amiphos: S-diethylaminoethyl diethylthiophosphonate and the corresponding alkylated salts or protonated salts

Original Chinese source p. 46

No.	Control Code	HS Code(s)	Unit
272	1C450.b.2	2903591000	kg

Item Name and Description

2. PFIB: 1,1,3,3,3-Pentafluoro-2-trifluoromethyl-1-propene (also known as: perfluoroisobutylene; octafluoroisobutylene) (CAS 382-21-8)

Reference Commodity Name

PFIB: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (also known as: perfluoroisobutylene; octafluoroisobutylene) (CAS 382-21-8)

Original Chinese source p. 46

No.	Control Code	HS Code(s)	Unit
273	1C450.b.3	2933391000	kg

Item Name and Description

3. BZ: 3-Quinuclidinyl benzilate (CAS 6581-06-2)

Reference Commodity Name

BZ: benzyl glycolate-3-quinuclidinate

Original Chinese source pp. 46-48

No.	Control Code	HS Code(s)	Unit
274	1C450.b.4	2930909042 2931510000 2931410000 2931499020 2931440000 2931430000 2931470000 2931499020 2931499020 2931499020 2931590060 2931590070 2931499020 2931450000 2931499020 3824999950 2931480000 2931460000	kg

Item Name and Description

4. Chemicals containing one phosphorus atom and having a methyl, ethyl, or (normal or iso) propyl group bonded to that phosphorus atom, excluding cases containing more carbon atoms, except those listed in the first category list. For example: Methylphosphonyl dichloride (CAS 676-97-1), Dimethyl methylphosphonate (CAS 756-79-6). Exception: Nemacur: O,O-Diethyl S-phenyl phosphorodithioate (CAS 944-22-9).

Reference Commodity Name

Chemicals containing one phosphorus atom and having a methyl, ethyl, or (normal or iso) propyl group bonded to that phosphorus atom, excluding cases with more carbon atoms, except those listed in Schedule 1. Exceptions: Terbufos: S-phenyl ethyl phosphorodithioate Examples: 1. Methylphosphonic dichloride 2. Dimethyl methylphosphonate 3. Propylphosphonic acid 4. Methylphosphonic acid 5. Diethyl ethylphosphonate 6. Cyclic phosphonate ester A Chemical name: Methylphosphonic acid (5-ethyl-2-methyl-2-oxo-1,3,2-dioxaphosphorinane-5-yl) methyl methyl ester Chemical Abstracts Service (CAS) number: 41203-81-0 7. Cyclic phosphonate ester B Chemical name: Methylphosphonic acid di[5-(5-ethyl-2-methyl-2-oxo-1,3,2-dioxaphosphorinane) methyl] ester CAS number: 42595-45-9 8. Methylphosphonic acid diethylene glycol ester CAS number: 294675-51-7 9. Dimethyl methylphosphite 10. Methylphosphonic dichloride 11. Terbufos 12. Monobutyl methylphosphonate 13. Methylphosphonic acid guanidinium salt 14. Diphenyl methylphosphonate 15. Cyclic phosphonate ester CU Chemical name: Mixture of cyclic phosphonate ester A and cyclic phosphonate ester B CAS number: 170836-68-7 16. 3,9-Dimethyl-2,4,8,10-tetraoxaspiro[5.5]undecane-3,9-dione-3,9-diphosphane 17. 1-Propylphosphonic anhydride

Original Chinese source p. 48

No.	Control Code	HS Code(s)	Unit
275	1C450.b.5	2929902000	kg

Item Name and Description

5. Dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminophosphonodihalides

Reference Commodity Name

Dioxane (methyl, ethyl, n-propyl or isopropyl) aminophosphonyl dihalide

Original Chinese source p. 48

No.	Control Code	HS Code(s)	Unit
276	1C450.b.6	2929903000	kg

Item Name and Description

6. Dialkyl (methyl, ethyl, n-propyl, or isopropyl) amino phosphonic acid dialkyl (methyl, ethyl, n-propyl, or isopropyl) ester

Reference Commodity Name

Dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminophosphonic acid dialkyl (methyl, ethyl, n-propyl, or isopropyl) ester

Original Chinese source p. 48

No.	Control Code	HS Code(s)	Unit
277	1C450.b.7	2812191010	kg

Item Name and Description

7. Arsenic trichloride (CAS 7784-34-1)

Reference Commodity Name

Arsenic trichloride

Original Chinese source p. 48

No.	Control Code	HS Code(s)	Unit
278	1C450.b.8	2918170000	kg

Item Name and Description

8. 2,2-Diphenyl-2-hydroxyacetic acid: Diphenylhydroxyacetic acid; Diphenylglycolic acid (CAS 76-93-7)

Reference Commodity Name

2,2-Diphenyl-2-hydroxyacetic acid: Diphenylhydroxyacetic acid; Diphenylglycolic acid

Original Chinese source p. 48

No.	Control Code	HS Code(s)	Unit
279	1C450.b.9	2933350000	kg

Item Name and Description

9. Quinine ring-3-ol (CAS 1619-34-7)

Reference Commodity Name

Quinuclidine-3-ol

Original Chinese source pp. 48-50

No.	Control Code	HS Code(s)	Unit
280	1C450.b.10	2921120000 2921130000 2921196000 2921140000	kg

Item Name and Description

10. Dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethyl-2-chloro and corresponding protonated salts

Reference Commodity Name

Dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethyl-2-chlorides and their corresponding protonated salts, for example: 1. 2-(N,N-Dimethylamino)ethyl chloride (also known as N,N-dimethylaminoethyl-2-chloride, 2-(N,N-dimethyl)-chloroethanamine) 2. 2-(N,N-Diethylamino)ethyl chloride (also known as N,N-diethylaminoethyl-2-chloride, 2-(N,N-diethyl)-chloroethanamine) 3. 2-(N,N-Di-n-propylamino)ethyl chloride (also known as N,N-di-n-propylaminoethyl-2-chloride, 2-(N,N-di-n-propyl)-chloroethanamine) 4. 2-(N,N-Diisopropylamino)ethyl chloride (also known as N,N-diisopropylaminoethyl-2-chloride, 2-(N,N-diisopropyl)-chloroethanamine) 5. 2-(N,N-Dimethylamino)ethyl chloride hydrochloride (also known as N,N-dimethylaminoethyl-2-chloride hydrochloride, 2-(N,N-dimethyl)-chloroethanamine hydrochloride) 6. 2-(N,N-Diethylamino)ethyl chloride hydrochloride (also known as N,N-diethylaminoethyl-2-chloride hydrochloride, 2-(N,N-diethyl)-chloroethanamine hydrochloride) 7. 2-(N,N-Di-n-propylamino)ethyl chloride hydrochloride (also known as N,N-di-n-propylaminoethyl-2-chloride hydrochloride, 2-(N,N-di-n-propyl)-chloroethanamine hydrochloride) 8. 2-(N,N-Diisopropylamino)ethyl chloride hydrochloride (also known as N,N-diisopropylaminoethyl-2-chloride hydrochloride, 2-(N,N-diisopropyl)-chloroethanamine hydrochloride)

Original Chinese source pp. 50-51

No.	Control Code	HS Code(s)	Unit
281	1C450.b.11	2922180000 2922192900	kg

Item Name and Description

11. Dialkyl (methyl, ethyl, n-propyl, or isopropyl) amino ethanol-2 and the corresponding protonated salts, except: dimethylaminoethanol and the corresponding protonated salt (CAS 108-01-0), ethanolamine and the corresponding protonated salt (CAS 100-37-8)

Reference Commodity Name

Dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethyl-2-ol and the corresponding protonated salts except: dimethylaminoethanol and the corresponding protonated salts, ethylaminoethanol and the corresponding protonated salts. For example: 1. 2-(N,N-Di-n-propylamino)ethanol (also known as: N,N-Di-n-propylamino-ethanol-2, 2-(N,N-di-n-propyl)ethanolamine, 2-Di-n-propylaminoethanol) 2. 2-(N,N-Diisopropylamino)ethanol (also known as: N,N-Diisopropylamino-ethanol-2, 2-(N,N-diisopropyl)ethanolamine, 2-Diisopropylaminoethanol) 3. 2-(N,N-Di-n-propylamino)ethanol hydrochloride (also known as: N,N-Di-n-propylamino-ethanol-2 hydrochloride, 2-(N,N-di-n-propyl)ethanolamine hydrochloride, 2-Di-n-propylaminoethanol hydrochloride) 4. 2-(N,N-Diisopropylamino)ethanol hydrochloride (also known as: N,N-Diisopropylamino-ethanol-2 hydrochloride, 2-(N,N-diisopropyl)ethanolamine hydrochloride, 2-Diisopropylaminoethanol hydrochloride)

Original Chinese source pp. 51-52

No.	Control Code	HS Code(s)	Unit
282	1C450.b.12	2930600000 2930909042	kg

Item Name and Description

12. Dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethyl-2-thiol and corresponding protonated salts

Reference Commodity Name

Dialkyl (methyl, ethyl, n-propyl, or isopropyl) aminoethyl-2-thiols and the corresponding protonated salts, for example: 1. 2-(N,N-Dimethylamino)ethanethiol (also known as N,N-Dimethylamino-ethyl-2-thiol, 2-(N,N-Dimethyl)ethanethiolamine) 2. 2-(N,N-Diethylamino)ethanethiol (also known as N,N-Diethylamino-ethyl-2-thiol, 2-(N,N-Diethyl)ethanethiolamine) 3. 2-(N,N-Di-n-propylamino)ethanethiol (also known as N,N-Di-n-propylamino-ethyl-2-thiol, 2-(N,N-Di-n-propyl)ethanethiolamine) 4. 2-(N,N-Diisopropylamino)ethanethiol (also known as N,N-Diisopropylamino-ethyl-2-thiol, 2-(N,N-Diisopropyl)ethanethiolamine) 5. 2-(N,N-Dimethylamino)ethanethiol hydrochloride (also known as N,N-Dimethylamino-ethyl-2-thiol hydrochloride, 2-(N,N-Dimethyl)ethanethiolamine hydrochloride) 6. 2-(N,N-Diethylamino)ethanethiol hydrochloride (also known as N,N-Diethylamino-ethyl-2-thiol hydrochloride, 2-(N,N-Diethyl)ethanethiolamine hydrochloride) 7. 2-(N,N-Di-n-propylamino)ethanethiol hydrochloride (also known as N,N-Di-n-propylamino-ethyl-2-thiol hydrochloride, 2-(N,N-Di-n-propyl)ethanethiolamine hydrochloride) 8. 2-(N,N-Diisopropylamino)ethanethiol hydrochloride (also known as N,N-Diisopropylamino-ethyl-2-thiol hydrochloride, 2-(N,N-Diisopropyl)ethanethiolamine hydrochloride)

Original Chinese source p. 52

No.	Control Code	HS Code(s)	Unit
283	1C450.b.13	2930700000	kg

Item Name and Description

13. Dithioglycol: bis(2-hydroxyethyl) sulfide; thiodiglycol (CAS 111-48-8)

Reference Commodity Name

Thiodiglycol: bis(2-hydroxyethyl) sulfide; thiodiethanol

Original Chinese source p. 52

No.	Control Code	HS Code(s)	Unit
284	1C450.b.14	2905191000	kg

Item Name and Description

14. Pinachinol: 3,3-Dimethylbutan-2-ol (CAS 464-07-3)

Reference Commodity Name

Pinacyl alcohol: 3,3-dimethylbutan-2-ol

Original Chinese source pp. 52-53

No.	Control Code	HS Code(s)	Unit
285	1C450.c.1	2812110000	kg

Item Name and Description

c. Can be used as a chemical for the production of chemical weapons raw materials 1. Phosgene: Carbonyl dichloride (CAS 75-44-5);

Reference Commodity Name

Phosgene: Carbonyl dichloride

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
286	1C450.c.2	2853100000	kg

Item Name and Description

2. Cyanogen chloride (CAS 506-77-4);

Reference Commodity Name

cyanogen chloride

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
287	1C450.c.3	2811120000	kg

Item Name and Description

3. Hydrogen cyanide (CAS 74-90-8);

Reference Commodity Name

hydrogen cyanide

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
288	1C450.c.4	2904910000	kg

Item Name and Description

4. Bitter chloride: trichloronitromethane (CAS 76-06-2);

Reference Commodity Name

Chloropicrin: Chloropicrin

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
289	1C450.c.5	2812120000	kg

Item Name and Description

5. Phosphoryl chloride: phosphorus oxychloride; phosphorus oxychloride (CAS 10025-87-3);

Reference Commodity Name

Phosphorus oxychloride: phosphorus oxychloride; phosphorus oxychloride

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
290	1C450.c.6	2812130000	kg

Item Name and Description

6. Phosphorus trichloride (CAS 7719-12-2);

Reference Commodity Name

Phosphorus trichloride

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
291	1C450.c.7	2812140000	kg

Item Name and Description

7. Phosphorus pentachloride (CAS 10026-13-8);

Reference Commodity Name

Phosphorus pentachloride

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
292	1C450.c.8	2920230000	kg

Item Name and Description

8. Trimethyl phosphite (CAS 121-45-9);

Reference Commodity Name

Trimethyl phosphite

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
293	1C450.c.9	2920240000	kg

Item Name and Description

9. Triethyl phosphite (CAS 122-52-1);

Reference Commodity Name

Triethyl phosphite

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
294	1C450.c.10	2920210000	kg

Item Name and Description

10. Dimethyl phosphite (CAS 868-85-9);

Reference Commodity Name

dimethyl phosphite

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
295	1C450.c.11	2920220000	kg

Item Name and Description

11. Diethyl phosphite (CAS 762-04-9);

Reference Commodity Name

diethyl phosphite

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
296	1C450.c.12	2812150000	kg

Item Name and Description

12. Sulfur monochloride (CAS 10025-67-9);

Reference Commodity Name

Sulfur monochloride

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
297	1C450.c.13	2812160000	kg

Item Name and Description

13. Sulfur dichloride (CAS 10545-99-0);

Reference Commodity Name

Sulfur dichloride

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
298	1C450.c.14	2812170000 8506500019	kg

Item Name and Description

14. Thionyl chloride: sulfur oxychloride; sulfuryl chloride (CAS 7719-09-7);

Reference Commodity Name

Sulfuryl chloride: thionyl chloride; sulfur oxychloride (excluding single lithium thionyl chloride batteries or battery packs containing sulfuryl chloride with a filling content of no more than 1 kilogram)

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
299	1C450.c.15	2922170000	kg

Item Name and Description

15. N,N-Diethylethanolamine (CAS 139-87-7);

Reference Commodity Name

Ethyldiethanolamine

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
300	1C450.c.16	2922170000 3824999950	kg

Item Name and Description

16. Methyl diethanolamine (CAS 105-59-9);

Reference Commodity Name

Methyldiethanolamine Methyldiethanolamine mixture

Original Chinese source p. 53

No.	Control Code	HS Code(s)	Unit
301	1C450.c.17	2922150000 3824999950	kg

Item Name and Description

17. Triethanolamine (CAS 102-71-6);

Reference Commodity Name

Triethanolamine triethanolamine mixture

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
302	1C450.c.18	2933399074	kg

Item Name and Description

18. 3-Hydroxy-1-methylpiperidine (CAS 3554-74-3);

Reference Commodity Name

3-Hydroxy-1-methylpiperidine

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
303	1C450.c.19	2933399074	kg

Item Name and Description

19. 3-Quinoline Ketone (CAS 3731-38-2);

Reference Commodity Name

3-quinuclidinone

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
304	1C450.c.20	2914190010	kg

Item Name and Description

20. Phenacetone (CAS 75-97-8);

Reference Commodity Name

pinacolone

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
305	1C450.c.21	2837191000	kg

Item Name and Description

21. Potassium cyanide (CAS 151-50-8);

Reference Commodity Name

Potassium cyanide

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
306	1C450.c.22	2837111000	kg

Item Name and Description

22. Sodium cyanide (CAS 143-33-9);

Reference Commodity Name

sodium cyanide

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
307	1C450.c.23	2813900010	kg

Item Name and Description

23. Diphosphorus pentasulfide (CAS 1314-80-3);

Reference Commodity Name

Phosphorus pentasulfide

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
308	1C450.c.24	2921110050	kg

Item Name and Description

24. Dimethylamine (CAS 124-40-3);

Reference Commodity Name

Dimethylamine

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
309	1C450.c.25	2922199041	kg

Item Name and Description

25. Triethanolamine hydrochloride (CAS 637-39-8);

Reference Commodity Name

Triethanolamine hydrochloride

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
310	1C450.c.26	2921110050	kg

Item Name and Description

26. Dimethylamine hydrochloride (CAS 506-59-2);

Reference Commodity Name

Dimethylamine hydrochloride

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
311	1C450.c.27	2918190010	kg

Item Name and Description

27. Methyl diphenylacetic acid (CAS 76-89-1).

Reference Commodity Name

Methyl benzene glycolate

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
312	1C501	2919900020	kg

Item Name and Description

Tributyl phosphate (CAS 126-73-8).

Reference Commodity Name

Tributyl phosphate

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
313	1C901.a	5402491010 5501900010 5503909010	kg

Item Name and Description

Ultra-high molecular weight polyethylene fibers and their products: a. Ultra-high molecular weight polyethylene fibers that have all of the following characteristics: 1. Breaking strength greater than or equal to 40 cN/dtex; 2. Initial modulus greater than or equal to 1600 cN/dtex; 3. Untwisted;

Reference Commodity Name

Ultra high molecular weight polyethylene fiber

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
314	1C901.b	5806409010	kg

Item Name and Description

b. Soft unidirectional fabric laminates made from ultra-high-molecular-weight polyethylene fibers (without being pressed) have a V50 of greater than or equal to 700 m/s against 1.1 g standard simulated fragments (17-grain simulated fragments FSP) when the areal density is less than or equal to 5.3 kg/m² (tested according to Appendix B "Ballistic Limit V50 Test Method" of GJB4300A-2012).

Reference Commodity Name

Ultra-high molecular weight polyethylene fiber products

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
315	1C902.a.1	2805301910	-

Item Name and Description

Samarium-related items: Description: 1. The alloys controlled under item 1C902.a.2 include ingots, blocks, bars, wires, sheets, rods, plates, tubes, granules, powders, and other forms. 2. The target materials controlled under item 1C902.a.3 include sheets, tubes, and other forms. a. Metallic samarium, samarium-containing alloys, and related products: 1. Metallic samarium;

Reference Commodity Name

Samarium metal

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
316	1C902.a.2.a	-	-

Item Name and Description

2. Alloys containing samarium: a. Samarium cobalt alloy;

Reference Commodity Name

Samarium Cobalt Alloy

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
317	1C902.a.2.b	-	-

Item Name and Description

b. samarium iron alloy;

Reference Commodity Name

samarium ferroalloy

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
318	1C902.a.2.c	-	-

Item Name and Description

c. Samarium Nickel Alloy;

Reference Commodity Name

Samarium Nickel Alloy

Original Chinese source p. 54

No.	Control Code	HS Code(s)	Unit
319	1C902.a.2.d	-	-

Item Name and Description

d. Samarium aluminum alloy;

Reference Commodity Name

Samarium aluminum alloy

Original Chinese source pp. 54-55

No.	Control Code	HS Code(s)	Unit
320	1C902.a.2.e	-	-

Item Name and Description

e. Samarium-cobalt alloy state. 3. 1C902.a.4 controls permanent magnet materials, including magnets or magnetic powders. 4. The oxides, compounds, and their mixtures controlled by 1C902.b and 1C902.c include, but are not limited to, forms such as powders. Gold;

Reference Commodity Name

Samarium Magnesium Alloy

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
321	1C902.a.3.a	3824999922 8486909110	-

Item Name and Description

3. Target materials containing samarium: a. samarium target;

Reference Commodity Name

samarium target

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
322	1C902.a.3.b	3824999922 8486909110	-

Item Name and Description

b. Samarium cobalt alloy target;

Reference Commodity Name

Samarium Cobalt Alloy Target

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
323	1C902.a.3.c	3824999922 8486909110	-

Item Name and Description

c. Samarium iron alloy target;

Reference Commodity Name

Samarium iron alloy target

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
324	1C902.a.4	-	-

Item Name and Description

4. Samarium cobalt permanent magnet material;

Reference Commodity Name

Samarium cobalt permanent magnet material

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
325	1C902.b	2846901940 2846901993 3824999922	-

Item Name and Description

b. Samarium oxide and mixtures thereof;

Reference Commodity Name

Samarium oxide and its mixtures

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
326	1C902.c	2846902810 2846902910 2846903910 2846904820 2846904910 2846909920 3824999922 2846904810 2846909910	-

Item Name and Description

c. Samarium-containing compounds and mixtures thereof.

Reference Commodity Name

Samarium-containing compounds and mixtures thereof

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
327	1C903.a.1	2805301910	-

Item Name and Description

Gadolinium-related items: Description: 1. The alloy controlled under item 1C903.a.2 includes ingots, blocks, bars, wires, sheets, rods, plates, tubes, granules, powders and other forms. 2. The target materials controlled under item 1C903.a.3 include sheets, tubes, and other forms. 3. The oxides, compounds, and their mixtures controlled under items 1C903.b and 1C903.c include, but are not limited to, powders and other forms. a. Gadolinium metal, gadolinium-containing alloys, and related products: 1. Gadolinium metal;

Reference Commodity Name

Metal Gadolinium

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
328	1C903.a.2.a	-	-

Item Name and Description

2. Gadolinium-containing alloys: a. Gadolinium magnesium alloy;

Reference Commodity Name

Gadolinium magnesium alloy

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
329	1C903.a.2.b	-	-

Item Name and Description

b. Gadolinium aluminum alloy;

Reference Commodity Name

Gadolinium aluminum alloy

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
330	1C903.a.3.a	3824999922 8486909110	-

Item Name and Description

3. Gadolinium-containing targets: a. Gadolinium target;

Reference Commodity Name

Gadolinium target

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
331	1C903.a.3.b	3824999922 8486909110	-

Item Name and Description

b. Gadolinium ferroalloy target;

Reference Commodity Name

Gadolinium ferroalloy target

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
332	1C903.a.3.c	3824999922 8486909110	-

Item Name and Description

c. Gadolinium cobalt alloy target;

Reference Commodity Name

Gadolinium cobalt alloy target

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
333	1C903.b	2846901930 2846901993 3824999922	-

Item Name and Description

b. Gadolinium oxide and mixtures thereof;

Reference Commodity Name

Gadolinium oxide and its mixtures

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
334	1C903.c	2846902810 2846902910 2846903910 2846904820 2846904910 2846909920 3824999922 2846904810 2846909910	-

Item Name and Description

c. Gadolinium-containing compounds and mixtures thereof.

Reference Commodity Name

Gadolinium-containing compounds and mixtures thereof

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
335	1C904.a.1	2805301300	-

Item Name and Description

Terbium-related items: Description: 1. The alloys controlled under item 1C904.a.2 include ingots, blocks, bars, wires, sheets, rods, plates, a. Metal terbium, terbium-containing alloys and related products: 1. Metal terbium;

Reference Commodity Name

Terbium metal

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
336	1C904.a.2.a	-	-

Item Name and Description

2. Terbium-containing alloys: a. Terbium-cobalt alloy;

Reference Commodity Name

Terbium cobalt alloy

Original Chinese source p. 55

No.	Control Code	HS Code(s)	Unit
337	1C904.a.2.b	-	-

Item Name and Description

b. Terbium cobalt iron alloy;

Reference Commodity Name

Terbium cobalt iron alloy

Original Chinese source pp. 55-56

No.	Control Code	HS Code(s)	Unit
338	1C904.a.3.a	3824999922 8486909110	-

Item Name and Description

3. Terbium-containing a. Terbium targets; forms such as tubes, pellets, powders, etc.
2. The target materials controlled under 1C904.a.3 include forms such as plates and tubes.
3. The permanent magnet materials controlled under 1C904.a.4 include magnets or magnetic powders.
4. The oxides, compounds, and their mixtures controlled under 1C904.b and 1C904.c include, but are not limited to, forms such as powders.
Target materials

Reference Commodity Name

Terbium target

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
339	1C904.a.3.b	3824999922 8486909110	-

Item Name and Description

b. Terbium-cobalt alloy target;

Reference Commodity Name

Terbium cobalt alloy target

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
340	1C904.a.4	-	-

Item Name and Description

4. NdFeB permanent magnet material containing terbium;

Reference Commodity Name

NdFeB permanent magnet material containing terbium

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
341	1C904.b	2846901600 2846901993 3824999922	-

Item Name and Description

b. Terbium oxide and its mixtures;

Reference Commodity Name

Terbium oxide and its mixtures

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
342	1C904.c	2846902100 2846902810 2846903100 2846903910 2846904200 2846904820 2846909300 2846909920 3824999922 2846904810 2846909910	-

Item Name and Description

c. Terbium-containing compounds and mixtures thereof.

Reference Commodity Name

Terbium-containing compounds and mixtures thereof

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
343	1C905.a.1	2805301200	-

Item Name and Description

Dysprosium-related items: Description: 1. The alloys controlled under item 1C905.a.2 include forms such as ingots, blocks, bars, wires, sheets, rods, plates, tubes, granules, powders, etc. 2. The target materials controlled under item 1C905.a.3 include forms such as sheets and tubes. 3. The permanent magnetic materials controlled under item 1C905.a.4 include magnets or magnetic powders. 4. The oxides, compounds, and their mixtures controlled under items 1C905.b and 1C905.c include but are not limited to forms such as powders. a. Metal dysprosium, dysprosium-containing alloys, and related products: 1. Metal dysprosium

Reference Commodity Name

Dysprosium metal

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
344	1C905.a.2.a	-	-

Item Name and Description

2. Alloys containing dysprosium: a. dysprosium ferroalloy;

Reference Commodity Name

dysprosium ferroalloy

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
345	1C905.a.2.b	-	-

Item Name and Description

b. Terbium-dysprosium iron alloy;

Reference Commodity Name

Terbium Dysprosium Iron Alloy

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
346	1C905.a.3.a	3824999922 8486909110	-

Item Name and Description

3. Target materials containing dysprosium: a. dysprosium target;

Reference Commodity Name

Dysprosium target

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
347	1C905.a.3.b	3824999922 8486909110	-

Item Name and Description

b. Terbium-dysprosium ferroalloy target;

Reference Commodity Name

Terbium dysprosium ferroalloy target

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
348	1C905.a.4	-	-

Item Name and Description

4. NdFeB permanent magnet material containing dysprosium;

Reference Commodity Name

NdFeB permanent magnet material containing dysprosium

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
349	1C905.b	2846901500 2846901993 3824999922	-

Item Name and Description

b. Dysprosium oxide and mixtures thereof;

Reference Commodity Name

Dysprosium oxide and its mixtures

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
350	1C905.c	2846902200 2846902810 2846903200 2846903910 2846904300 2846904820 2846909400 2846909920 3824999922 2846904810 2846909910	-

Item Name and Description

c. Dysprosium-containing compounds and mixtures thereof.

Reference Commodity Name

Dysprosium-containing compounds and mixtures thereof

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
351	1C906.a.1	2805301910	-

Item Name and Description

Lutetium-related items: Description: 1. The alloys controlled under item 1C906.a.2 include ingots, blocks, bars, wires, sheets, rods, plates, a. Metallic lutetium, lutetium-containing alloys, and related products: 1. Metallic lutetium;

Reference Commodity Name

Lutetium metal

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
352	1C906.a.2	-	-

Item Name and Description

2. Ytterbium-lutetium alloy;

Reference Commodity Name

Ytterbium Lutetium Alloy

Original Chinese source p. 56

No.	Control Code	HS Code(s)	Unit
353	1C906.a.3	3824999922 8486909110	-

Item Name and Description

3. lutetium target;

Reference Commodity Name

Lutetium target

Original Chinese source pp. 56-57

No.	Control Code	HS Code(s)	Unit
354	1C906.b	2846901800 2846901993 3824999922	-

Item Name and Description

b. Lutetium oxide and its mixtures; in forms such as tubes, granules, powders, etc. 2. Target materials controlled under item 1C906.a.3 include forms such as wafers and tubes. 3. Oxides, compounds, and their mixtures controlled under items 1C906.b and 1C906.c include, but are not limited to, forms such as powders.

Reference Commodity Name

Lutetium oxide and its mixtures

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
355	1C906.c	2846902810 2846902910 2846903910 2846904820 2846904910 2846909920 3824999922 2846904810 2846909910	-

Item Name and Description

c. Lutetium-containing compounds and mixtures thereof.

Reference Commodity Name

Lutetium-containing compounds and their mixtures

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
356	1C907.a.1	2805301800	-

Item Name and Description

Scandium-related items: Description: 1. The alloys controlled under item 1C907.a.2 include ingots, blocks, bars, wires, sheets, rods, plates, tubes, granules, powders and other forms. 2. The target materials controlled under item 1C907.a.3 include sheets, tubes, and other forms. 3. The oxides, compounds, and their mixtures controlled under items 1C907.b and 1C907.c include, but are not limited to, powders and other forms. a. Metallic scandium, scandium-containing alloys, and related products: 1. Metallic scandium;

Reference Commodity Name

Scandium metal

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
357	1C907.a.2.a	-	-

Item Name and Description

2. Alloys containing scandium: a. Scandium aluminum alloy;

Reference Commodity Name

Scandium aluminum alloy

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
358	1C907.a.2.b	-	-

Item Name and Description

b. Scandium magnesium alloy;

Reference Commodity Name

Scandium Magnesium Alloy

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
359	1C907.a.2.c	-	-

Item Name and Description

c. Scandium copper alloy;

Reference Commodity Name

Scandium copper alloy

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
360	1C907.a.3	3824999922 8486909110	-

Item Name and Description

3. scandium target;

Reference Commodity Name

scandium target

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
361	1C907.b	2846901980 2846901993 3824999922	-

Item Name and Description

b. Scandium oxide and mixtures thereof;

Reference Commodity Name

Scandium oxide and its mixtures

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
362	1C907.c	2846902810 2846902910 2846903910 2846904820 2846904910 2846909920 3824999922 2846904810 2846909910	-

Item Name and Description

c. Compounds containing scandium and mixtures thereof.

Reference Commodity Name

Compounds containing scandium and mixtures thereof

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
363	1C908.a.1	2805301700	-

Item Name and Description

Yttrium-related items: Explanation: 1. The alloys controlled under item 1C908.a.2 include ingots, blocks, bars, wires, plates, rods, sheets, tubes, granules, powders, and other forms. 2. The target materials controlled under item 1C908.a.3 include sheets, tubes, and other forms. 3. The oxides, compounds, and their mixtures controlled under items 1C908.b and 1C908.c include: a. Metallic yttrium, yttrium-containing alloys, and related products: 1. Metallic yttrium;

Reference Commodity Name

Yttrium metal

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
364	1C908.a.2.a	-	-

Item Name and Description

2. Yttrium-containing alloys: a. Yttrium aluminum alloy;

Reference Commodity Name

Yttrium aluminum alloy

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
365	1C908.a.2.b	-	-

Item Name and Description

b. Yttrium magnesium alloy;

Reference Commodity Name

Yttrium Magnesium Alloy

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
366	1C908.a.2.c	-	-

Item Name and Description

c. Yttrium-nickel alloy;

Reference Commodity Name

Yttrium Nickel Alloy

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
367	1C908.a.2.d	-	-

Item Name and Description

d. Yttrium copper alloy;

Reference Commodity Name

Yttrium copper alloy

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
368	1C908.a.2.e	-	-

Item Name and Description

e. Yttrium ferroalloy;

Reference Commodity Name

Yttrium ferroalloy

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
369	1C908.a.3.a	3824999922 8486909110	-

Item Name and Description

3. Target materials containing yttrium: a. Yttrium target;

Reference Commodity Name

Yttrium target

Original Chinese source p. 57

No.	Control Code	HS Code(s)	Unit
370	1C908.a.3.b	3824999922 8486909110	-

Item Name and Description

b. Yttrium aluminum alloy target;

Reference Commodity Name

Yttrium aluminum alloy target

Original Chinese source p. 58

No.	Control Code	HS Code(s)	Unit
371	1C908.a.3.c	3824999922 8486909110	-

Item Name and Description

But it is not limited to powder and other forms. c. Yttrium-zirconium alloy target;

Reference Commodity Name

Yttrium-zirconium alloy target

Original Chinese source p. 58

No.	Control Code	HS Code(s)	Unit
372	1C908.b	2846901100 2846901993 3824999922	-

Item Name and Description

b. Yttrium oxide and mixtures thereof;

Reference Commodity Name

Yttrium oxide and its mixtures

Original Chinese source p. 58

No.	Control Code	HS Code(s)	Unit
373	1C908.c	2846902600 2846902810 2846903600 2846903910 2846904600 2846904820 2846909690 2846909920 3824999922 2846904810 2846909910	-

Item Name and Description

c. Yttrium-containing compounds and mixtures thereof.

Reference Commodity Name

Yttrium-containing compounds and mixtures thereof

*Export 1C450 The production technology and dedicated equipment for monitoring chemicals listed in this item shall be handled in accordance with the 'Regulations of the People's Republic of China on the Control of Monitoring Chemicals' to apply for a dual-use items and technology export license.

1D software

Original Chinese source p. 58

No.	Control Code	HS Code(s)	Unit
374	1D003	-	-

Item Name and Description

Software specifically designed or modified for the development, production, or use of items controlled under 1B003.

Reference Commodity Name

Tools, molds and fixtures related software

Original Chinese source p. 58

No.	Control Code	HS Code(s)	Unit
375	1D101.a	-	-

Item Name and Description

Software for manufacturing composite parts: a. 'CNC' software specifically designed or modified for items controlled under item 1B101.a;

Reference Commodity Name

Fiber winding machine related software

Original Chinese source p. 58

No.	Control Code	HS Code(s)	Unit
376	1D101.b	-	-

Item Name and Description

b. Software specifically designed or modified for items controlled under 1B101.b.

Reference Commodity Name

Tape laying machine related software

Original Chinese source p. 58

No.	Control Code	HS Code(s)	Unit
377	1D201	-	-

Item Name and Description

Software specially designed for the use of items controlled under 1B201.

Reference Commodity Name

Winding machine related software

1E Technology

Original Chinese source p. 58

No.	Control Code	HS Code(s)	Unit
378	1E003	-	-

Item Name and Description

Technology and its carriers used for the research, development, production, or use of items controlled under 1B003, including design drawings, process specifications, process parameters, machining programs, simulation data, etc.

Reference Commodity Name

Tools, molds, fixtures related technologies and their carriers

Original Chinese source p. 58

No.	Control Code	HS Code(s)	Unit
379	1E004	-	-

Item Name and Description

Technology and data for the production of item 1C004 (including process specifications, process parameters, machining procedures, etc.).

Reference Commodity Name

Tungsten-nickel-iron alloy or tungsten-nickel-copper alloy production technology and data

Original Chinese source pp. 58-59

No.	Control Code	HS Code(s)	Unit
380	1E101.a	-	-

Item Name and Description

The following technology: A production technology used to decompose reactive gases on injection molds, core molds, or other substrates to generate pyrolysis-derived materials under a high-temperature range of 1300–2900 □ and a pressure range of 130–20000 Pa, including the technology for synthesis of reactive gases, flow, process control procedures, and parameter control.

Reference Commodity Name

Production technology to produce pyrolysis-derived materials

Original Chinese source p. 59

No.	Control Code	HS Code(s)	Unit
381	1E101.b	-	-

Item Name and Description

b. Technology and documentation for the production of items 1C117.b, 1C117.c, and 1C117.d (including process specifications, process parameters, machining procedures, etc.).

Reference Commodity Name

Molybdenum powder, solid tungsten, tungsten-related material production technology and information

Original Chinese source p. 59

No.	Control Code	HS Code(s)	Unit
382	1E103	-	-

Item Name and Description

Technical information and procedures for adjusting temperature, pressure, and atmosphere in autoclaves and hydraulic presses when manufacturing composite components.

Reference Commodity Name

Technical data and procedures for adjusting temperature, pressure, and atmosphere in hot pressing tanks and hydraulic autoclaves

Original Chinese source p. 59

No.	Control Code	HS Code(s)	Unit
383	1E201	-	-

Item Name and Description

Technology for the research and development, production, or use of items controlled under 1A202, 1A225, 1A226, 1A227, 1B201, 1B225, 1B226, 1B228, 1B229, 1B230, 1B231, 1B232, 1B233, 1B234, 1C202, 1C210, 1C216, 1C225, 1C226, 1C227, 1C228, 1C229, 1C230, 1C231, 1C232, 1C233, 1C234, 1C235, 1C236, 1C237, 1C238, 1C239, 1C240, 1C241, and 1D201.

Reference Commodity Name

Technology for the research and development, production, or use of items controlled under 1A202, 1A225, 1A226, 1A227, 1B201, 1B225, 1B226, 1B228, 1B229, 1B230, 1B231, 1B232, 1B233, 1B234, 1C202, 1C210, 1C216, 1C225, 1C226, 1C227, 1C228, 1C229, 1C230, 1C231, 1C232, 1C233, 1C234, 1C235, 1C236, 1C237, 1C238, 1C239, 1C240, 1C241, and 1D201.

Original Chinese source p. 59

No.	Control Code	HS Code(s)	Unit
384	1E301	-	-

Item Name and Description

Technology for the research, development, production, or use of items controlled under 1C351, 1C353, and 1C354.

Reference Commodity Name

Technology for researching, producing, or using pathogenic microorganisms and genetic material

Original Chinese source p. 59

No.	Control Code	HS Code(s)	Unit
385	1E302	-	-

Item Name and Description

Technology used for the research, development, production, or use of items controlled under 1C350.

Reference Commodity Name

Technology to develop, produce or use chemicals

Original Chinese source p. 59

No.	Control Code	HS Code(s)	Unit
386	1E901	-	-

Item Name and Description

Technology and its carriers used for the production of items controlled by 1C901, including design drawings, process specifications, process parameters, processing programs, simulation data, etc.

Reference Commodity Name

Technology for Producing Ultra-High Molecular Weight Polyethylene Fibers and Its Carriers

(2) Material processing

2A Systems, equipment and components

Original Chinese source p. 60

No.	Control Code	HS Code(s)	Unit
387	2A225.a	-	unit

Item Name and Description

Crucibles made of materials resistant to liquid actinide metals: a. Crucibles having the following two characteristics: 1. Volume of 150–8000 cm³ or 150–8000 ml; 2. Made from or coated with any one of the following materials or combinations of the following materials with a total impurity content of less than or equal to 2% (by weight): a. Calcium fluoride (CaF□); b. Calcium zirconate (metazirconate) (CaZrO□); c. Cerium sulfide (Ce□S□); d. Erbium oxide (Er□O□); e. Hafnium oxide (HfO□); f. Magnesium oxide (MgO); g. Niobium-titanium-tungsten alloy (approximately 50% niobium, 30% titanium, and 20% tungsten); h. Yttrium oxide (Y□O□); i. Zirconium oxide (ZrO□).

Reference Commodity Name

Crucibles made of or coated with materials resistant to liquid actinide metals

Original Chinese source p. 60

No.	Control Code	HS Code(s)	Unit
388	2A225.b	8103910010	kg

Item Name and Description

b. Crucibles with the following two characteristics: 1. Volume of 50–2000 cm³ or 50–2000 ml; 2. Made of or lined with tantalum of a purity greater than or equal to 99.9% (by weight);

Reference Commodity Name

Crucibles made from or lined with tantalum with a purity of greater than or equal to 99.9%

Original Chinese source p. 60

No.	Control Code	HS Code(s)	Unit
389	2A225.c	8103910010	kg

Item Name and Description

c. Crucibles with all of the following characteristics: 1. A volume of 50–2000 cm³ or 50–2000 ml; 2. Made of tantalum with a purity of 98% or higher (by weight) or lined with tantalum; 3. Coated with tantalum carbide, tantalum nitride, tantalum boride, or any combination of the above materials.

Reference Commodity Name

Crucibles made from or lined with tantalum with a purity of 98% or higher

Original Chinese source p. 60

No.	Control Code	HS Code(s)	Unit
390	2A226	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

Valves with all of the following characteristics: a. Nominal size greater than or equal to 5 mm; b. Sealed with a bellows; c. Entirely made of aluminum, aluminum alloy, nickel, or nickel alloy with a nickel content of greater than or equal to 60% (by weight), or lined with these materials. Technical note: For valves with different inlet and outlet diameters, the nominal size referred to in item 2A226.a refers to the smaller diameter.

Reference Commodity Name

valve

Original Chinese source p. 60

No.	Control Code	HS Code(s)	Unit
391	2A901.a	8479909020 9032899094	units/kg

Item Name and Description

Special key parts for six-sided pressing machine: a. hinge beam;

Reference Commodity Name

Special hinge beam for six-sided jacking press

Original Chinese source p. 60

No.	Control Code	HS Code(s)	Unit
392	2A901.b	8479909020 9032899094	units/kg

Item Name and Description

b. top hammer;

Reference Commodity Name

Special top hammer for six-sided top press

Original Chinese source p. 60

No.	Control Code	HS Code(s)	Unit
393	2A901.c	8479909020 9032899094	units/kg

Item Name and Description

c. High-pressure control system with a synthesis pressure greater than 5 GPa.

Reference Commodity Name

Special high-pressure control system for six-sided top press

2B testing, inspection and production equipment

Original Chinese source p. 61

No.	Control Code	HS Code(s)	Unit
394	2B005	8479899957	units/kg

Item Name and Description

Microwave plasma chemical vapor deposition (MPCVD) equipment, specifically designed or manufactured, with the following two characteristics: a. Microwave power greater than 10 kW; b. Microwave frequency of 915 or 2450 MHz.

Reference Commodity Name

Microwave plasma chemical vapor deposition equipment

Original Chinese source p. 61

No.	Control Code	HS Code(s)	Unit
395	2B104	8479831010 8479839010 8514110010	units/kg

Item Name and Description

An 'isostatic press' with all of the following characteristics: a. Maximum working pressure greater than or equal to 69 MPa; b. Capable of reaching and maintaining a controllable thermal environment of greater than or equal to 600 □; c. 'Chamber inner diameter' greater than or equal to 254 mm.

Reference Commodity Name

Isostatic press

Original Chinese source p. 61

No.	Control Code	HS Code(s)	Unit
396	2B105	-	unit

Item Name and Description

Chemical vapor deposition furnace for densifying carbon-carbon composites.

Reference Commodity Name

Chemical vapor deposition furnace for densifying carbon-carbon composites

Original Chinese source p. 61

No.	Control Code	HS Code(s)	Unit
397	2B117	-	unit

Item Name and Description

Pyrolytic deposition and densification process control device.

Reference Commodity Name

Pyrolytic deposition and densification process control device

Original Chinese source p. 61

No.	Control Code	HS Code(s)	Unit
398	2B201.a	8458911010 8458912010 8458110010	unit

Item Name and Description

Machine tools and any combination thereof used for cutting or sawing metal, ceramics, or composite materials, which, according to the manufacturer's technical documentation, can be equipped with electronic devices that perform 'form control' simultaneously along 2 or more axes: Note: “CNC” units controlled by subsidiary software of item 2B201, see item 2D203. Description: 1. After measurement according to ISO 230-2:1988 or equivalent national standards, the declared 'positioning accuracy' level is obtained according to the following 'procedure'. If provided to the relevant national authorities and recognized, it can be used for testing each model of machine tool instead of testing individual machines. The declared 'positioning accuracy' is obtained according to the following 'procedure': a. Select a lathe with the following two characteristics: 1. A lathe capable of machining parts with a diameter greater than 35 mm; 2. According to ISO 230-2:1988 or equivalent national standards, 'positioning accuracy' along any straight coordinate line, after applying all compensation measures, can reach less than 6 μm (total 'positioning accuracy'). Note: Item 2B201.a does not control bar lathes that only process through-feed bars, with a maximum bar diameter of ≤42 mm, and which cannot be equipped with a chuck. The lathe can perform drilling and milling on machined parts with a diameter of less than 42 mm.

Reference Commodity Name

lathe

Original Chinese source p. 61

No.	Control Code	HS Code(s)	Unit
399	2B201.b	-	unit

Item Name and Description

b. Milling machines with any of the following characteristics: Explanation: Item 2B201.b. Uncontrolled milling machines with any of the following two characteristics: 1. X-axis travel greater than 2 m; 2. According to ISO 230-2:1988 or equivalent national standards, the total 'positioning accuracy' along the X-axis is greater than 30 μm. 1. According to ISO 230-2:1988 or equivalent national standards, the 'positioning accuracy' along any straight coordinate can reach less than 6 μm (total 'positioning accuracy') after applying all compensation measures; 2. Having two or more forming rotary axes; 3. Having five or more axes that can simultaneously coordinate 'form control';

Reference Commodity Name

milling machine

Original Chinese source pp. 61-62

No.	Control Code	HS Code(s)	Unit
400	2B201.c	-	unit

Item Name and Description

c. Grinding machines with any of the following characteristics: 1. Five machines of the same model are provided for evaluation according to ISO230-2:1988 or an equivalent standard; b. Measure the linear coordinate “accuracy” according to ISO230-2:1988 or an equivalent national standard; c. Measure the accuracy value (A) of each axis of each machine. The ISO230-2:1988 standard or an equivalent national standard provides the method for calculating the accuracy value; d. Measure the average accuracy value of each axis. This average value can then be considered the claimed “positioning accuracy” (A_x, A_y, etc.) for each axis of that machine model; e. Since item 2B201 mentions each linear coordinate, the claimed “positioning accuracy” values equal to the number of linear axes will be obtained; f. If a machine's axis, which is not governed by items 2B201.a, 2B201.b, or 2B201.c, claims a “positioning accuracy” of not more than 6 μm for a grinding machine and not more than 8 μm for a milling or turning machine (both measured according to ISO230-2:1988 or an equivalent national standard), the manufacturer shall be required to redetermine the level of accuracy every 18 months. 2. Item 2B201 does not regulate special-purpose machines limited to machining the following components: Note: Item 2B201.c does not regulate the following grinding machines: 1. External, internal, and internal-external cylindrical grinding machines with all of the following characteristics: a. Limited to machining workpieces with a maximum outer diameter or length of 150 mm; b. Limited to x, z, and c axes; 2. Coordinate grinders without a z-axis or w-axis with a total “positioning accuracy” of less than (better than) 4 μm according to ISO230-2:1988 or an equivalent national standard. The “positioning accuracy” along any linear coordinate can achieve less than 4 μm (total “positioning accuracy”) after all compensation measures are applied; 2. Machines with two or more forming rotary axes; 3. Machines with 5 or more axes capable of simultaneously coordinated “form control”.

Reference Commodity Name

grinder

Original Chinese source pp. 62-64

No.	Control Code	HS Code(s)	Unit
401	2B201.d	8456301010 8456309010	units/kg

Item Name and Description

d. A wireless EDM machine with two or more forming rotary axes that can simultaneously coordinate "forming control." a. Gear; b. Crankshaft or camshaft; c. Tool or cutter; d. Extruder screw. Technical notes: 1. Axes should be named according to international standards (ISO841 "Numerical Control Machines — Names of Axes and Motions") or equivalent national standards. 2. The number of secondary parallel axes for forming is not included in the total number of forming axes. (For example: the w-axis on a horizontal boring machine or a secondary rotary axis whose centerline is parallel to a primary rotary axis.) 3. Rotary axes do not necessarily need to rotate 360 degrees. Rotary axes can be driven by linear mechanisms such as screws or rack-and-pinion systems. 4. For item 2B201, the number of axes that can coordinate "forming control" simultaneously refers to the axes along which or around which related and simultaneous movements between the workpiece and the tool can occur during machining. This does not include any other axes along which or around which other related movements on a lathe may occur, such as: a. Wheel device systems of grinding machines; b. Parallel rotary axes used for loading and unloading other workpieces; c. Collinear rotary axes used to load the same workpiece into a chuck from different ends. 5. Tools with two or more of the three functions of turning, milling, and grinding (e.g., a lathe with milling functions) should be evaluated separately under items 2B201.a, 2B201.b, and 2B201.c. 6. Items 2B201.b.3 and 2B201.c.3 are controlled based on parallel linear kinematic design for machines with five or more non-rotary axes (e.g., parallel or hybrid machines).

Reference Commodity Name

Cordless electric discharge machine

Original Chinese source p. 64

No.	Control Code	HS Code(s)	Unit
402	2B204.a	8479831010 8479839010 8514110010	units/kg

Item Name and Description

Isostatic presses and related equipment not controlled under item 2B104: a. 'Isostatic presses' having the following two characteristics: 1. Maximum working pressure greater than or equal to 69 MPa; 2. 'Chamber internal diameter' greater than 152 mm;

Reference Commodity Name

Isostatic press

Original Chinese source p. 64

No.	Control Code	HS Code(s)	Unit
403	2B204.b	-	piece

Item Name and Description

b. Steel dies, models, and controllers specifically designed for the 'isostatic press' controlled under item 2B204.a.

Reference Commodity Name

Steel dies, molds, and controllers specially designed for hydrostatic presses

Original Chinese source p. 64

No.	Control Code	HS Code(s)	Unit
404	2B206.a.1	-	unit

Item Name and Description

Dimensional inspection instruments, devices, or systems: Description: 1. Except for machine tools controlled under item 2B201, if a machine tool that can be used for measurement has performance that meets or exceeds the standards specified in item 2B206, it is controlled under 2B206. 2. If a dimensional inspection instrument described in 2B206 exceeds the prescribed threshold in any aspect within its operating range, such an inspection instrument should be controlled. Technical description: All parameters of the measurements in this item have positive and negative signs, i.e., they do not indicate only positive or negative ranges. a. Computer-controlled or “CNC” coordinate measuring instruments with any of the following characteristics: Technical description: The manufacturer’s most precise device of a coordinate measuring machine (e.g., probe, probe length, motion parameters, the best part of the environment) is specified according to ISO 10360-2 (2009) or equivalent national standards. E□, MPE, after all available compensations, should be comparable to the threshold of 1.7 + L/800 μm. 1. Having 2 axes, and according to ISO 10360-2 (2009) or equivalent national standards, at any point within the operating range of the coordinate measuring machine (i.e., within the length range of the axes), the maximum permissible error of a length measurement along any axis (one-dimensional) (expressed in any combination of E□x, E or E MPE□y MPE□z MPE) is less than or equal to (1.25+L/1000) μm (L is the measured length in mm);

Reference Commodity Name

Computer-controlled or CNC coordinate measuring machine with 2 axes

Original Chinese source pp. 64-65

No.	Control Code	HS Code(s)	Unit
405	2B206.a.2	-	unit

Item Name and Description

2. There are 3 or more axes, and according to ISO 10360-2 (2009) or equivalent national standards, at any point within the operating range of the coordinate measuring machine (that is, within the length range of the axes), the maximum permissible error of three-dimensional (volume) length measurement (E) is less than or equal to 0, MPE (1.7 + L/800) μm (L is the measured length, in mm).

Reference Commodity Name

Computer-controlled or CNC coordinate measuring machine with 3 or more axes

Original Chinese source p. 65

No.	Control Code	HS Code(s)	Unit
406	2B206.b.1	-	unit

Item Name and Description

b. 'Linear Displacement' Measuring Instrument: Technical Description: In item 2B206.b, 'linear displacement' refers to the change in distance between the measuring probe and the object being measured. 1. When the measurement range does not exceed 0.2 mm, a non-contact measurement system with a 'resolution' of less than or equal to 0.2 μm;

Reference Commodity Name

Linear displacement measuring instrument for non-contact measuring systems

Original Chinese source p. 65

No.	Control Code	HS Code(s)	Unit
407	2B206.b.2	-	unit

Item Name and Description

2. Linear Variable Differential Transformer (LVDT) systems with the following two characteristics: a. Having any of the following characteristics: 1. For linear variable differential transformers with a range not exceeding 5 mm, the 'linearity' measured from 0 to the full range is less than or equal to 0.1%; 2. For linear variable differential transformers with a range exceeding 5 mm, the 'linearity' measured from 0 to 5 mm is less than or equal to 0.1%; b. In a standard environmental laboratory, when the temperature changes by ±1ºC, the daily drift is less than or equal to 0.1%.

Reference Commodity Name

Linear Variable Differential Transformer (LVDT)

Original Chinese source pp. 65-66

No.	Control Code	HS Code(s)	Unit
408	2B206.b.3	-	unit

Item Name and Description

3. Measurement systems with the following two characteristics: a. Equipped with a "laser"; b. Under standard temperature and standard pressure with a temperature variation range of ±1ºC, able to maintain the following two characteristics for at least 12 hours: 1. A "full-scale resolution" greater than or equal to 0.1μm; 2. A "measurement uncertainty" less than or equal to (0.2 + L/2000) μm (L is the measured length, unit: mm); Note: Item 2B206.b.3 applies to interferometer systems for uncontrolled measurements. This system has no closed-loop or open-loop feedback and is equipped with a "laser" for measuring the slide motion errors of machine tools, dimensional inspection instruments, or similar equipment.

Reference Commodity Name

Linear displacement measurement system

Original Chinese source p. 66

No.	Control Code	HS Code(s)	Unit
409	2B206.c	-	unit

Item Name and Description

c. Angular displacement measuring instruments with an 'angular deviation' less than or equal to 0.00025°; Note: Item 2B206.c does not control optical instruments, such as automatic autocollimators that use collimated light (e.g., lasers) to detect mirror angular displacement.

Reference Commodity Name

Angular displacement measuring instrument

Original Chinese source p. 66

No.	Control Code	HS Code(s)	Unit
410	2B206.d	-	unit

Item Name and Description

d. Has the following two characteristics, used for a system that simultaneously checks the line-angle displacement of half-shell parts: 1. “Measurement uncertainty” along any linear coordinate axis is less than or equal to 3.5 μm per 5 mm; 2. “Angular deviation” is less than or equal to 0.02°.

Reference Commodity Name

System for simultaneous inspection of linear-angular displacements of half-shells

Original Chinese source p. 66

No.	Control Code	HS Code(s)	Unit
411	2B207.a.1	8479509010	-

Item Name and Description

"Robot," "End Effector," and Controller: Explanation: Item 2B207 is uncontrolled for 'robots' specifically designed for non-nuclear industrial applications such as automobile paint booths. Technical Description: 1. In item 2B207, a 'robot' refers to a manipulator that can operate along a continuous path or at discrete points, may use 'sensors,' and has all of the following characteristics: a. multifunctional; b. capable of moving variably in three-dimensional space to enable material. a. A 'robot' or 'end effector' with any of the following characteristics: 1. Specifically designed according to national security standards to handle high-energy explosives (e.g., compliant with the rated values of high-energy explosive electrical regulations); 2. Specifically designed or rated to be radiation-resistant, capable of withstanding radiation greater than 5×10^4 Gy (silicon) without decreasing performance. Technical Description: Gy (silicon) refers to the energy absorbed by an unshielded silicon sample when exposed to ionizing radiation, expressed in J/kg.

Reference Commodity Name

robot

Original Chinese source p. 66

No.	Control Code	HS Code(s)	Unit
412	2B207.a.2	8479509010	-

Item Name and Description

-

Reference Commodity Name

end control device

Original Chinese source pp. 66-69

No.	Control Code	HS Code(s)	Unit
413	2B207.b	8537109021	pieces/kg

Item Name and Description

b. Controllers specifically designed for any "robot" or "end effector" controlled under item 2B207. For positioning or orienting materials, parts, tools, or special devices; c. Containing three or more closed-loop or open-loop servo devices that may be equipped with stepper motors; d. Providing the machine with "user-accessible programming capability" through teaching, playback, or by using a programmable logic-controlled electronic computer, i.e., without mechanical intervention. In the above definitions, a "sensor" refers to a detector of physical phenomena, whose output (after being converted into a signal interpretable by the controller) can generate a "program" or modify the instructions of the "program" or digital "program" data. This includes "sensors" with the capabilities of machine display, infrared imaging, audiovisual, tactile measurement, inertial position measurement, optical or acoustic distance measurement, or force or torque measurement. In the above definitions, "user-accessible programming capability" refers to a facility that allows the user to insert, modify, or replace a "program" using methods other than the following: a. Physical changes in wiring or interconnections; b. Settings of function controllers, including input parameters. In the above definitions, "robot" does not include the following devices: a. Manipulators that are operated solely by manual control or remote control; b. Fixed-sequence manipulators, which are automatically operated devices that move according to a mechanically fixed program. The "program" is mechanically restricted by fixed stops (e.g., pins or cams). It is impossible to change or alter the operation sequence or select the trajectory or angles using mechanical, electronic, or electrical means; c. Mechanically controlled variable-sequence manipulators, which are automatically operated devices that move according to a mechanically fixed program. The "program" is mechanically restricted by fixed yet adjustable stops (e.g., pins or cams). Within the fixed "program" mode, the operation sequence and choice of trajectories or angles can be changed. Modifications can only be made mechanically (e.g., changing pins or swapping cams) to alter the "program" mode on one or more motion axes; d. Non-servo-controlled variable-sequence manipulators, which are automatically operated devices moving according to a mechanically fixed program. The "program" can be changed, but the sequence of motion can only continue via binary signals output by mechanically fixed binary electrical devices or adjustable stops; e. Tower cranes defined as Cartesian coordinate manipulators, which are part of vertically arranged storage box warehouses and are used to access the contents of the boxes. 2. In item 2B207, "end effector" includes grippers, "active processing units," and any other tools mounted on the main end plate at the end of a "robot" manipulator arm. In the above definitions, an "active processing unit" refers to a device that applies power sources, process energy, or performs detection on a workpiece.

Reference Commodity Name

Controllers specifically designed for robots or end-control devices

Original Chinese source p. 69

No.	Control Code	HS Code(s)	Unit
414	2B209.a	8463900030	-

Item Name and Description

Roller forming machines, spinning forming machines capable of roll forming functions, and mandrels: a. Machines with the following two characteristics: 1. Equipped with three or more rollers (active or guided); 2. According to the manufacturer's technical specifications, can be equipped with a "numerical" unit or computer controller; Note: 2B209. Item a has only one roller for metal deformation and two auxiliary rollers to support the mandrel but not directly participate in the deformation process.

Reference Commodity Name

Roll forming machine, spinning lathe capable of roll forming function

Original Chinese source p. 69

No.	Control Code	HS Code(s)	Unit
415	2B209.b	8466940030	kg

Item Name and Description

b. Rotor forming mandrel designed for manufacturing cylindrical rotors with an inner diameter of 75–400 mm.

Reference Commodity Name

Rotor forming mandrel

Original Chinese source p. 69

No.	Control Code	HS Code(s)	Unit
416	2B210.a	8479899959	units/kg

Item Name and Description

Vibration test systems, equipment, and components: Technical description: An 'empty table' refers to a platform or surface without fixtures and accessories. a. An electric vibration test system with all of the following characteristics: 1. Uses feedback or closed-loop control technology and includes a 'CNC' unit; 2. Capable of generating 10 g root mean square (RMS) or greater vibration in the frequency range of 20~2000 Hz; 3. Capable of applying a force of 50 kN or greater ('empty table' measurement);

Reference Commodity Name

Electric vibration test system

Original Chinese source pp. 69-70

No.	Control Code	HS Code(s)	Unit
417	2B210.b	8537109022	pieces/kg

Item Name and Description

b. Digital controller, equipped with software designed for vibration testing (real-time frequency bandwidth greater than 5kHz), which is also designed for systems controlled under item 2B210.a;

Reference Commodity Name

digital controller

Original Chinese source p. 70

No.	Control Code	HS Code(s)	Unit
418	2B210.c	-	unit

Item Name and Description

c. Equipped with or without auxiliary amplifiers, capable of applying a force of 50 kN or greater ("open test" measurement), can be used as a vibration initiator (vibration device) for systems controlled under item 2B210.a;

Reference Commodity Name

Vibration starter (vibration device)

Original Chinese source p. 70

No.	Control Code	HS Code(s)	Unit
419	2B210.d	-	unit

Item Name and Description

d. Designed to connect multiple vibration devices into a complete vibration system so as to provide an effective resultant force of 50 kN or more ("free-swinging" measurement), and can be used for the test component support structures and electronic devices of systems regulated under item 2B210.a;

Reference Commodity Name

Test component support structures and electronics

Original Chinese source p. 70

No.	Control Code	HS Code(s)	Unit
420	2B210.e	-	unit

Item Name and Description

e. Other auxiliary equipment specifically designed for item 2B210.a.

Reference Commodity Name

Other auxiliary equipment specially designed for electric vibration test systems

Original Chinese source p. 70

No.	Control Code	HS Code(s)	Unit
421	2B219.a	-	unit

Item Name and Description

Fixed or portable, horizontal or vertical centrifugal multi-plane balancing machines: a. Centrifugal balancing machines designed for balancing flexible rotors not shorter than 600mm and having all the following characteristics: 1. Rotational or journal diameter greater than or equal to 75mm; 2. Mass capacity 0.9–23kg; 3. Balanced rotational speed capable of exceeding 5000 rpm;

Reference Commodity Name

Centrifugal balancing machine

Original Chinese source p. 70

No.	Control Code	HS Code(s)	Unit
422	2B219.b	-	unit

Item Name and Description

b. A centrifugal balancing machine designed to balance hollow cylindrical rotor components and having all of the following characteristics: 1. Journal diameter greater than 75 mm; 2. Mass capacity 0.9–23 kg; 3. Minimum achievable residual unbalance less than or equal to 10 g·mm/kg per plane; 4. Belt-driven type.

Reference Commodity Name

Centrifugal balancing machine for balancing hollow cylindrical rotor components

Original Chinese source p. 70

No.	Control Code	HS Code(s)	Unit
423	2B225.a	8428909010	units/kg

Item Name and Description

Possesses any of the following characteristics, used to provide remote operation for radiochemical separation tasks or hot cells: Technical description: The remote manipulator transmits the operator's movements to a distant operating arm and end effector. The manipulator can be a 'master-slave' type manipulator, or a manipulator operated via joystick or keyboard. a. Capable of passing through hot cell walls with a thickness of 0.6 m or greater (through-wall operation);

Reference Commodity Name

Remote control manipulator (wall penetration operation)

Original Chinese source p. 70

No.	Control Code	HS Code(s)	Unit
424	2B225.b	8428909010	units/kg

Item Name and Description

b. Able to cross the roof of a hot chamber with a wall thickness greater than or equal to 0.6m (roof-crossing operations).

Reference Commodity Name

Remote control manipulator (cross-top operation)

Original Chinese source pp. 70-71

No.	Control Code	HS Code(s)	Unit
425	2B226.a	8514200010	units/kg

Item Name and Description

Controlled atmosphere (vacuum or inert gas) induction furnace a. An induction furnace that has all of the following characteristics: 1. Capable of operating at temperatures greater than or equal to 850°C and with the power source used; 2. Induction coil diameter less than or equal to 600 mm; 3. Designed input power greater than or equal to 5 kW; Note: Item 2B226.a does not control induction furnaces used for processing semiconductor wafers.

Reference Commodity Name

Controlled atmosphere (vacuum or inert gas) induction furnace

Original Chinese source p. 71

No.	Control Code	HS Code(s)	Unit
426	2B226.b	8504409950	pieces/kg

Item Name and Description

b. Power supply specially designed for induction furnaces controlled under item 2B226.a, with a rated output power of greater than or equal to 5 kW.

Reference Commodity Name

Induction furnace power supply

Original Chinese source p. 71

No.	Control Code	HS Code(s)	Unit
427	2B227.a	8514320010 8514390010	units/kg

Item Name and Description

Vacuum furnaces or other controlled-atmosphere metallurgical melting and casting furnaces and related equipment: a. Arc remelting furnaces, arc furnaces, and arc melting and casting furnaces with the following two characteristics: 1. Use self-consuming electrodes with a capacity of 1000–20000 cm^3; 2. Capable of operating at melting temperatures above 1700°C;

Reference Commodity Name

Arc remelting furnace, arc melting furnace and arc casting furnace

Original Chinese source p. 71

No.	Control Code	HS Code(s)	Unit
428	2B227.b	8514310010 8514320020	units/kg

Item Name and Description

b. Electron beam melting furnaces, plasma atomization furnaces, and plasma melting furnaces with the following two characteristics: 1. Power greater than or equal to 50 kW; 2. Capable of operating at a melting temperature above 1200 □.

Reference Commodity Name

Electron beam melting furnace, plasma atomization furnace, and plasma melting furnace

Original Chinese source p. 71

No.	Control Code	HS Code(s)	Unit
429	2B227.c	-	unit

Item Name and Description

c. Computer control and monitoring systems specifically equipped for any furnace regulated under items 2B227.a or 2B227.b;

Reference Commodity Name

Computer control system and monitoring system

Original Chinese source p. 71

No.	Control Code	HS Code(s)	Unit
430	2B227.d	-	unit

Item Name and Description

d. A plasma torch with the following two characteristics, specifically designed for furnaces controlled under item 2B227.b: 1. Operating power greater than 50 kW; 2. Able to operate at temperatures above 1200 □;

Reference Commodity Name

plasma torch

Original Chinese source p. 71

No.	Control Code	HS Code(s)	Unit
431	2B227.e	-	piece

Item Name and Description

e. An electron beam gun specially designed for furnaces controlled under item 2B227.b, with an operating power greater than 50 kW.

Reference Commodity Name

electron beam gun

Original Chinese source p. 71

No.	Control Code	HS Code(s)	Unit
432	2B228.a	-	unit

Item Name and Description

Rotor manufacturing or assembly equipment, rotor straightening equipment, and bellows forming mandrels and molds: a. Rotor assembly equipment for assembling rotor tubes, baffles, and end caps of gas centrifuges; Note: 2B228.a items control precision mandrels, clamps, and reduction machines.

Reference Commodity Name

Rotor assembly equipment for assembling rotor tubes, baffles, and end caps of a gas centrifuge.

Original Chinese source p. 71

No.	Control Code	HS Code(s)	Unit
433	2B228.b	-	unit

Item Name and Description

b. Equipment for straightening rotors by aligning the rotor tubes of a gas centrifuge to a common axis; Technical description: The equipment controlled under item 2B228.b usually consists of precision measuring probes connected to a computer, which then controls actions such as pneumatic pistons used to align rotor tubes.

Reference Commodity Name

Rotor straightening equipment for aligning the rotor tubes of a gas centrifuge to a common axis

Original Chinese source pp. 71-72

No.	Control Code	HS Code(s)	Unit
434	2B228.c	-	unit

Item Name and Description

c. Mandrels and molds for producing single-curvature corrugated tubes. Technical description: The corrugated tubes controlled under item 2B228.c have all of the following characteristics: 1. An inner diameter of 75–400 mm; 2. A length greater than or equal to 12.7 mm; 3. A single-curvature depth exceeding 2 mm; 4. Made of high-strength aluminum alloy, martensitic age-hardening steel, or high-strength fiber materials.

Reference Commodity Name

Bellows forming mandrels and dies

Original Chinese source p. 72

No.	Control Code	HS Code(s)	Unit
435	2B230	9026209010	pieces/kg

Item Name and Description

All types of pressure sensors with all of the following characteristics: Technical Specifications: 1. The pressure sensors regulated under item 2B230 are devices that convert pressure measurement results into electrically usable signals. 2. The "accuracy" referred to in item 2B230 includes non-linearity, hysteresis, and repeatability at room temperature. a. Pressure-sensitive elements made of or protected by aluminum, aluminum alloys, alumina (bauxite or sapphire), nickel, nickel alloys with nickel content greater than or equal to 60% (by weight), or fully fluorinated hydrocarbon polymers; b. If present, the encapsulation required for and directly contacting the process medium of the pressure-sensitive element, the encapsulation being made of or protected by aluminum, aluminum alloys, alumina (bauxite or sapphire), nickel, nickel alloys with nickel content greater than or equal to 60% (by weight), or fully fluorinated hydrocarbon polymers; c. Having any of the following characteristics: 1. Full scale less than 13 kPa, with "accuracy" higher than ±1% of full scale; 2. Full scale greater than or equal to 13 kPa, with "accuracy" higher than ±130 Pa at the 13 kPa pressure point.

Reference Commodity Name

pressure sensor

Original Chinese source p. 72

No.	Control Code	HS Code(s)	Unit
436	2B231	8414100020	units/kg

Item Name and Description

A vacuum pump with all the following characteristics: a. The diameter of the suction port is greater than or equal to 380 mm; b. The pumping speed is greater than or equal to 15 m^3/s; c. Capable of producing an ultimate vacuum of less than 13.3 mPa. Technical specifications: 1. The pumping speed is measured at the measuring point using nitrogen or air. 2. By blocking the pump's suction end, this ultimate vacuum can be measured at this suction end.

Reference Commodity Name

Vacuum pump

Original Chinese source p. 72

No.	Control Code	HS Code(s)	Unit
437	2B232	-	unit

Item Name and Description

High-speed artillery systems capable of accelerating projectiles to 1.5 km per second or faster (propellant, gas, coilgun, railgun, electrothermal gun, or other advanced systems).

Reference Commodity Name

high velocity gun system

Original Chinese source pp. 72-73

No.	Control Code	HS Code(s)	Unit
438	2B233	-	unit

Item Name and Description

Bellows-sealed scroll compressors and bellows-sealed scroll vacuum pumps with all of the following characteristics: a. The inlet volumetric flow rate can reach 50 m^3/h or more; b. The compression ratio can reach 2:1 or greater; c. All surfaces in contact with process gases are made from any of the following materials: 1. Aluminum or aluminum alloys; 2. Alumina; 3. Stainless steel; 4. Nickel or nickel alloys; 5. Phosphor bronze; 6. Fluoropolymer. Technical description: 1. In a scroll compressor or scroll vacuum pump, crescent-shaped gas chambers are formed between one or more pairs of intermeshing scroll plates, with one scroll plate moving while the other remains stationary. The moving scroll plate orbits around the stationary scroll plate but does not rotate itself. As the moving scroll plate moves around the stationary scroll plate, the crescent-shaped gas chambers gradually decrease in size toward the machine's outlet end (i.e., the gas is compressed). 2. In a bellows-sealed scroll compressor or vacuum pump, the process gas is completely isolated from the pump's lubricated components and the external atmosphere by a metal bellows. One end of the bellows is connected to the moving scroll plate, and the other end is connected to the vacuum pump housing. 3. Fluoropolymers include but are not limited to the following materials: a. Polytetrafluoroethylene (PTFE); b. Perfluoroethylene-propylene (FEP); c. Perfluoroalkoxy polymer (PFA); d. Polychlorotrifluoroethylene (PCTFE); e. Vinylidene

fluoride-hexafluoropropylene copolymer.

Reference Commodity Name

Bellows-sealed scroll compressors and bellows-sealed scroll vacuum pumps

Original Chinese source p. 73

No.	Control Code	HS Code(s)	Unit
439	2B350.a.1	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

Regarding chemical production equipment: a. Multiple seal valves with leak detection holes, bellows-sealed valves, check valves, all surfaces in direct contact with chemicals shall be made of the following materials: 1. Glass or glass-lined (including vitrified or glazed coatings);

Reference Commodity Name

Multi-seal valve with the characteristics listed in 2B350.a.1

Original Chinese source p. 73

No.	Control Code	HS Code(s)	Unit
440	2B350.a.1	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

Regarding chemical production equipment: a. Multiple seal valves with leak detection holes, bellows-sealed valves, check valves, all surfaces in direct contact with chemicals shall be made of the following materials: 1. Glass or glass-lined (including vitrified or glazed coatings);

Reference Commodity Name

Bellows-sealed valve with the characteristics listed in 2B350.a.1

Original Chinese source p. 73

No.	Control Code	HS Code(s)	Unit
441	2B350.a.1	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

Regarding chemical production equipment: a. Multiple seal valves with leak detection holes, bellows-sealed valves, check valves, all surfaces in direct contact with chemicals shall be made of the following materials: 1. Glass or glass-lined (including vitrified or glazed coatings);

Reference Commodity Name

Check valves with the characteristics listed in 2B350.a.1

Original Chinese source p. 73

No.	Control Code	HS Code(s)	Unit
442	2B350.a.2	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Multi-seal valve with the characteristics listed in 2B350.a.2

Original Chinese source p. 73

No.	Control Code	HS Code(s)	Unit
443	2B350.a.2	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Bellows sealed valve with the characteristics listed in 2B350.a.2

Original Chinese source p. 73

No.	Control Code	HS Code(s)	Unit
444	2B350.a.2	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Check valves with the characteristics listed in 2B350.a.2

Original Chinese source p. 73

No.	Control Code	HS Code(s)	Unit
445	2B350.a.3	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Multi-seal valve with the characteristics listed in 2B350.a.3

Original Chinese source p. 73

No.	Control Code	HS Code(s)	Unit
446	2B350.a.3	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Bellows sealed valve with the characteristics listed in 2B350.a.3

Original Chinese source pp. 73-74

No.	Control Code	HS Code(s)	Unit
447	2B350.a.3	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Check valves with the characteristics listed in 2B350.a.3

Original Chinese source p. 74

No.	Control Code	HS Code(s)	Unit
448	2B350.a.4	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Multi-seal valve with the characteristics listed in 2B350.a.4

Original Chinese source p. 74

No.	Control Code	HS Code(s)	Unit
449	2B350.a.4	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Bellows sealed valve with the characteristics listed in 2B350.a.4

Original Chinese source p. 74

No.	Control Code	HS Code(s)	Unit
450	2B350.a.4	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Check valves with the characteristics listed in 2B350.a.4

Original Chinese source p. 74

No.	Control Code	HS Code(s)	Unit
451	2B350.a.5	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Multi-seal valve with the characteristics listed in 2B350.a.5

Original Chinese source p. 74

No.	Control Code	HS Code(s)	Unit
452	2B350.a.5	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Bellows sealed valve with the characteristics listed in 2B350.a.5

Original Chinese source p. 74

No.	Control Code	HS Code(s)	Unit
453	2B350.a.5	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Check valves with the characteristics listed in 2B350.a.5

Original Chinese source p. 74

No.	Control Code	HS Code(s)	Unit
454	2B350.a.6	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Multi-seal valve with the characteristics listed in 2B350.a.6

Original Chinese source p. 74

No.	Control Code	HS Code(s)	Unit
455	2B350.a.6	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Bellows-sealed valve with the characteristics listed in 2B350.a.6

Original Chinese source p. 74

No.	Control Code	HS Code(s)	Unit
456	2B350.a.6	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Check valves with the characteristics listed in 2B350.a.6

Original Chinese source p. 74

No.	Control Code	HS Code(s)	Unit
457	2B350.a.7	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Multi-seal valve with the characteristics listed in 2B350.a.7

Original Chinese source pp. 74-75

No.	Control Code	HS Code(s)	Unit
458	2B350.a.7	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Bellows sealed valve with the characteristics listed in 2B350.a.7

Original Chinese source p. 75

No.	Control Code	HS Code(s)	Unit
459	2B350.a.7	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Check valves with the characteristics listed in 2B350.a.7

Original Chinese source p. 75

No.	Control Code	HS Code(s)	Unit
460	2B350.b.1	8413502030 8413602110 8413602220 8413603130 8413603210 8413604010 8413701040 8413709980	units/kg

Item Name and Description

b. For multiple-seal pumps, canned pumps, magnetic pumps, bellows or diaphragm pumps with a manufacturer-specified maximum flow greater than 0.6 m³/h, or vacuum pumps with a manufacturer-specified maximum flow greater than 5 m³/h [under standard temperature (0°C) and standard atmospheric pressure (101.30 kPa)], all surfaces that come into direct contact with chemicals shall be made of the following materials: 1. Glass or glass lining (including ceramic or glazed coatings);

Reference Commodity Name

Multi-seal pump with the characteristics listed in 2B350.b.1

Original Chinese source p. 75

No.	Control Code	HS Code(s)	Unit
461	2B350.b.1	8413709980	units/kg

Item Name and Description

b. For multiple-seal pumps, canned pumps, magnetic pumps, bellows or diaphragm pumps with a manufacturer-specified maximum flow greater than 0.6 m³/h, or vacuum pumps with a manufacturer-specified maximum flow greater than 5 m³/h [under standard temperature (0°C) and standard atmospheric pressure (101.30 kPa)], all surfaces that come into direct contact with chemicals shall be made of the following materials: 1. Glass or glass lining (including ceramic or glazed coatings);

Reference Commodity Name

Canned pumps with the characteristics listed in 2B350.b.1

Original Chinese source p. 75

No.	Control Code	HS Code(s)	Unit
462	2B350.b.1	8413709980	units/kg

Item Name and Description

b. For multiple-seal pumps, canned pumps, magnetic pumps, bellows or diaphragm pumps with a manufacturer-specified maximum flow greater than 0.6 m³/h, or vacuum pumps with a manufacturer-specified maximum flow greater than 5 m³/h [under standard temperature (0°C) and standard atmospheric pressure (101.30 kPa)], all surfaces that come into direct contact with chemicals shall be made of the following materials: 1. Glass or glass lining (including ceramic or glazed coatings);

Reference Commodity Name

Magnetic drive pumps with the characteristics listed in 2B350.b.1

Original Chinese source p. 75

No.	Control Code	HS Code(s)	Unit
463	2B350.b.1	8413501020 8413502020 8413503920 8413509020	units/kg

Item Name and Description

b. For multiple-seal pumps, canned pumps, magnetic pumps, bellows or diaphragm pumps with a manufacturer-specified maximum flow greater than 0.6 m³/h, or vacuum pumps with a manufacturer-specified maximum flow greater than 5 m³/h [under standard temperature (0°C) and standard atmospheric pressure (101.30 kPa)], all surfaces that come into direct contact with chemicals shall be made of the following materials: 1. Glass or glass lining (including ceramic or glazed coatings);

Reference Commodity Name

Corrugated or diaphragm pump with the characteristics listed in 2B350.b.1

Original Chinese source p. 75

No.	Control Code	HS Code(s)	Unit
464	2B350.b.1	8414100010	units/kg

Item Name and Description

b. For multiple-seal pumps, canned pumps, magnetic pumps, bellows or diaphragm pumps with a manufacturer-specified maximum flow greater than 0.6 m³/h, or vacuum pumps with a manufacturer-specified maximum flow greater than 5 m³/h [under standard temperature (0°C) and standard atmospheric pressure (101.30 kPa)], all surfaces that come into direct contact with chemicals shall be made of the following materials: 1. Glass or glass lining (including ceramic or glazed coatings);

Reference Commodity Name

Vacuum pumps with the characteristics listed in 2B350.b.1

Original Chinese source p. 75

No.	Control Code	HS Code(s)	Unit
465	2B350.b.2	8413502030 8413602110 8413602220 8413603130 8413603210 8413604010 8413701040 8413709980	units/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Multi-seal pump with the characteristics listed in 2B350.b.2

Original Chinese source p. 75

No.	Control Code	HS Code(s)	Unit
466	2B350.b.2	8413709980	units/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Canned pumps with the characteristics listed in 2B350.b.2

Original Chinese source p. 75

No.	Control Code	HS Code(s)	Unit
467	2B350.b.2	8413709980	units/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Magnetic drive pumps with the characteristics listed in 2B350.b.2

Original Chinese source p. 75

No.	Control Code	HS Code(s)	Unit
468	2B350.b.2	8413501020 8413502020 8413503920 8413509020	units/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Corrugated or diaphragm pump with the characteristics listed in 2B350.b.2

Original Chinese source p. 75

No.	Control Code	HS Code(s)	Unit
469	2B350.b.2	8414100010	units/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Vacuum pumps with the characteristics listed in 2B350.b.2

Original Chinese source p. 76

No.	Control Code	HS Code(s)	Unit
470	2B350.b.3	8413502030 8413602110 8413602220 8413603130 8413603210 8413604010 8413701040 8413709980	units/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Multi-seal pump with the characteristics listed in 2B350.b.3

Original Chinese source p. 76

No.	Control Code	HS Code(s)	Unit
471	2B350.b.3	8413709980	units/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Canned pumps with the characteristics listed in 2B350.b.3

Original Chinese source p. 76

No.	Control Code	HS Code(s)	Unit
472	2B350.b.3	8413709980	units/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Magnetic drive pumps with the characteristics listed in 2B350.b.3

Original Chinese source p. 76

No.	Control Code	HS Code(s)	Unit
473	2B350.b.3	8413501020 8413502020 8413503920 8413509020	units/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Corrugated or diaphragm pump with the characteristics listed in 2B350.b.3

Original Chinese source p. 76

No.	Control Code	HS Code(s)	Unit
474	2B350.b.3	8414100010	units/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Vacuum pumps with the characteristics listed in 2B350.b.3

Original Chinese source p. 76

No.	Control Code	HS Code(s)	Unit
475	2B350.b.4	8413502030 8413602110 8413602220 8413603130 8413603210 8413604010 8413701040 8413709980	units/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Multi-seal pump with the characteristics listed in 2B350.b.4

Original Chinese source p. 76

No.	Control Code	HS Code(s)	Unit
476	2B350.b.4	8413709980	units/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Canned pumps with the characteristics listed in 2B350.b.4

Original Chinese source p. 76

No.	Control Code	HS Code(s)	Unit
477	2B350.b.4	8413709980	units/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Magnetic drive pumps with the characteristics listed in 2B350.b.4

Original Chinese source p. 76

No.	Control Code	HS Code(s)	Unit
478	2B350.b.4	8413501020 8413502020 8413503920 8413509020	units/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Corrugated or diaphragm pump with the characteristics listed in 2B350.b.4

Original Chinese source p. 76

No.	Control Code	HS Code(s)	Unit
479	2B350.b.4	8414100010	units/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Vacuum pumps with the characteristics listed in 2B350.b.4

Original Chinese source p. 76

No.	Control Code	HS Code(s)	Unit
480	2B350.b.5	8413502030 8413602110 8413602220 8413603130 8413603210 8413604010 8413701040 8413709980	units/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Multi-seal pump with the characteristics listed in 2B350.b.5

Original Chinese source p. 77

No.	Control Code	HS Code(s)	Unit
481	2B350.b.5	8413709980	units/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Canned pumps with the characteristics listed in 2B350.b.5

Original Chinese source p. 77

No.	Control Code	HS Code(s)	Unit
482	2B350.b.5	8413709980	units/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Magnetic drive pumps with the characteristics listed in 2B350.b.5

Original Chinese source p. 77

No.	Control Code	HS Code(s)	Unit
483	2B350.b.5	8413501020 8413502020 8413503920 8413509020	units/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Corrugated or diaphragm pump with the characteristics listed in 2B350.b.5

Original Chinese source p. 77

No.	Control Code	HS Code(s)	Unit
484	2B350.b.5	8414100010	units/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Vacuum pumps with the characteristics listed in 2B350.b.5

Original Chinese source p. 77

No.	Control Code	HS Code(s)	Unit
485	2B350.b.6	8413502030 8413602110 8413602220 8413603130 8413603210 8413604010 8413701040 8413709980	units/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Multi-seal pump with the characteristics listed in 2B350.b.6

Original Chinese source p. 77

No.	Control Code	HS Code(s)	Unit
486	2B350.b.6	8413709980	units/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Shielded pump with the characteristics listed in 2B350.b.6

Original Chinese source p. 77

No.	Control Code	HS Code(s)	Unit
487	2B350.b.6	8413709980	units/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Magnetic drive pumps with the characteristics listed in 2B350.b.6

Original Chinese source p. 77

No.	Control Code	HS Code(s)	Unit
488	2B350.b.6	8413501020 8413502020 8413503920 8413509020	units/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Corrugated or diaphragm pump with the characteristics listed in 2B350.b.6

Original Chinese source p. 77

No.	Control Code	HS Code(s)	Unit
489	2B350.b.6	8414100010	units/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Vacuum pumps with the characteristics listed in 2B350.b.6

Original Chinese source p. 77

No.	Control Code	HS Code(s)	Unit
490	2B350.b.7	8413502030 8413602110 8413602220 8413603130 8413603210 8413604010 8413701040 8413709980	units/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Multi-seal pump with the characteristics listed in 2B350.b.7

Original Chinese source p. 77

No.	Control Code	HS Code(s)	Unit
491	2B350.b.7	8413709980	units/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Canned pumps with the characteristics listed in 2B350.b.7

Original Chinese source p. 77

No.	Control Code	HS Code(s)	Unit
492	2B350.b.7	8413709980	units/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Magnetic pump with the characteristics listed in 2B350.b.7

Original Chinese source p. 78

No.	Control Code	HS Code(s)	Unit
493	2B350.b.7	8413501020 8413502020 8413503920 8413509020	units/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Corrugated or diaphragm pump with the characteristics listed in 2B350.b.7

Original Chinese source p. 78

No.	Control Code	HS Code(s)	Unit
494	2B350.b.7	8414100010	units/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Vacuum pump with the characteristics listed in 2B350.b.7

Original Chinese source p. 78

No.	Control Code	HS Code(s)	Unit
495	2B350.b.8	8413502030 8413602110 8413602220 8413603130 8413603210 8413604010 8413701040 8413709980	units/kg

Item Name and Description

8. ferrosilicon;

Reference Commodity Name

Multi-seal pump with the characteristics listed in 2B350.b.8

Original Chinese source p. 78

No.	Control Code	HS Code(s)	Unit
496	2B350.b.8	8413709980	units/kg

Item Name and Description

8. ferrosilicon;

Reference Commodity Name

Shielded pump with the characteristics listed in 2B350.b.8

Original Chinese source p. 78

No.	Control Code	HS Code(s)	Unit
497	2B350.b.8	8413709980	units/kg

Item Name and Description

8. ferrosilicon;

Reference Commodity Name

Magnetic pump with the characteristics listed in 2B350.b.8

Original Chinese source p. 78

No.	Control Code	HS Code(s)	Unit
498	2B350.b.8	8413501020 8413502020 8413503920 8413509020	units/kg

Item Name and Description

8. ferrosilicon;

Reference Commodity Name

Corrugated or diaphragm pump with the characteristics listed in 2B350.b.8

Original Chinese source p. 78

No.	Control Code	HS Code(s)	Unit
499	2B350.b.8	8414100010	units/kg

Item Name and Description

8. ferrosilicon;

Reference Commodity Name

Vacuum pump with the characteristics listed in 2B350.b.8

Original Chinese source p. 78

No.	Control Code	HS Code(s)	Unit
500	2B350.b.9	8413502030 8413602110 8413602220 8413603130 8413603210 8413604010 8413701040 8413709980	units/kg

Item Name and Description

9□ ceramics;

Reference Commodity Name

Multi-seal pump with the characteristics listed in 2B350.b.9

Original Chinese source p. 78

No.	Control Code	HS Code(s)	Unit
501	2B350.b.9	8413709980	units/kg

Item Name and Description

9□ ceramics;

Reference Commodity Name

Shielded pump with the characteristics listed in 2B350.b.9

Original Chinese source p. 78

No.	Control Code	HS Code(s)	Unit
502	2B350.b.9	8413709980	units/kg

Item Name and Description

9□ ceramics;

Reference Commodity Name

Magnetic pump with the characteristics listed in 2B350.b.9

Original Chinese source p. 78

No.	Control Code	HS Code(s)	Unit
503	2B350.b.9	8413501020 8413502020 8413503920 8413509020	units/kg

Item Name and Description

9□ ceramics;

Reference Commodity Name

Corrugated or diaphragm pump with the characteristics listed in 2B350.b.9

Original Chinese source p. 78

No.	Control Code	HS Code(s)	Unit
504	2B350.b.9	8414100010	units/kg

Item Name and Description

9□ ceramics;

Reference Commodity Name

Vacuum pump with the characteristics listed in 2B350.b.9

Original Chinese source p. 79

No.	Control Code	HS Code(s)	Unit
505	2B350.b.10	8413502030 8413602110 8413602220 8413603130 8413603210 8413604010 8413701040 8413709980	units/kg

Item Name and Description

10. graphite;

Reference Commodity Name

Multi-seal pump with the characteristics listed in 2B350.b.10

Original Chinese source p. 79

No.	Control Code	HS Code(s)	Unit
506	2B350.b.10	8413709980	units/kg

Item Name and Description

10. graphite;

Reference Commodity Name

Shielded pump with the characteristics listed in 2B350.b.10

Original Chinese source p. 79

No.	Control Code	HS Code(s)	Unit
507	2B350.b.10	8413709980	units/kg

Item Name and Description

10. graphite;

Reference Commodity Name

Magnetic pump with the characteristics listed in 2B350.b.10

Original Chinese source p. 79

No.	Control Code	HS Code(s)	Unit
508	2B350.b.10	8413501020 8413502020 8413503920 8413509020	units/kg

Item Name and Description

10. graphite;

Reference Commodity Name

Corrugated or diaphragm pump having the characteristics listed in 2B350.b.10

Original Chinese source p. 79

No.	Control Code	HS Code(s)	Unit
509	2B350.b.10	8414100010	units/kg

Item Name and Description

10. graphite;

Reference Commodity Name

Vacuum pump with the characteristics listed in 2B350.b.10

Original Chinese source p. 79

No.	Control Code	HS Code(s)	Unit
510	2B350.c.1	7310100010 7309000010	kg/piece

Item Name and Description

c. Storage tanks, containers, or reservoirs with a total volume greater than 0.1 m³ (100 L), all surfaces directly in contact with the chemicals being handled or stored shall be made of the following materials: 1. Glass or glass-lined (including vitrified or enameled coatings);

Reference Commodity Name

Tanks with characteristics listed in 2B350.c.1

Original Chinese source p. 79

No.	Control Code	HS Code(s)	Unit
511	2B350.c.1	7310100010 7309000010	kg/piece

Item Name and Description

c. Storage tanks, containers, or reservoirs with a total volume greater than 0.1 m³ (100 L), all surfaces directly in contact with the chemicals being handled or stored shall be made of the following materials: 1. Glass or glass-lined (including vitrified or enameled coatings);

Reference Commodity Name

Containers with the characteristics listed in 2B350.c.1

Original Chinese source p. 79

No.	Control Code	HS Code(s)	Unit
512	2B350.c.1	7310100010 7309000010	kg/piece

Item Name and Description

c. Storage tanks, containers, or reservoirs with a total volume greater than 0.1 m³ (100 L), all surfaces directly in contact with the chemicals being handled or stored shall be made of the following materials: 1. Glass or glass-lined (including vitrified or enameled coatings);

Reference Commodity Name

Storage tanks with the characteristics listed in 2B350.c.1

Original Chinese source p. 79

No.	Control Code	HS Code(s)	Unit
513	2B350.c.2	7310100010 7309000010	kg/piece

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Tanks with the characteristics listed in 2B350.c.2

Original Chinese source p. 79

No.	Control Code	HS Code(s)	Unit
514	2B350.c.2	7310100010 7309000010	kg/piece

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Containers with the characteristics listed in 2B350.c.2

Original Chinese source p. 79

No.	Control Code	HS Code(s)	Unit
515	2B350.c.2	7310100010 7309000010	kg/piece

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Storage tanks with the characteristics listed in 2B350.c.2

Original Chinese source p. 79

No.	Control Code	HS Code(s)	Unit
516	2B350.c.3	7310100010 7309000010	kg/piece

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Tanks with characteristics listed in 2B350.c.3

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
517	2B350.c.3	7310100010 7309000010	kg/piece

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Containers with the characteristics listed in 2B350.c.3

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
518	2B350.c.3	7310100010 7309000010	kg/piece

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Storage tanks with the characteristics listed in 2B350.c.3

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
519	2B350.c.4	7310100010 7309000010	kg/piece

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Tanks with characteristics listed in 2B350.c.4

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
520	2B350.c.4	7310100010 7309000010	kg/piece

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Containers with the characteristics listed in 2B350.c.4

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
521	2B350.c.4	7310100010 7309000010	kg/piece

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Storage tanks with the characteristics listed in 2B350.c.4

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
522	2B350.c.5	7310100010 7309000010	kg/piece

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Tanks with the characteristics listed in 2B350.c.5

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
523	2B350.c.5	7310100010 7309000010	kg/piece

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Containers with the characteristics listed in 2B350.c.5

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
524	2B350.c.5	7310100010 7309000010	kg/piece

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Storage tanks with the characteristics listed in 2B350.c.5

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
525	2B350.c.6	7310100010 7309000010	kg/piece

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Tanks with characteristics listed in 2B350.c.6

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
526	2B350.c.6	7310100010 7309000010	kg/piece

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Containers with the characteristics listed in 2B350.c.6

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
527	2B350.c.6	7310100010 7309000010	kg/piece

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Storage tanks with the characteristics listed in 2B350.c.6

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
528	2B350.c.7	7310100010 7309000010	kg/piece

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Tanks with characteristics listed in 2B350.c.7

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
529	2B350.c.7	7310100010 7309000010	kg/piece

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Containers with the characteristics listed in 2B350.c.7

Original Chinese source p. 80

No.	Control Code	HS Code(s)	Unit
530	2B350.c.7	7310100010 7309000010	kg/piece

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Storage tanks with the characteristics listed in 2B350.c.7

Original Chinese source pp. 80-81

No.	Control Code	HS Code(s)	Unit
531	2B350.d.1	7306900010	kg/piece

Item Name and Description

d. Multi-wall pipes with leak detection holes, 1. Glass or glass-lined (including all surfaces that are vitrified or enameled and directly in contact with chemicals made of the following materials: coating);

Reference Commodity Name

Multi-wall pipes with the characteristics listed in 2B350.d.1

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
532	2B350.d.2	7306900010	kg/piece

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Multi-wall pipes with the characteristics listed in 2B350.d.2

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
533	2B350.d.3	7306900010	kg/piece

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Multi-wall pipes with the characteristics listed in 2B350.d.3

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
534	2B350.d.4	7306900010	kg/piece

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Multi-walled pipes with the characteristics listed in 2B350.d.4

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
535	2B350.d.5	7306900010	kg/piece

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Multi-wall pipes with the characteristics listed in 2B350.d.5

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
536	2B350.d.6	7306900010	kg/piece

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Multi-wall pipes with the characteristics listed in 2B350.d.6

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
537	2B350.d.7	7306900010	kg/piece

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Multi-wall pipes with the characteristics listed in 2B350.d.7

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
538	2B350.d.8	7306900010	kg/piece

Item Name and Description

8. graphite;

Reference Commodity Name

Multi-wall pipes with the characteristics listed in 2B350.d.8

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
539	2B350.e.1	8419409020	units/kg

Item Name and Description

e. For distillation or absorption towers with an inner diameter greater than 0.1 m, all surfaces that are in direct contact with the chemicals being processed shall be made of the following materials: 1. Glass or glass lining (including vitrified or glazed coatings);

Reference Commodity Name

Distillation column with the characteristics listed in 2B350.e.1

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
540	2B350.e.1	8414609014 8414809054	units/kg

Item Name and Description

e. For distillation or absorption towers with an inner diameter greater than 0.1 m, all surfaces that are in direct contact with the chemicals being processed shall be made of the following materials: 1. Glass or glass lining (including vitrified or glazed coatings);

Reference Commodity Name

Absorption tower with the characteristics listed in 2B350.e.1

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
541	2B350.e.2	8419409020	units/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

A distillation column with the characteristics listed in 2B350.e.2

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
542	2B350.e.2	8414609014 8414809054	units/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Absorption tower with the characteristics listed in 2B350.e.2

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
543	2B350.e.3	8419409020	units/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Distillation column with the characteristics listed in 2B350.e.3

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
544	2B350.e.3	8414609014 8414809054	units/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Absorption tower with the characteristics listed in 2B350.e.3

Original Chinese source p. 81

No.	Control Code	HS Code(s)	Unit
545	2B350.e.4	8419409020	units/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Distillation column with the characteristics listed in 2B350.e.4

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
546	2B350.e.4	8414609014 8414809054	units/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Absorption tower with the characteristics listed in 2B350.e.4

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
547	2B350.e.5	8419409020	units/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Distillation column with the characteristics listed in 2B350.e.5

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
548	2B350.e.5	8414609014 8414809054	units/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Absorption tower with the characteristics listed in 2B350.e.5

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
549	2B350.e.6	8419409020	units/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Distillation column with the characteristics listed in 2B350.e.6

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
550	2B350.e.6	8414609014 8414809054	units/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Absorption tower with the characteristics listed in 2B350.e.6

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
551	2B350.e.7	8419409020	units/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Distillation column with the characteristics listed in 2B350.e.7

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
552	2B350.e.7	8414609014 8414809054	units/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Absorption tower with the characteristics listed in 2B350.e.7

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
553	2B350.e.8	8419409020	units/kg

Item Name and Description

8. graphite;

Reference Commodity Name

Distillation column with the characteristics listed in 2B350.e.8

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
554	2B350.e.8	8414609014 8414809054	units/kg

Item Name and Description

8. graphite;

Reference Commodity Name

Absorption tower with the characteristics listed in 2B350.e.8

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
555	2B350.f.1	8419500050	units/kg

Item Name and Description

f. For heat exchangers or condensers with a heat exchange area greater than 0.15 m² and less than 20 m², all surfaces that are in direct contact with the chemicals being processed or stored shall be made of the following materials: 1. Glass or glass-lining (including vitrified or enameled coatings);

Reference Commodity Name

Heat exchanger with the characteristics listed in 2B350.f.1

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
556	2B350.f.1	8418999910	units/kg

Item Name and Description

f. For heat exchangers or condensers with a heat exchange area greater than 0.15 m² and less than 20 m², all surfaces that are in direct contact with the chemicals being processed or stored shall be made of the following materials: 1. Glass or glass-lining (including vitrified or enameled coatings);

Reference Commodity Name

Condenser with the characteristics listed in 2B350.f.1

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
557	2B350.f.2	8419500050	units/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Heat exchanger with the characteristics listed in 2B350.f.2

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
558	2B350.f.2	8418999910	units/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Condenser with the characteristics listed in 2B350.f.2

Original Chinese source p. 82

No.	Control Code	HS Code(s)	Unit
559	2B350.f.3	8419500050	units/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Heat exchanger with the characteristics listed in 2B350.f.3

Original Chinese source pp. 82-83

No.	Control Code	HS Code(s)	Unit
560	2B350.f.3	8418999910	units/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Condenser with the characteristics listed in 2B350.f.3

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
561	2B350.f.4	8419500050	units/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Heat exchanger with the characteristics listed in 2B350.f.4

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
562	2B350.f.4	8418999910	units/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Condenser with the characteristics listed in 2B350.f.4

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
563	2B350.f.5	8419500050	units/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Heat exchanger with the characteristics listed in 2B350.f.5

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
564	2B350.f.5	8418999910	units/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Condenser with the characteristics listed in 2B350.f.5

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
565	2B350.f.6	8419500050	units/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Heat exchanger with the characteristics listed in 2B350.f.6

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
566	2B350.f.6	8418999910	units/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Condenser with the characteristics listed in 2B350.f.6

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
567	2B350.f.7	8419500050	units/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Heat exchanger with the characteristics listed in 2B350.f.7

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
568	2B350.f.7	8418999910	units/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Condenser with the characteristics listed in 2B350.f.7

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
569	2B350.f.8	8419500050	units/kg

Item Name and Description

8. graphite;

Reference Commodity Name

Heat exchanger with the characteristics listed in 2B350.f.8

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
570	2B350.f.8	8418999910	units/kg

Item Name and Description

8. graphite;

Reference Commodity Name

Condenser with the characteristics listed in 2B350.f.8

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
571	2B350.f.9	8419500050	units/kg

Item Name and Description

9□ titanium carbide;

Reference Commodity Name

Heat exchanger with the characteristics listed in 2B350.f.9

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
572	2B350.f.9	8418999910	units/kg

Item Name and Description

9□ titanium carbide;

Reference Commodity Name

Condenser with the characteristics listed in 2B350.f.9

Original Chinese source p. 83

No.	Control Code	HS Code(s)	Unit
573	2B350.f.10	8419500050	units/kg

Item Name and Description

10. silicon carbide;

Reference Commodity Name

Heat exchanger with the characteristics listed in 2B350.f.10

Original Chinese source pp. 83-84

No.	Control Code	HS Code(s)	Unit
574	2B350.f.10	8418999910	units/kg

Item Name and Description

10. silicon carbide;

Reference Commodity Name

Condenser with the characteristics listed in 2B350.f.10

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
575	2B350.g.1	8479820010	units/kg

Item Name and Description

g. Whether or not equipped with an agitator, reaction tanks or reactors with a total volume greater than 0.1 m³ (100 L) and less than 20 m³ (20,000 L), all surfaces that are in direct contact with the chemicals being handled or stored shall be made of the following materials: 1. Glass or glass-lined (including ceramic or glazed coatings);

Reference Commodity Name

Reaction tank with the characteristics listed in 2B350.g.1

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
576	2B350.g.1	8479820010	units/kg

Item Name and Description

g. Whether or not equipped with an agitator, reaction tanks or reactors with a total volume greater than 0.1 m³ (100 L) and less than 20 m³ (20,000 L), all surfaces that are in direct contact with the chemicals being handled or stored shall be made of the following materials: 1. Glass or glass-lined (including ceramic or glazed coatings);

Reference Commodity Name

A reactor with the characteristics listed in 2B350.g.1

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
577	2B350.g.2	8479820010	units/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Reaction vessel with the characteristics listed in 2B350.g.2

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
578	2B350.g.2	8479820010	units/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

A reactor with the characteristics listed in 2B350.g.2

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
579	2B350.g.3	8479820010	units/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

Reaction tank with the characteristics listed in 2B350.g.3

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
580	2B350.g.3	8479820010	units/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

A reactor with the characteristics listed in 2B350.g.3

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
581	2B350.g.4	8479820010	units/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

Reaction tank with the characteristics listed in 2B350.g.4

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
582	2B350.g.4	8479820010	units/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

A reactor with the characteristics listed in 2B350.g.4

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
583	2B350.g.5	8479820010	units/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

Reaction tank with the characteristics listed in 2B350.g.5

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
584	2B350.g.5	8479820010	units/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

A reactor with the characteristics listed in 2B350.g.5

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
585	2B350.g.6	8479820010	units/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Reaction tank with the characteristics listed in 2B350.g.6

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
586	2B350.g.6	8479820010	units/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

A reactor with the characteristics listed in 2B350.g.6

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
587	2B350.g.7	8479820010	units/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Reaction tank with the characteristics listed in 2B350.g.7

Original Chinese source p. 84

No.	Control Code	HS Code(s)	Unit
588	2B350.g.7	8479820010	units/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

A reactor with the characteristics listed in 2B350.g.7

Original Chinese source p. 85

No.	Control Code	HS Code(s)	Unit
589	2B350.h.1	8479820010	units/kg

Item Name and Description

h. For agitators used in reaction vessels or reactors controlled under item 2B350.g, all surfaces that come into direct contact with the chemicals being processed or contained are made of the following materials: 1. Glass or glass-lined (including vitrified or glazed coatings);

Reference Commodity Name

Agitator with the characteristics listed in 2B350.h.1

Original Chinese source p. 85

No.	Control Code	HS Code(s)	Unit
590	2B350.h.2	8479820010	units/kg

Item Name and Description

2. Fluoropolymers;

Reference Commodity Name

Agitator with the characteristics listed in 2B350.h.2

Original Chinese source p. 85

No.	Control Code	HS Code(s)	Unit
591	2B350.h.3	8479820010	units/kg

Item Name and Description

3. Titanium or titanium alloy;

Reference Commodity Name

A mixer with the characteristics listed in 2B350.h.3

Original Chinese source p. 85

No.	Control Code	HS Code(s)	Unit
592	2B350.h.4	8479820010	units/kg

Item Name and Description

4. Zirconium or zirconium alloy;

Reference Commodity Name

A mixer with the characteristics listed in 2B350.h.4

Original Chinese source p. 85

No.	Control Code	HS Code(s)	Unit
593	2B350.h.5	8479820010	units/kg

Item Name and Description

5. Tantalum or tantalum alloys;

Reference Commodity Name

A mixer with the characteristics listed in 2B350.h.5

Original Chinese source p. 85

No.	Control Code	HS Code(s)	Unit
594	2B350.h.6	8479820010	units/kg

Item Name and Description

6. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

A mixer with the characteristics listed in 2B350.h.6

Original Chinese source p. 85

No.	Control Code	HS Code(s)	Unit
595	2B350.h.7	8479820010	units/kg

Item Name and Description

7. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

A mixer with the characteristics listed in 2B350.h.7

Original Chinese source p. 85

No.	Control Code	HS Code(s)	Unit
596	2B350.i.1	8417809010	units/kg

Item Name and Description

i. An incinerator designed to destroy chemicals controlled by the state for export or chemical munitions, equipped with a specially designed waste transfer system, special loading and unloading facilities, and a combustion chamber with an average temperature exceeding 1000°C, where all surfaces of the waste transfer system that come into direct contact with the waste products are made of the following materials: 1. An alloy with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Incinerator with the characteristics listed in 2B350.i.1

Original Chinese source p. 85

No.	Control Code	HS Code(s)	Unit
597	2B350.i.2	8417809010	units/kg

Item Name and Description

2. Nickel or alloys with a nickel content greater than 40% (by weight);

Reference Commodity Name

Incinerator with the characteristics listed in 2B350.i.2

Original Chinese source p. 85

No.	Control Code	HS Code(s)	Unit
598	2B350.i.3	8417809010	units/kg

Item Name and Description

3. ceramics;

Reference Commodity Name

Incinerator with the characteristics listed in 2B350.i.3

Original Chinese source p. 86

No.	Control Code	HS Code(s)	Unit
599	2B350.j.1	8422309010	units/kg

Item Name and Description

j. Remotely operated filling equipment, all surfaces that come into direct contact with the chemicals being handled are made of the following materials: Note: Equipment specifically designed for civilian purposes (such as water purification, food processing, pulp and paper processing, etc.), if its design characteristics are not suitable for storing, processing, producing, or handling chemicals controlled for export by the country and controlling their flow, is not regulated. 1. Alloys with a nickel content greater than 25% (by weight) and a chromium content greater than 20% (by weight);

Reference Commodity Name

Remote-operated charging equipment with the characteristics listed in 2B350.j.1

Original Chinese source p. 86

No.	Control Code	HS Code(s)	Unit
600	2B350.j.2	8422309010	units/kg

Item Name and Description

2. Nickel or alloys with a nickel content greater than 40% (by weight).

Reference Commodity Name

Remote-operated charging equipment with the characteristics listed in 2B350.j.2

Original Chinese source p. 86

No.	Control Code	HS Code(s)	Unit
601	2B351.a	9027100010	units/kg, units

Item Name and Description

Specialized toxic gas detectors and monitoring systems: a. Designed for continuous operation, suitable for the detection of chemicals or organic compounds controlled for export by the state (containing phosphorus, sulfur, fluorine, or chlorine at concentrations below 0.3 mg/m3);

Reference Commodity Name

Toxic gas monitors and monitoring systems

Original Chinese source p. 86

No.	Control Code	HS Code(s)	Unit
602	2B351.b	9027100010	units/kg, units

Item Name and Description

b. Designed to detect the activity of inhibited cholinesterase.

Reference Commodity Name

Toxic gas detector and monitoring system for detecting the activity of inhibited cholinesterase

Original Chinese source pp. 86-87

No.	Control Code	HS Code(s)	Unit
603	2B352.a	-	sets/room

Item Name and Description

Biological Material Handling Equipment: a. Fully enclosed facilities that comply with the biosafety level 3 (BL-3) and level 4 (BL-4) standards as stipulated in the World Health Organization Laboratory Biosafety Manual (3rd edition, 2004, Geneva); Explanation: 1. 'Biosafety Level 3 (BL-3)' refers to biomedical or microbiology laboratories that use high-efficiency particulate air (HEPA) filters, maintain negative pressure relative to the external environment, control personnel and material access, manage wastewater, exhaust gas, and waste, and implement microbial operation procedures and personal protection measures. These laboratories meet the laboratory containment level and biosafety handling capabilities specified for biosafety level 3 in the World Health Organization Laboratory Biosafety Manual (3rd edition, 2004, Geneva). 2. 'Biosafety Level 4 (BL-4)' refers to biomedical or microbiology laboratories that use HEPA filters, maintain negative pressure relative to the external environment, control personnel and material access, manage wastewater, exhaust gas, and waste, and implement microbial operation procedures and personal protection measures. These laboratories meet the laboratory containment level and biosafety handling capabilities specified for biosafety level 4 in the WHO Laboratory Biosafety Manual (3rd edition, 2004, Geneva). Its characteristics are based on biosafety level 3, with additional airtight systems, separated passage systems, the use of level-3 biosafety cabinets or positive-pressure suits, and dedicated air control systems, to achieve more stringent biological containment and higher biosafety handling capabilities than level 3.

Reference Commodity Name

Fully enclosed facility

Original Chinese source p. 87

No.	Control Code	HS Code(s)	Unit
604	2B352.b.1	8418699010 8419899010 8479820010 8479899952 8479899953 8479899954	units/kg

Item Name and Description

b. Fermenter: 1. A fermenter that does not leak aerosols, capable of culturing pathogenic microorganisms or producing toxins, with a volume greater than or equal to 20 L, including bioreactors, chemostats, and continuous perfusion systems;

Reference Commodity Name

Fermentation tanks with a volume greater than or equal to 20L

Original Chinese source p. 87

No.	Control Code	HS Code(s)	Unit
605	2B352.b.2	8479820010	units/kg

Item Name and Description

2. Fermenters that have special requirements for combination order or are specifically designed for joint systems and have a volume of less than 20 L.

Reference Commodity Name

Fermentation tanks with a volume less than 20 L

Original Chinese source p. 87

No.	Control Code	HS Code(s)	Unit
606	2B352.c	8421199040	units/kg

Item Name and Description

c. A centrifuge (including a decanter) that has all of the following characteristics, does not leak aerosols, and can continuously separate pathogenic microorganisms: 1. One or more sealed connections in the steam-tight area; 2. Flow rate greater than 100 L/h; 3. Polished stainless steel or titanium parts; 4. Can be sterilized in situ with steam under sealed conditions;

Reference Commodity Name

A centrifuge (including a decanter) capable of continuously separating pathogenic microorganisms

Original Chinese source pp. 87-88

No.	Control Code	HS Code(s)	Unit
607	2B352.d.1	8421299040	units/kg

Item Name and Description

d. Crossflow (tangential flow) filtration equipment and its components: Description: Item 2B352.d does not control reverse osmosis equipment marked by the manufacturer. 1. Crossflow (tangential flow) filtration equipment that has all of the following characteristics, does not leak aerosols, and can be used to separate 'pathogenic microorganisms,' 'toxins,' and cell cultures: a. Total filtration area greater than or equal to 1 m²; b. Can be sterilized or disinfected in situ; Technical Description: The 'sterilization' mentioned in 2B352.d.1.b refers to killing all living microorganisms in the equipment by using physical (steam) or chemical agents; 'disinfection' refers to destroying the potential infectivity of microorganisms in the equipment by using chemical agents with bactericidal effects. 'Disinfection' and 'sterilization' are different from 'sanitation,' where 'sanitation' refers to a cleaning process used to reduce the microbial content in the equipment without necessarily eliminating all microbial infectivity or viability.

Reference Commodity Name

Cross flow (tangential flow) filtration equipment

Original Chinese source p. 88

No.	Control Code	HS Code(s)	Unit
608	2B352.d.2	8421299040	units/kg

Item Name and Description

2. Crossflow (tangential flow) filtration devices designed for items controlled under 2B352.d.1, and crossflow (tangential flow) filtration assemblies (e.g., modules, elements, cartridges, housings, components, or filter plates) with a filtration area greater than or equal to 0.2 m²;

Reference Commodity Name

Cross flow (tangential flow) filter components

Original Chinese source p. 88

No.	Control Code	HS Code(s)	Unit
609	2B352.e	8419339040	units/kg

Item Name and Description

e. Freeze-drying equipment with a 24-hour ice condensation capacity of greater than or equal to 10 kg and less than 1000 kg, and capable of steam sterilization;

Reference Commodity Name

Freeze drying equipment

Original Chinese source p. 88

No.	Control Code	HS Code(s)	Unit
610	2B352.f.1	6506100010 8414701010 8414709010 8414609012 8414809052 8419399030 8419339040 8414701010 8414709010 8414701010 8414709010	pieces, pieces/kg

Item Name and Description

f. Protective Equipment: 1. Full-body or half-body protective suits or hoods that rely on external air supply and are operated under positive pressure; Note: Item 2B352.f.1 does not control protective suits designed for use with self-contained breathing apparatus.

Reference Commodity Name

Full or half-body protective clothing or shield

Original Chinese source p. 88

No.	Control Code	HS Code(s)	Unit
611	2B352.f.2	-	units/kg

Item Name and Description

2. Biosafety Level 3 cabinet, or isolation devices with similar operational standards (for example: flexible isolation devices, drying cabinets, anaerobic microorganism cabinets, glove boxes, or laminar flow hoods);

Reference Commodity Name

Biosafety level 3 cabinet, or an isolation device with similar operating standards

Original Chinese source p. 88

No.	Control Code	HS Code(s)	Unit
612	2B352.g	-	unit

Item Name and Description

g. Aerosol inhalation equipment used for aerosol attack tests of 'pathogenic microorganisms' and 'toxins', with a capacity greater than or equal to 1 m^3;

Reference Commodity Name

aerosol inhalation device

Original Chinese source pp. 88-89

No.	Control Code	HS Code(s)	Unit
613	2B352.h.1	-	units/sets

Item Name and Description

h. Spraying or Atomization 1. Systems and components specifically designed or modified: Technical description: 1. "Lighter-than-air aircraft" refers to balloons and airships that ascend by relying on hot air or gases lighter than air (e.g., helium or hydrogen). 2. "Aerosol generator" refers to equipment specifically designed or modified to be suitable for installation on an aircraft, such as nozzles, rotary cage-style nozzles, and similar devices. 3. Item 2B352.h does not control spraying or atomization systems and their components that do not release biological agents in an infectious aerosol form. 4. The droplet size formed by spraying devices or nozzles specially designed for aircraft or unmanned aerial vehicles should be measured using Doppler laser methods or pre-installed laser diffraction methods. Complete spraying or atomization systems that can later be installed on lighter-than-air aircraft or unmanned aerial vehicles and can disperse dry powder particles at a flow rate greater than 2 L per minute into initial droplets with a volume median diameter (VMD) of less than 50 μm.

Reference Commodity Name

Complete spray or mist system

Original Chinese source p. 89

No.	Control Code	HS Code(s)	Unit
614	2B352.h.2	-	piece

Item Name and Description

2. Aerosol generator nozzles or multi-head spray assemblies that are specially designed or modified and can be installed on the aircraft controlled under item 2B352.h.1, capable of dispersing dry powder particles at a flow rate greater than 2 L per minute into initial droplets with a volume median diameter (VMD) of less than 50 μm;

Reference Commodity Name

Nozzle or multi-head spray assembly

Original Chinese source p. 89

No.	Control Code	HS Code(s)	Unit
615	2B352.h.3	-	piece

Item Name and Description

3. Aerosol generators specifically designed for installation on standard equipment that complies with the requirements of items 2B352.h.1 and 2B352.h.2;

Reference Commodity Name

aerosol generator

Original Chinese source p. 89

No.	Control Code	HS Code(s)	Unit
616	2B352.i.1	-	unit

Item Name and Description

i. Equipment used for the preparation of active microorganisms and toxin microcapsules with particle diameters of 1–10 μm, including but not limited to: 1. interfacial type polyaggregation device;

Reference Commodity Name

Interface type multiagglomerator

Original Chinese source p. 89

No.	Control Code	HS Code(s)	Unit
617	2B352.i.2	-	unit

Item Name and Description

2. phase separator;

Reference Commodity Name

phase separator

Original Chinese source p. 89

No.	Control Code	HS Code(s)	Unit
618	2B352.j	9406900020 8414609015 8414809055	-

Item Name and Description

j. Can be used in biosafety level three or four protective facilities, conventional or turbulent cleanrooms, with fan-equipped high-efficiency particulate air (HEPA) units.

Reference Commodity Name

High-efficiency particulate air filter (HEPA) unit

Original Chinese source pp. 89-90

No.	Control Code	HS Code(s)	Unit
619	2B901	8479899956	units/kg

Item Name and Description

Having any of the following characteristics, specially designed or manufactured: a. Cylinder diameter dimension greater than or equal to 500mm; b. Six-side press equipment with X/Y/Z three-axis six-surface simultaneous pressing function; c. Designed to use a pressure greater than or equal to 5GPa.

Reference Commodity Name

Six-sided top press equipment

2C Material

Original Chinese source p. 90

No.	Control Code	HS Code(s)	Unit
620	2C901.a	7104911010	-

Item Name and Description

Diamond window material: a. Curved diamond window material;

Reference Commodity Name

Curved diamond window material

Original Chinese source p. 90

No.	Control Code	HS Code(s)	Unit
621	2C901.b	7104911010	g

Item Name and Description

b. Flat diamond window materials with all of the following characteristics: 1. Single crystal or polycrystalline with a diameter greater than or equal to 3 inches; 2. Visible light transmittance greater than or equal to 65%.

Reference Commodity Name

Flat Diamond Window Material

2D software

Original Chinese source p. 90

No.	Control Code	HS Code(s)	Unit
622	2D101	-	-

Item Name and Description

Software specially designed for items controlled under 2B117.

Reference Commodity Name

Pyrolytic deposition and densification process software

Original Chinese source p. 90

No.	Control Code	HS Code(s)	Unit
623	2D201	-	-

Item Name and Description

Software specifically designed or modified for the use of equipment controlled under items 2B204, 2B206, 2B207, 2B209, 2B210.a, 2B210.b, 2B210.d, 2B210.e, 2B219, and 2B227. Explanation: Software specifically designed or modified for systems controlled under item 2B206.d, including software used for simultaneously measuring wall thickness and profile.

Reference Commodity Name

Software specially designed or modified for the use of equipment controlled under 2B204, 2B206, 2B207, 2B209, 2B210.a, 2B210.b, 2B210.d, 2B210.e, 2B219, 2B227

Original Chinese source p. 90

No.	Control Code	HS Code(s)	Unit
624	2D202	-	-

Item Name and Description

Software specially designed or modified for the development, production, or use of equipment controlled under item 2B201. Explanation: Item 2D202 is not controlled, even if it generates 'CNC' command codes, as it cannot be directly applied to equipment for programming components to process various parts.

Reference Commodity Name

Software specially designed or improved for the research, production, or use of machine tools

Original Chinese source p. 90

No.	Control Code	HS Code(s)	Unit
625	2D203	-	-

Item Name and Description

Any combination used in electronic devices or systems to serve as a machine tool 'CNC' unit, that is, software capable of controlling five or more interpolated axes to coordinate 'contouring control'. Explanation: 1. Software is controlled whether it is a standalone product or installed in a 'CNC' unit or any electronic device or system. 2. Item 2D203 does not control software specially designed or modified by control unit or machine tool manufacturers for operating machine tools not controlled by item 2B201.

Reference Commodity Name

Machine tool CNC software

2E technology

Original Chinese source p. 91

No.	Control Code	HS Code(s)	Unit
626	2E201	-	-

Item Name and Description

Technology for the research, development, production, or use of items controlled under 2A225, 2A226, 2B201, 2B204, 2B206, 2B207, 2B209, 2B210, 2B219, 2B225, 2B226, 2B227, 2B228, 2B230, 2B231, 2B232, 2B233, 2D201, 2D202, and 2D203.

Reference Commodity Name

Technology for the research, development, production, or use of items controlled under 2A225, 2A226, 2B201, 2B204, 2B206, 2B207, 2B209, 2B210, 2B219, 2B225, 2B226, 2B227, 2B228, 2B230, 2B231, 2B232, 2B233, 2D201, 2D202, 2D203

Original Chinese source p. 91

No.	Control Code	HS Code(s)	Unit
627	2E301	-	-

Item Name and Description

Technology used for the research, development, production, or use of items controlled under 2B352.

Reference Commodity Name

Technology for researching, producing, or using biomaterial processing equipment

Original Chinese source p. 91

No.	Control Code	HS Code(s)	Unit
628	2E302	-	-

Item Name and Description

Technology used for the research, development, production, or use of items controlled under 2B350 and 2B351.

Reference Commodity Name

Technology for the research, development, production, or use of chemical production equipment and monitors

Original Chinese source p. 91

No.	Control Code	HS Code(s)	Unit
629	2E901.a	-	-

Item Name and Description

The following technology: a. Technology used for producing six-sided top-pressing machine equipment;

Reference Commodity Name

Technology for producing six-sided top press equipment

Original Chinese source p. 91

No.	Control Code	HS Code(s)	Unit
630	2E901.b	-	-

Item Name and Description

b. The process technology for synthesizing single-crystal artificial diamond or single-crystal cubic boron nitride using a six-sided press.

Reference Commodity Name

Technology for synthesizing single-crystal synthetic diamond or single-crystal cubic boron nitride

(3) Electronics

3A Systems, Equipment and Components

Original Chinese source p. 92

No.	Control Code	HS Code(s)	Unit
631	3A101	8543709930	units/kg

Item Name and Description

Analog-to-digital converters with any of the following characteristics: a. Continuous operation in the temperature range of -54 to 125°C; b. Specifically designed to meet military specifications for hardened equipment; c. Specifically designed or modified for military use, or designed to be radiation-hardened, and having any of the following characteristics: 1. Conversion rate exceeding 200,000 complete conversions per second at rated 'accuracy'; 2. 'Accuracy' exceeding 1/10,000 of full scale within the specified operating temperature range; 3. Quality factor of 1×10^8 or higher (number of conversions per second divided by 'accuracy'); 4. Containing analog-to-digital converter microcircuits with both of the following characteristics: a. Maximum conversion time at full resolution less than 20 μs; b. Rated nonlinearity exceeding 0.025% of full scale within the specified operating temperature range.

Reference Commodity Name

A/D converter

Original Chinese source p. 92

No.	Control Code	HS Code(s)	Unit
632	3A201.a.1	-	thousand pieces/unit

Item Name and Description

Capacitors, electromagnets, and accelerators: a. Pulsed discharge capacitors with any of the following sets of characteristics: 1. Rated voltage greater than 1.4 kV, energy storage greater than 10 J, capacitance greater than 0.5 μF, and series inductance less than 50 nH;

Reference Commodity Name

Pulse discharge capacitor with the characteristics listed in 3A201.a.1

Original Chinese source p. 92

No.	Control Code	HS Code(s)	Unit
633	3A201.a.2	-	thousand pieces/unit

Item Name and Description

2. Rated voltage greater than 750 V, capacitance greater than 0.25 μF, and series inductance less than 10 nH;

Reference Commodity Name

Pulse discharge capacitor with the characteristics listed in 3A201.a.2

Original Chinese source pp. 92-93

No.	Control Code	HS Code(s)	Unit
634	3A201.b	8505909010	pieces/kg

Item Name and Description

b. Superconducting solenoid electromagnets with all of the following characteristics: 1. Capable of generating a magnetic field exceeding 2T; 2. Aspect ratio (i.e., length divided by inner diameter) exceeding 2; 3. Inner diameter exceeding 300 mm; 4. Magnetic field uniformity better than 1% over 50% of the internal central space; Note: Item 3A201.b does not control magnets specially designed for and exported as parts of medical nuclear magnetic resonance imaging (NMR) systems. The term 'as parts of the system' does not necessarily refer to components shipped in the same batch; as long as the relevant export documents indicate this relationship as system components, such components may also be shipped separately from different sources.

Reference Commodity Name

superconducting spiral electromagnet

Original Chinese source p. 93

No.	Control Code	HS Code(s)	Unit
635	3A201.c.1	9022909020 8543100010	pieces/kg, units/kg

Item Name and Description

c. X-ray generators or pulsed electron accelerators that have any of the following sets of characteristics: Explanation: Item 3A201.c does not control the following accelerators: 1. Accelerators that are components of instruments used for purposes other than electron beam or X-ray radiation (e.g., electron microscopes); 2. Accelerators that are components of medical devices. Technical explanation: 1. The quality factor K is defined as K = 1.7 × 10^3 V^2.65 Q. V is the peak electron energy (unit: MeV), and if the accelerator's electron beam pulse width is less than or equal to 1 μs, Q is the total accelerated charge (unit: Coulombs); if the accelerator's electron beam pulse width is greater than 1 μs, then Q is the maximum accelerated charge within 1 μs. Q equals the integral of current i over time t, with the time interval being 1 μs or the electron beam pulse width, whichever is smaller (Q = 1). The accelerator has a peak electron energy greater than or equal to 500 KeV and less than 25 MeV, with a quality factor (K) greater than or equal to 0.25.

Reference Commodity Name

Flashing X-ray generators or pulsed electron accelerators with the characteristics listed in 3A201.c.1

Original Chinese source pp. 93-94

No.	Control Code	HS Code(s)	Unit
636	3A201.c.2	9022909020 8543100010	-

Item Name and Description

2. The peak electron energy of the accelerator is greater than or equal to 25 MeV, and the peak power is greater than 50 MW. ∫idt), in the formula, i is the electron beam current (unit: A), t is time (unit: s). 2. Peak power = peak voltage (unit: V) × electron beam peak current (unit: A). 3. Electron beam pulse width: In accelerators using microwave accelerating cavities, the electron beam pulse width is 1 μs or the duration of the beam pulse produced by one pulse of the microwave modulator, whichever is smaller. 4. Electron beam peak current: In accelerators using microwave accelerating cavities, the electron beam peak current is the average current during the duration of the beam pulse.

Reference Commodity Name

X-ray generator or pulsed electron accelerator with the characteristics listed in 3A201.c.2

Original Chinese source pp. 94-95

No.	Control Code	HS Code(s)	Unit
637	3A225	8504403010 8504409940 8501610010	pieces/kg, units/kg

Item Name and Description

Frequency converters or generators that have all the following characteristics and can be used as variable frequency or fixed frequency motor drive devices:

Note 1: Frequency converters and generators specially designed or equipped for gas centrifugal processes are controlled in accordance with the "Nuclear Export Control List of the People's Republic of China."

Note 2: Software specially designed to enhance or utilize the performance of a frequency changer or generator to meet the following characteristics is controlled under items 3D224 and 3D225.

a. Provides multiphase output of 40 VA or higher;
b. Operates in a frequency range equal to or greater than 600 Hz;
c. Frequency control better than 0.2%.

Explanations:
1. If a frequency converter for specific industrial machinery or consumer products (machine tools, vehicles, etc.) meets the above characteristics and can be dismantled and repurposed, it shall be controlled under item 3A225.
2. The determination of whether a frequency converter meets the above characteristics should take both hardware and software into comprehensive consideration.

Technical Notes:
1. Frequency converters controlled under item 3A225 are also commonly referred to as inverters.
2. Other equipment on the market may also meet the characteristics described in item 3A225, such as generators, electronic test equipment, AC power supplies, variable speed motor drive devices, variable speed drive devices (VSD), variable frequency drive devices (VFD), adjustable frequency drive devices (AFD), or adjustable speed drive devices (ASD).

Reference Commodity Name

frequency converter or generator

Original Chinese source p. 95

No.	Control Code	HS Code(s)	Unit
638	3A226	8504401920	pieces/kg

Item Name and Description

High-power DC power supplies with the following two characteristics: a. Capable of continuously generating a voltage of 100V or higher within 8 hours, while the output current is greater than or equal to 500A; b. Current or voltage stability better than 0.1% within 8 hours.

Reference Commodity Name

High power DC power supply

Original Chinese source p. 95

No.	Control Code	HS Code(s)	Unit
639	3A227	8504401930	pieces/kg

Item Name and Description

High-voltage DC power supply with the following two characteristics: a. Capable of continuously generating a voltage of 20 kV or higher within 8 hours, while the output current is greater than or equal to 1 A; b. Current or voltage stability better than 0.1% within 8 hours.

Reference Commodity Name

High voltage DC power supply

Original Chinese source p. 95

No.	Control Code	HS Code(s)	Unit
640	3A228.a	-	piece

Item Name and Description

Switching device: a. Having all of the following characteristics, its function is similar to that of a cold-cathode tube of a spark gap, whether or not it is filled with gas: 1. Contains 3 or more electrodes; 2. Anode peak rated voltage greater than or equal to 2.5 kV; 3. Anode peak rated current greater than or equal to 100A; 4. Anode delay time less than or equal to 10 μs; Note: 3A228.a covers controlled gas arc discharge tubes and vacuum electrostatic spray tubes.

Reference Commodity Name

Switching device for cold cathode tubes that acts like a spark gap

Original Chinese source p. 95

No.	Control Code	HS Code(s)	Unit
641	3A228.b	8535900010	kg

Item Name and Description

b. Trigger-type spark gaps with the following two characteristics: 1. Anode delay time less than or equal to 15 μs; 2. Anode peak rated current greater than or equal to 500 A;

Reference Commodity Name

triggered spark gap

Original Chinese source p. 95

No.	Control Code	HS Code(s)	Unit
642	3A228.c	8535900020	kg

Item Name and Description

c. Module or component with all of the following characteristics and capable of fast switching: 1. Anode peak rated voltage higher than 2 kV; 2. Anode peak rated current greater than or equal to 500 A; 3. Turn-on time less than or equal to 1 μs.

Reference Commodity Name

Modules or components with fast switching function

Original Chinese source p. 95

No.	Control Code	HS Code(s)	Unit
643	3A229.a	3603500010	kg

Item Name and Description

Ignition devices and equivalent high-current pulse generators: Description: Optical-driven ignition devices are controlled using laser detonation and laser charging devices. Explosive-driven ignition devices control types of explosive ferroelectric and explosive ferromagnetic ignition devices. Item 3A229.b controls xenon flash lamp drivers. a. Ignition devices for detonators regulated under multiple 3A232 items, including explosive primers (detonation systems, ignition devices), covering electrical, explosive-driven, and optically driven ignition devices;

Reference Commodity Name

Explosive detonator ignition device for detonators

Original Chinese source p. 95

No.	Control Code	HS Code(s)	Unit
644	3A229.b	8504409960	pieces/kg

Item Name and Description

b. Modular pulse generator (pulse source) with all of the following characteristics: 1. Designed to be portable, movable, or rugged; 2. Capable of delivering energy to a load of less than 40Ω in under 15 μs; 3. Output current greater than 100A; 4. Any dimension not exceeding 30 cm; 5. Weight less than 30 kg; 6. Specifically for a wide temperature range (-50 to 100 □), or specifically for space applications;

Reference Commodity Name

Modular electrical pulse generator

Original Chinese source pp. 95-96

No.	Control Code	HS Code(s)	Unit
645	3A229.c	-	piece

Item Name and Description

c. Micro ignition devices with all of the following characteristics: 1. Any dimension does not exceed 35mm; 2. Rated voltage greater than or equal to 1kV; 3. Capacitance greater than or equal to 100nF.

Reference Commodity Name

micro ignition device

Original Chinese source p. 96

No.	Control Code	HS Code(s)	Unit
646	3A230	8543209010	units/kg

Item Name and Description

A high-speed pulse generator and its "pulse head" with the following two characteristics: a. Output voltage greater than 6V on a load resistance of less than 55Ω; b. "Pulse transition time" less than 500ps. Technical description: 1. In section 3A230.b, "pulse transition time" refers to the time interval during which the voltage amplitude rises from 10% to 90%. 2. The "pulse head" refers to a pulse forming network designed to accept a voltage step function and shape it into various pulse forms, including rectangular pulses, triangular pulses, step pulses, impulse pulses, exponential pulses, or single-cycle pulses. The "pulse head" can be an integral part of the pulse generator, a plug-in module of the device, or an externally connected device.

Reference Commodity Name

High-speed pulse generator and its pulse head

Original Chinese source p. 96

No.	Control Code	HS Code(s)	Unit
647	3A231	8543100020	units/kg

Item Name and Description

Neutron generator systems (including neutron tubes) with the following two characteristics: a. Designed to operate without an external vacuum system; b. Use electrostatic acceleration to induce any of the following nuclear reactions: 1. Tritium-deuterium nuclear reaction; 2. Deuterium-deuterium nuclear reaction, and capable of producing 3×10^9 neutrons or more.

Reference Commodity Name

neutron generator system

Original Chinese source p. 96

No.	Control Code	HS Code(s)	Unit
648	3A232.a.1	3603600010	kg

Item Name and Description

Detonators and Multipoint Initiation Systems: Description: Item 3A232 is uncontrolled and only uses detonators with explosive primers (e.g., lead azide). Technical description: The detonators controlled under item 3A232 all use a small conductor (e.g., bridge, bridge wire, or foil) that explodes and vaporizes when a short-rise high-current electrical pulse passes through it. In non-slapper detonators, the exploding conductor initiates a chemical detonation in the adjacent high-energy explosive, such as PETN (pentaerythritol tetranitrate). In slapper detonators, the explosive vapor from the conductor drives a flyer or slapper across a gap to strike the explosive. a. Electrically initiated explosive detonators: 1. Exploding bridge (EB);

Reference Commodity Name

exploding bridge

Original Chinese source p. 96

No.	Control Code	HS Code(s)	Unit
649	3A232.a.2	3603600010	kg

Item Name and Description

2□ Explosive Bridge Wire (EBW);

Reference Commodity Name

Explosive bridge wire

Original Chinese source p. 96

No.	Control Code	HS Code(s)	Unit
650	3A232.a.3	3603600010	kg

Item Name and Description

3. impact film;

Reference Commodity Name

impact film

Original Chinese source p. 96

No.	Control Code	HS Code(s)	Unit
651	3A232.a.4	3603600010	kg

Item Name and Description

4. Explosive Foil Initiator (EFI);

Reference Commodity Name

Explosive foil detonator

Original Chinese source pp. 96-97

No.	Control Code	HS Code(s)	Unit
652	3A232.b	3603400010	kg

Item Name and Description

b. A device using a single or multiple detonators, designed to detonate an explosive surface almost simultaneously from a single ignition signal (the time for the signal to spread across the explosive surface to initiation is less than 2.5 μs), with the surface area exceeding 5000 mm², thereby causing a chemical detonation. In some designs, the flyer plate is driven by magnetic force. The term "exploding foil detonator" can refer to a detonating bridge detonator or a flyer-type detonator. Initiators are sometimes also used in place of detonators.

Reference Commodity Name

Devices using single or multiple detonators

Original Chinese source p. 97

No.	Control Code	HS Code(s)	Unit
653	3A233.a	9027819020 8543709940	units/kg

Item Name and Description

Mass spectrometers and ion sources capable of measuring ions of not less than 230 u and having a resolution higher than 2/230: Note: Mass spectrometers specifically designed or manufactured for analyzing online samples of uranium hexafluoride are controlled in accordance with the "Nuclear Export Control List of the People's Republic of China." a. Inductively Coupled Plasma Mass Spectrometer (ICP/MS);

Reference Commodity Name

Inductively coupled plasma mass spectrometer

Original Chinese source p. 97

No.	Control Code	HS Code(s)	Unit
654	3A233.b	9027819020 8543709940	units/kg

Item Name and Description

b. Glow discharge mass spectrometer (GDMS);

Reference Commodity Name

glow discharge mass spectrometer

Original Chinese source p. 97

No.	Control Code	HS Code(s)	Unit
655	3A233.c	9027819020 8543709940	units/kg

Item Name and Description

c. Thermal ionization mass spectrometer (TIMS);

Reference Commodity Name

thermal ionization mass spectrometer

Original Chinese source p. 97

No.	Control Code	HS Code(s)	Unit
656	3A233.d	9027819020 8543709940	units/kg

Item Name and Description

d. Electron impact mass spectrometer with the following two characteristics: 1. Molecular beam inlet system that injects a collimated beam of analyte molecules into the ion source region where the molecules are ionized by an electron beam; 2. Capable of cooling to -80 □ or lower to capture one or more 'cold traps' for analyte molecules not ionized by the electron beam. Technical notes: 1. The electron impact mass spectrometer regulated under 3A233.d is typically used for isotopic analysis of uranium hexafluoride gas samples. 2. The electron impact mass spectrometer regulated under 3A233.d is also called an electron impact mass spectrometer or an electron ionization mass spectrometer. 3. In 3A233.d.2, a 'cold trap' is a device that captures gas molecules by condensing or freezing them on a cold surface. For this item, a closed-cycle gaseous helium cryopump is not considered a 'cold trap'.

Reference Commodity Name

electron impact mass spectrometer

Original Chinese source p. 97

No.	Control Code	HS Code(s)	Unit
657	3A233.e	9027819020 8543709940	units/kg

Item Name and Description

e. A mass spectrometer designed for actinide elements or actinide fluorides, equipped with a trace fluoride ion source.

Reference Commodity Name

Mass spectrometer equipped with trace fluoride ion source

Original Chinese source p. 97

No.	Control Code	HS Code(s)	Unit
658	3A234	-	-

Item Name and Description

Stripline with the following two characteristics, providing a low-inductance path for detonators: a. Rated voltage greater than 2kV; b. Inductance less than 20nH.

Reference Commodity Name

Stripline providing a low inductance path to the detonator

3C material

Original Chinese source p. 97

No.	Control Code	HS Code(s)	Unit
659	3C001.a	8112929010 8112929090 8112999000	kg

Item Name and Description

Gallium related items: a. Metal gallium (element);

Reference Commodity Name

Gallium metal

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
660	3C001.b	2850001901 3818009020 3825690020 8541410010	kg or pieces/kg

Item Name and Description

b. Gallium nitride (including but not limited to wafers, powders, fragments, and other forms);

Reference Commodity Name

gallium nitride

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
661	3C001.c	2825909001 3818009020 3825690020	kg

Item Name and Description

c. Gallium oxide (including but not limited to polycrystalline, single crystal, wafers, epitaxial wafers, powder, fragments, and other forms);

Reference Commodity Name

gallium oxide

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
662	3C001.d	2853904050 3818009020 3825690020	kg

Item Name and Description

d. Gallium phosphide (including but not limited to polycrystalline, single crystal, wafers, epitaxial wafers, and other forms);

Reference Commodity Name

Gallium Phosphide

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
663	3C001.e	2853909040 3818009020 3825690020	kg

Item Name and Description

e. Gallium arsenide (including but not limited to polycrystalline, single-crystal, wafers, epitaxial wafers, powders, fragments, and other forms);

Reference Commodity Name

gallium arsenide

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
664	3C001.f	2853909040 3818009020 3825690020	kg

Item Name and Description

f. Indium gallium arsenic;

Reference Commodity Name

Indium Gallium Arsenic

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
665	3C001.g	2842909024 3818009020 3825690020	kg

Item Name and Description

g. Gallium selenide (including but not limited to polycrystalline, single crystal, wafers, epitaxial wafers, powders, fragments, and other forms);

Reference Commodity Name

gallium selenide

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
666	3C001.h	2853909040 3818009020 3825690020	kg

Item Name and Description

h. Gallium antimonide (including but not limited to forms such as polycrystalline, single crystal, wafers, epitaxial wafers, powders, scraps, etc.).

Reference Commodity Name

Gallium Antimonide

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
667	3C002.a	8112921010 8112921090 8112991000 9001909070 9002201010 9002209010	kg or kg/piece

Item Name and Description

Germanium-related items: a. Metallic germanium (elemental form, including but not limited to crystals, powders, fragments, and other forms);

Reference Commodity Name

Metal germanium

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
668	3C002.b	8112921090	kg

Item Name and Description

b. Zone melted germanium ingot;

Reference Commodity Name

Zone melted germanium ingot

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
669	3C002.c	2853904050 3818009020 3825690020	kg

Item Name and Description

c. Phosphorus, germanium, and zinc (including but not limited to forms such as crystals, powders, fragments, etc.);

Reference Commodity Name

Phosphorus germanium zinc

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
670	3C002.d	8112921090	kg

Item Name and Description

d. Germanium epitaxial growth “substrate”;

Reference Commodity Name

Germanium epitaxial growth substrate

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
671	3C002.e	2825600001 3818009020 3825690020	kg

Item Name and Description

e. germanium dioxide;

Reference Commodity Name

germanium dioxide

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
672	3C002.f	2827399001 3818009020 3825690020	kg

Item Name and Description

f. Germanium tetrachloride.

Reference Commodity Name

Germanium tetrachloride

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
673	3C003.a	2617101000 2617109001 2617109090 2830902000	kg

Item Name and Description

Antimony-related items: a. Antimony ore and raw materials (including but not limited to lumps, granules, powders, crystalline forms, etc.);

Reference Commodity Name

Antimony ore and raw materials

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
674	3C003.b	8110101000 8110102000 8110200000 8110900000	kg

Item Name and Description

b. Metallic antimony and its products (including but not limited to ingots, blocks, beads, granules, powders, and other forms);

Reference Commodity Name

Metal antimony and products

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
675	3C003.c	2825800010	kg

Item Name and Description

c. Oxides of antimony with a purity greater than or equal to 99.99% (including but not limited to powder form);

Reference Commodity Name

antimony oxide

Original Chinese source p. 98

No.	Control Code	HS Code(s)	Unit
676	3C003.d	2931900032	kg

Item Name and Description

d. Trimethylantimony, triethylantimony, and other organoantimony compounds with a purity (inorganic element standard) greater than 99.999%;

Reference Commodity Name

Trimethylantimony, triethylantimony and other organic antimony compounds

Original Chinese source p. 99

No.	Control Code	HS Code(s)	Unit
677	3C003.e	2850009020	kg

Item Name and Description

e. Hydrogenides of antimony with a purity greater than 99.999% (including antimony hydrogenides diluted in inert gas or hydrogen);

Reference Commodity Name

Antimony hydride

Original Chinese source p. 99

No.	Control Code	HS Code(s)	Unit
678	3C003.f	2853909031	kg

Item Name and Description

f. Indium antimonide possessing all the following characteristics (including but not limited to ingots (rods), blocks, wafers, targets, granules, powders, fragments, and other forms): 1. Single crystals with a dislocation density of less than 50/cm²; 2. Polycrystals with a purity greater than 99.99999%.

Reference Commodity Name

Indium Antimonide

Original Chinese source p. 99

No.	Control Code	HS Code(s)	Unit
679	3C004.a	2853904051	-

Item Name and Description

Indium related items: a. Indium phosphide;

Reference Commodity Name

Indium Phosphide

Original Chinese source p. 99

No.	Control Code	HS Code(s)	Unit
680	3C004.b	2931900032	-

Item Name and Description

b. trimethylindium;

Reference Commodity Name

Trimethylindium

Original Chinese source p. 99

No.	Control Code	HS Code(s)	Unit
681	3C004.c	2931900032	-

Item Name and Description

c. Triethylindium.

Reference Commodity Name

Triethylindium

3D software

Original Chinese source p. 99

No.	Control Code	HS Code(s)	Unit
682	3D224	-	-

Item Name and Description

Software or encryption keys/codes specifically designed to enhance or exploit the performance characteristics of items not controlled by 3A225, so that they meet or exceed the characteristics controlled by 3A225.

Reference Commodity Name

Software or encrypted keys/codes specifically designed to enhance or exploit the performance characteristics of non-controlled items, so that they meet or exceed the controlled characteristics of frequency converters or generators

Original Chinese source p. 99

No.	Control Code	HS Code(s)	Unit
683	3D225	-	-

Item Name and Description

Software specifically designed to enhance or utilize the performance characteristics of items controlled under 3A225.

Reference Commodity Name

Software specifically designed to enhance or utilize the performance characteristics of items controlled by a frequency converter or generator

3E technology

Original Chinese source p. 99

No.	Control Code	HS Code(s)	Unit
684	3E003	-	-

Item Name and Description

Gold and antimony smelting and separation technology.

Reference Commodity Name

Gold and Antimony Smelting and Separation Technology

Original Chinese source p. 99

No.	Control Code	HS Code(s)	Unit
685	3E004	-	-

Item Name and Description

Technology and data for the production of item 3C004 (including process specifications, process parameters, machining procedures, etc.).

Reference Commodity Name

Production technology and data of indium related items

Original Chinese source pp. 99-100

No.	Control Code	HS Code(s)	Unit
686	3E201	-	-

Item Name and Description

Technology for the research, development, production, or use of items controlled under 3A201, 3A225, 3A226, 3A227, 3A228, 3A229, 3A230, 3A231, 3A232, 3A233, 3A234, 3D224, and 3D225.

Reference Commodity Name

The technology for developing, producing, or using controlled items 3A201, 3A225, 3A226, 3A227, 3A228, 3A229, 3A230, 3A231, 3A232, 3A233, 3A234, 3D224, and 3D225.

(4) Computer

4A Systems, Equipment and Components

Original Chinese source p. 101

No.	Control Code	HS Code(s)	Unit
687	4A003.a	8471411010 8471491010 8471501010	-

Item Name and Description

High-performance 'digital computers', electronic components and related equipment: Technical Description: The Adjusted Peak Performance (APP) refers to the adjusted peak speed at which a 'digital computer' performs 64-bit or higher floating-point addition and multiplication operations. Abbreviations involved in this technical description: n Number of processors in the 'digital computer' I Processor number (1, ..., n) t Processor clock cycle (t=1/F) i i F Processor frequency i R Peak floating-point operation speed W Architecture i Adjustment factor APP is expressed in Weighted TeraFLOPS (WT), in units of 10^12 adjusted floating-point operations per second. The calculation method of APP is as follows: 1. Determine the number of peak floating-point operations of 64-bit or higher executed by each processor i in the 'digital computer' per clock cycle. a. A 'digital computer' with an 'Adjusted Peak Performance (APP)' greater than 8.0 Weighted TeraFLOPS.

Reference Commodity Name

digital computer

Original Chinese source p. 101

No.	Control Code	HS Code(s)	Unit
688	4A003.b	-	-

Item Name and Description

b. 'Electronic components' specifically designed or modified to enhance performance, which use processor aggregation to make the 'adjusted peak performance (APP)' greater than 8.0 weighted teraFLOPS.

Reference Commodity Name

Electronic components specially designed or modified to enhance performance

Original Chinese source pp. 101-104

No.	Control Code	HS Code(s)	Unit
689	4A003.c	8517623710 8517623910	-

Item Name and Description

c. External interconnection devices specifically designed to aggregate the performance of 'digital computers,' with a single-link unidirectional communication rate exceeding 2.0 Gbyte/s, but not suitable for internal interconnection devices (such as backplanes, buses), passive interconnection devices, network access controllers, or communication channel controllers. (FPO).
i Explanation: When determining FPO, only include floating-point addition and floating-point multiplication operations of 64 bits or more. All floating-point operations must be expressed as the number of operations executed per processor clock cycle; operations requiring multiple clock cycles can be expressed as a fractional value of operations per clock cycle. For processors that cannot perform floating-point operations with 64 or more bits operands, the effective floating-point operation speed R is 0.
2. Calculate the floating-point operation speed R for each processor, R = FPO / t_i
i 3. Calculate APP, APP = W × R_1 + W × R_2 + … + W × R_n
i 4. For 'vector processors,' W = 0.9; for non-'vector processors,' W = 0.3
i Explanation 1: For processors capable of completing composite operations within a single clock cycle, such as performing addition and multiplication simultaneously, all executed operations are counted.
Explanation 2: For pipelined processors, the effective floating-point operation speed R is taken as the full pipeline speed, or the higher value of the non-pipeline speed.
Explanation 3: Before calculating APP, the operation speed R of each processor participating in the computation should be calculated according to its maximum possible theoretical value. If the computer manufacturer claims in manuals or documentation that the computer can perform concurrent, parallel, simultaneous operations, or runs, the simultaneous operation factor must be considered when calculating R.
Explanation 4: When calculating APP, processors responsible only for input/output and external device functions (such as disk drives, communication, and video display) should not be considered.
Explanation 5: The value of APP should not consider processors connected through 'local area networks,' wide area networks, I/O shared connections or shared devices, I/O controllers, or any software-implemented communication interconnection processor combinations.
Explanation 6: The APP value calculation must include processor combinations specifically designed to enhance system performance through aggregation, simultaneous operation, and shared memory.
Technical notes: 1. Aggregate all simultaneously running processors and accelerators on the same chip; 2. Processor combinations with a shared memory approach allow any processor to access any memory address in the system via hardware transfer of cache blocks or storage words without any software mechanism. This method can be obtained through the 'electronic components' regulated under 4A003.b. Note 7: A 'vector processor' is defined as a processor with built-in vector instructions that can perform multiple floating-point vector (one-dimensional arrays of 64 bits or more) operations simultaneously, and the processor contains at least 2 vector functional units and at least 8 vector registers, each vector register containing at least 64 data elements.

Reference Commodity Name

External interconnection devices specifically designed to aggregate the performance of 'digital computers'

Original Chinese source p. 104

No.	Control Code	HS Code(s)	Unit
690	4A101	-	unit

Item Name and Description

Analog computing devices and digital computing devices with any of the following characteristics: a. An ambient temperature range of -45 to 55°C during continuous operation; b. Reinforced or 'radiation-hardened'.

Reference Commodity Name

Analog computing device, digital computing device

Original Chinese source p. 104

No.	Control Code	HS Code(s)	Unit
691	4A102	-	unit

Item Name and Description

A hybrid (analog/digital combined) computer specifically designed for modeling, simulation, or overall design of missile and rocket systems.

Reference Commodity Name

Hybrid (Analog/Digital Combination) Computer

4D software

Original Chinese source p. 104

No.	Control Code	HS Code(s)	Unit
692	4D102	-	-

Item Name and Description

Software specifically designed for modeling, simulation, or overall design of missile and rocket systems.

Reference Commodity Name

Software specifically designed for modeling, simulation, or overall design of missile and rocket systems

(5) Telecommunications and information security

Category 5 Part 1 Telecommunications

5A1 Systems, equipment and components

Original Chinese source p. 105

No.	Control Code	HS Code(s)	Unit
693	5A101	-	unit

Item Name and Description

Telemetry equipment, and telemetry or remotely controlled ground equipment.

Reference Commodity Name

Telemetry equipment, and telemetry or remotely controlled ground equipment

5E1 Technology

Original Chinese source p. 105

No.	Control Code	HS Code(s)	Unit
694	5E101	-	-

Item Name and Description

Technology for the development, production, or use of items controlled under 5A101.

Reference Commodity Name

Technology used in the development, production or use of telemetry equipment

Category 5 Part 2 Information Security

5A2 Systems, equipment and components

Original Chinese source p. 105

No.	Control Code	HS Code(s)	Unit
695	5A002.a.1	8542311910 8542319010	pieces/kg

Item Name and Description

Information security systems, devices, and their components: a. Integrated circuit chips (security chips) that partially or fully implement functions such as cryptographic operations, key management, and random number generation and have any of the following characteristics: 1. Contain symmetric encryption algorithms with a key length of over 64 bits for fields such as electricity, taxation, public security, and finance; asymmetric encryption algorithms based on integer factorization with a key length of over 768 bits; or asymmetric encryption algorithms based on elliptic curves with a key length of over 128 bits.

Reference Commodity Name

Application specific integrated circuit chip (security chip)

Original Chinese source p. 105

No.	Control Code	HS Code(s)	Unit
696	5A002.a.2	8542311910 8542319010	pieces/kg

Item Name and Description

2. Symmetric cryptographic algorithms with key lengths of more than 64 bits, asymmetric cryptographic algorithms based on integer factorization with key lengths of more than 768 bits, or asymmetric cryptographic algorithms based on elliptic curves with key lengths of more than 128 bits, and symmetric algorithms with encryption and decryption rates of over 10 Gbps or asymmetric algorithms with signature rates of over 50,000 tps.

Reference Commodity Name

Integrated circuit chip (security chip)

Original Chinese source p. 106

No.	Control Code	HS Code(s)	Unit
697	5A002.b	8543709950	units/kg

Item Name and Description

b. A device (cryptographic machine, cryptographic card) that has the following two characteristics and primarily performs cryptographic operations: 1. Symmetric encryption algorithms with key lengths of more than 64 bits, asymmetric encryption algorithms based on integer factorization with key lengths of more than 768 bits, or asymmetric encryption algorithms based on elliptic curves with key lengths of more than 128 bits; 2. Symmetric encryption algorithm encryption/decryption speed of more than 10 Gbps, or asymmetric encryption algorithm signature speed of more than 50,000 tps;

Reference Commodity Name

Password machine, password card

Original Chinese source p. 106

No.	Control Code	HS Code(s)	Unit
698	5A002.c	8517622920 8517623920	units/kg

Item Name and Description

c. Devices primarily functioning as IPSec/SSL VPNs (encrypted VPN devices) have the following two characteristics: 1. Symmetric encryption algorithms with key lengths above 64 bits, asymmetric encryption algorithms based on integer factorization with key lengths above 768 bits, or asymmetric encryption algorithms based on elliptic curves with key lengths above 128 bits; 2. Encryption communication speed above 10 Gbps;

Reference Commodity Name

Encrypted VPN device

Original Chinese source p. 106

No.	Control Code	HS Code(s)	Unit
699	5A002.d	8543709950	units/kg

Item Name and Description

d. Having the following two characteristics, a server device or system used for functions such as the generation, distribution, and storage of symmetric or asymmetric keys (key management product): 1. Contains symmetric encryption algorithms with key lengths of more than 64 bits, asymmetric encryption algorithms based on integer factorization with key lengths of more than 768 bits, or asymmetric encryption algorithms based on elliptic curves with key lengths of more than 128 bits; 2. Supports more than 10,000 managed objects.

Reference Commodity Name

Key management products

Original Chinese source p. 106

No.	Control Code	HS Code(s)	Unit
700	5A002.e	-	-

Item Name and Description

e. Devices (specialized cryptographic devices) that contain symmetric encryption algorithms with key lengths of 64 bits or more specifically used for fields such as electricity, taxation, public security, and finance, asymmetric encryption algorithms based on integer factorization with key lengths of 768 bits or more, or asymmetric encryption algorithms based on elliptic curves with key lengths of 128 bits or more.

Reference Commodity Name

Dedicated cryptographic equipment

Original Chinese source p. 106

No.	Control Code	HS Code(s)	Unit
701	5A002.f	-	-

Item Name and Description

f. Devices that realize cryptographic functions using quantum technology based on quantum mechanics and cryptography (quantum cryptographic devices).

Reference Commodity Name

Quantum cryptography device

Original Chinese source p. 106

No.	Control Code	HS Code(s)	Unit
702	5A004	-	-

Item Name and Description

Analytical devices used to break, weaken, or bypass cryptographic technologies, products, or systems (cryptanalytic devices).

Reference Commodity Name

Cryptanalysis equipment

5B2 Testing, inspection and production equipment

Original Chinese source p. 107

No.	Control Code	HS Code(s)	Unit
703	5B002.a	-	-

Item Name and Description

Information security testing, inspection, and production equipment: a. Equipment specifically designed for the research, development, and production of items controlled under 5A002 and 5A004 (cryptography research and production equipment);

Reference Commodity Name

Cryptocurrency development and production equipment

Original Chinese source p. 107

No.	Control Code	HS Code(s)	Unit
704	5B002.b	-	-

Item Name and Description

b. Equipment specially designed for measuring, testing, evaluating, or verifying items controlled under 5A002 and 5A004 (cryptographic test and verification equipment).

Reference Commodity Name

Password test verification equipment

5D2 software

Original Chinese source p. 107

No.	Control Code	HS Code(s)	Unit
705	5D002	-	-

Item Name and Description

Software specially designed or modified for the development, production, or use of 5A002, 5A004, and 5B002.

Reference Commodity Name

Software specially designed or modified for the development, production, or use of 5A002, 5A004, and 5B002

5E2 Technology

Original Chinese source p. 107

No.	Control Code	HS Code(s)	Unit
706	5E002	-	-

Item Name and Description

Technology specially designed or modified for the development, production, or use of 5A002, 5A004, 5B002, and 5D002.

Reference Commodity Name

Technology specially designed or modified for the development, production, or use of 5A002, 5A004, 5B002, and 5D002

(6) Sensors and lasers

6A Systems, equipment and components

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
707	6A102.a	-	unit

Item Name and Description

Devices that can be used to protect re-entry vehicles from damage caused by the combined effects of electromagnetic pulses, X-rays, shock waves, and thermal radiation: a. "Radiation-hardened" microcircuits and detectors;

Reference Commodity Name

Microcircuits and detectors

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
708	6A102.b	-	unit

Item Name and Description

b. Reinforced structure used to withstand a thermal shock of not less than 418 J/cm² and a shock wave with overpressure of not less than 50 kPa.

Reference Commodity Name

Reinforcement structure

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
709	6A108.a	8526101010 8526109030 8526109040	units/kg

Item Name and Description

Target detection electronic devices and components: Description: Item 6A108 covers uncontrolled target detection electronic devices and components integrated into civil aircraft, general aviation aircraft, and other civilian aircraft. The export control of "unmanned aerial vehicles" and related items, if otherwise specified in this list, shall follow those provisions. a. Radar equipment:

Reference Commodity Name

radar equipment

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
710	6A108.b	9014209017	pieces/kg

Item Name and Description

b. Terrain contour drawing equipment;

Reference Commodity Name

Terrain contour drawing equipment

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
711	6A108.c	9014209018	pieces/kg

Item Name and Description

c. Scene drawing and related equipment (including digital and analog devices);

Reference Commodity Name

Scene drawing and related equipment

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
712	6A108.d	-	pieces/kg

Item Name and Description

d. Imaging sensor equipment;

Reference Commodity Name

Imaging sensor equipment

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
713	6A108.e	-	piece

Item Name and Description

e. Exclude electronic devices and components that conduct heat;

Reference Commodity Name

Exclude electronic devices and components that conduct heat

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
714	6A108.f	-	piece

Item Name and Description

f. “radiation hardened” electronic devices and components;

Reference Commodity Name

Electronic devices and components

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
715	6A108.g	-	piece

Item Name and Description

g. Electronic devices and components capable of reliable short-term operation at temperatures above 125°C;

Reference Commodity Name

Electronic devices and components

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
716	6A108.h	-	piece

Item Name and Description

h. Electronic devices and components with specially designed integral structural supports.

Reference Commodity Name

Electronic devices and components

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
717	6A202	8540890010	pieces/kg

Item Name and Description

Photomultiplier tubes with the following two characteristics: a. photoelectric cathode area greater than 20 cm²; b. anode pulse rise time less than 1 ns.

Reference Commodity Name

photomultiplier tube

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
718	6A203.a.1	-	unit

Item Name and Description

High-speed cameras and imaging devices and their components: Note: Software specifically designed to enhance or utilize the performance of cameras or imaging devices to meet the following characteristics is controlled under items 6D203 and 6D204.
a. The following scanning cameras and parts specially designed for them:
1. Scanning cameras with a recording speed greater than 0.5 mm/μs;

Reference Commodity Name

scanning camera

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
719	6A203.a.2	-	unit

Item Name and Description

2. An electronic scanning camera with a time resolution of less than or equal to 50 ns;

Reference Commodity Name

electronic scanning camera

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
720	6A203.a.3	-	-

Item Name and Description

3. The scanning tube of the camera controlled under item 6A203.a.2;

Reference Commodity Name

camera scan tube

Original Chinese source p. 108

No.	Control Code	HS Code(s)	Unit
721	6A203.a.4	-	-

Item Name and Description

4. Plugins specifically designed for use with scanning cameras with modular structures and performance indicators up to 6A203.a.1 or 6A203.a.2;

Reference Commodity Name

Plug-in specially designed for use with scanning cameras

Original Chinese source p. 109

No.	Control Code	HS Code(s)	Unit
722	6A203.a.5	-	piece

Item Name and Description

5. Electronic synchronization components specifically designed for cameras controlled under item 6A203.a.1, as well as rotating assemblies consisting of turbines, mirrors, and bearings.

Reference Commodity Name

Synchronization electronic components, and rotating components

Original Chinese source p. 109

No.	Control Code	HS Code(s)	Unit
723	6A203.b.1	9006599030	units/kg

Item Name and Description

b. The following framing cameras and components specifically designed for them: 1. Framing cameras with a recording rate greater than 225,000 frames per second.

Reference Commodity Name

Framing camera with a recording rate of more than 225,000 frames per second

Original Chinese source p. 109

No.	Control Code	HS Code(s)	Unit
724	6A203.b.2	9006599030	-

Item Name and Description

2. A framing camera with a frame exposure time less than or equal to 50 ns;

Reference Commodity Name

A framing camera with a frame exposure time of less than or equal to 50 ns

Original Chinese source p. 109

No.	Control Code	HS Code(s)	Unit
725	6A203.b.3	-	-

Item Name and Description

3. Image dissector tubes and solid-state imaging devices specifically designed for cameras controlled under 6A203.b.1 or 6A203.b.2, with a gated (shutter) time of less than or equal to 50 ns;

Reference Commodity Name

Framing tubes and solid-state imaging devices

Original Chinese source p. 109

No.	Control Code	HS Code(s)	Unit
726	6A203.b.4	-	-

Item Name and Description

4. A plugin specifically designed for use with modular structured cameras to meet the performance indicators of 6A203.b.1 or 6A203.b.2;

Reference Commodity Name

Plug-in specially designed for use with framing cameras

Original Chinese source p. 109

No.	Control Code	HS Code(s)	Unit
727	6A203.b.5	-	-

Item Name and Description

5. Synchronous electronic components specially designed for cameras controlled under items 6A203.b.1 or 6A203.b.2, consisting of a rotating assembly made up of a turbine, a mirror, and bearings;

Reference Commodity Name

Synchronization electronic components, and rotating components

Original Chinese source p. 109

No.	Control Code	HS Code(s)	Unit
728	6A203.c.1	-	-

Item Name and Description

c. The following solid-state or tube cameras and components specifically designed for them: Technical description: High-speed single-frame cameras can be used alone to produce a single image of a dynamic event, or several such cameras can be combined with a sequential triggering system to produce multiple images of an event. 1. Solid-state or tube cameras with a gated (shutter) time of less than or equal to 50 ns;

Reference Commodity Name

Solid state camera or tube camera

Original Chinese source p. 109

No.	Control Code	HS Code(s)	Unit
729	6A203.c.2	-	-

Item Name and Description

2. Solid-state imaging devices and image intensifier tubes specially designed for cameras controlled under 6A203.c.1, with gated (shutter) times less than or equal to 50 ns;

Reference Commodity Name

Solid-state imaging devices and image intensifier tubes

Original Chinese source pp. 109-110

No.	Control Code	HS Code(s)	Unit
730	6A203.c.3	-	-

Item Name and Description

3. Electro-optical shutter devices (Kerr cell or Pockels cell) with a gate (shutter) time less than or equal to 50 ns;

Reference Commodity Name

Electro-optical shutter device

Original Chinese source p. 110

No.	Control Code	HS Code(s)	Unit
731	6A203.c.4	-	-

Item Name and Description

4. A plug-in specifically designed for use with cameras that have a modular structure and meet the performance criteria of 6A203.c.1;

Reference Commodity Name

Plug-in specifically designed for use with solid-state cameras

Original Chinese source p. 110

No.	Control Code	HS Code(s)	Unit
732	6A203.d	8525821010 9002909010	units/kg, kg/piece

Item Name and Description

d. Television cameras and their lenses specifically designed or identified as radiation-resistant, capable of withstanding a total radiation dose greater than 5×10^4 Gy (silicon) without reducing performance. Technical note: Gy (silicon) refers to the amount of energy absorbed, in J/kg, by an unshielded silicon sample when exposed to ionizing radiation.

Reference Commodity Name

Radiation resistant TV camera and its lens

Original Chinese source p. 110

No.	Control Code	HS Code(s)	Unit
733	6A205.a	9013200070	pieces/kg

Item Name and Description

Lasers, Laser Amplifiers, and Oscillators: a. Copper vapor lasers with the following two characteristics: 1. Operating wavelength 500–600 nm; 2. 'Average output power' greater than or equal to 30 W;

Reference Commodity Name

copper vapor laser

Original Chinese source p. 110

No.	Control Code	HS Code(s)	Unit
734	6A205.b	9013200030	pieces/kg

Item Name and Description

b. Argon ion lasers with the following two characteristics: 1. Operating wavelength of 400–515 nm; 2. "Average output power" greater than or equal to 40 W;

Reference Commodity Name

Argon ion laser

Original Chinese source p. 110

No.	Control Code	HS Code(s)	Unit
735	6A205.c	9013200080	pieces/kg

Item Name and Description

c. A neodymium-doped laser (non-glass laser) with an output wavelength of 1000–1100 nm, having any one of the following characteristics: 1. Pumped by pulsed excitation and Q-switched, with a pulse width greater than or equal to 1 ns, and having any one of the following characteristics: a. Single transverse mode output, with an "average output power" exceeding 40 W; b. Multi-transverse mode output, with an "average output power" exceeding 50 W; 2. After frequency doubling, with an output wavelength of 500–550 nm, the frequency-doubled (new wavelength) "average output power" exceeds 40 W;

Reference Commodity Name

Neodymium-doped laser

Original Chinese source p. 110

No.	Control Code	HS Code(s)	Unit
736	6A205.d	8548000010	kg

Item Name and Description

d. A tunable pulsed single-mode dye laser oscillator with all of the following characteristics: 1. Operating wavelength 300–800 nm; 2. "Average output power" exceeds 1 W; 3. Repetition rate exceeds 1 kHz; 4. Pulse width less than 100 ns;

Reference Commodity Name

Tunable pulsed single-mode dye laser oscillator

Original Chinese source p. 111

No.	Control Code	HS Code(s)	Unit
737	6A205.e	8548000020	kg

Item Name and Description

e. Tunable pulsed dye laser amplifiers and oscillators with all of the following characteristics: 1. Operating wavelength 300–800 nm; 2. “Average output power” exceeding 30 W; 3. Repetition rate exceeding 1 kHz; 4. Pulse width less than 100 ns; Note: Item 6A205.e does not control single-mode oscillators.

Reference Commodity Name

Tunable pulsed dye laser amplifiers and oscillators

Original Chinese source p. 111

No.	Control Code	HS Code(s)	Unit
738	6A205.f	9013200040	pieces/kg

Item Name and Description

f. A ruby-green laser that has all of the following characteristics: 1. Operating wavelength 720–800 nm; 2. Bandwidth greater than or equal to 0.005 nm; 3. Repetition rate over 125 Hz; 4. "Average output power" exceeding 30 W;

Reference Commodity Name

Alexandrite Laser

Original Chinese source p. 111

No.	Control Code	HS Code(s)	Unit
739	6A205.g	9013200050	pieces/kg

Item Name and Description

g. A pulsed carbon dioxide laser that possesses all of the following characteristics: 1. Operating wavelength of 9000–11000 nm; 2. Repetition rate exceeding 250 Hz; 3. 'Average output power' exceeding 500 W; 4. Pulse width less than 200 ns; Note: Item 6A205.g does not control higher-power industrial carbon dioxide lasers used, for example, in cutting and welding (usually 1–5 kW), because such lasers operate in continuous wave or have pulse widths exceeding 200 ns.

Reference Commodity Name

pulsed carbon dioxide laser

Original Chinese source p. 111

No.	Control Code	HS Code(s)	Unit
740	6A205.h	9013200060	pieces/kg

Item Name and Description

h. Pulsed excimer lasers (xenon fluoride, xenon chloride, and krypton fluoride) with all of the following characteristics: 1. Operating wavelength 240–360 nm; 2. Repetition rate over 250 Hz; 3. 'Average output power' over 500 W;

Reference Commodity Name

pulsed excimer laser

Original Chinese source p. 111

No.	Control Code	HS Code(s)	Unit
741	6A205.i	-	piece

Item Name and Description

i. Design a Stokes hydrogen Raman phase shifter with an output wavelength of 16 μm and a repetition rate exceeding 250 Hz;

Reference Commodity Name

Parahydrogen Raman Phase Shifter

Original Chinese source p. 111

No.	Control Code	HS Code(s)	Unit
742	6A205.j	-	piece

Item Name and Description

j. A pulsed carbon monoxide laser that possesses all of the following characteristics: 1. Operating wavelength of 5000–6000 nm; 2. Repetition rate exceeding 250 Hz; 3. 'Average output power' exceeding 200 W; 4. Pulse width less than 200 ns. Note: Item 6A205.j does not control higher-power industrial carbon monoxide lasers used in applications such as cutting and welding (usually 1–5 kW), because these lasers operate either in continuous wave or with pulse widths exceeding 200 ns.

Reference Commodity Name

Pulsed carbon monoxide laser

Original Chinese source pp. 111-112

No.	Control Code	HS Code(s)	Unit
743	6A225	-	piece

Item Name and Description

Velocity interferometers used to measure velocities exceeding 1 km/s within time intervals of less than 10 μs. Description: Item 6A225 controls velocity interferometer systems (VISARs), Doppler laser interferometers (DLIs), and photon Doppler velocimeters (PDVs, also known as heterodyne velocimeters Het-V), which are applicable to any reflecting object.

Reference Commodity Name

velocity interferometer

Original Chinese source p. 112

No.	Control Code	HS Code(s)	Unit
744	6A226.a	9026201040	pieces/kg

Item Name and Description

Pressure sensor: a. Impact pressure gauges capable of measuring pressures exceeding 10 GPa, including gauges made of manganin, ytterbium, and polyvinylidene fluoride/polytetrafluoroethylene;

Reference Commodity Name

impact pressure gauge

Original Chinese source p. 112

No.	Control Code	HS Code(s)	Unit
745	6A226.b	9026209010	pieces/kg

Item Name and Description

b. Quartz pressure sensors measuring pressure exceeding 10GPa.

Reference Commodity Name

quartz pressure sensor

6C Material

Original Chinese source p. 112

No.	Control Code	HS Code(s)	Unit
746	6C001.a	8106101091 8106101092 8106101099 8106109090 8106901019 8106901029 8106901099 8106909090	-

Item Name and Description

Bismuth-related items: a. Metals and products of bismuth not controlled under item 1C229, including but not limited to ingots, blocks, beads, granules, powders, and other forms;

Reference Commodity Name

Metal bismuth and products

Original Chinese source p. 112

No.	Control Code	HS Code(s)	Unit
747	6C001.b	2841900041	-

Item Name and Description

b. bismuth germanate;

Reference Commodity Name

Bismuth germanate

Original Chinese source p. 112

No.	Control Code	HS Code(s)	Unit
748	6C001.c	2931900032	-

Item Name and Description

c. triphenylbismuth;

Reference Commodity Name

triphenylbismuth

Original Chinese source p. 112

No.	Control Code	HS Code(s)	Unit
749	6C001.d	2931900032	-

Item Name and Description

d. Tri-p-ethoxyphenyl bismuth.

Reference Commodity Name

Tri-p-ethoxyphenyl bismuth

Original Chinese source p. 112

No.	Control Code	HS Code(s)	Unit
750	6C002.a	2804500001	-

Item Name and Description

Tellurium related items: a. metal tellurium;

Reference Commodity Name

Tellurium metal

Original Chinese source p. 112

No.	Control Code	HS Code(s)	Unit
751	6C002.b.1	2842902000 3818009021	-

Item Name and Description

b. Single crystal or polycrystalline products of the following tellurium compounds (including substrates or epitaxial wafers): 1. Cadmium telluride

Reference Commodity Name

Cadmium Telluride

Original Chinese source p. 112

No.	Control Code	HS Code(s)	Unit
752	6C002.b.2	2842909025 3818009021 3824999923	-

Item Name and Description

2. Cadmium zinc telluride;

Reference Commodity Name

Cadmium zinc telluride

Original Chinese source p. 112

No.	Control Code	HS Code(s)	Unit
753	6C002.b.3	2852100010 3818009021	-

Item Name and Description

3. Mercury cadmium telluride.

Reference Commodity Name

Mercury Cadmium Telluride

6D software

Original Chinese source p. 112

No.	Control Code	HS Code(s)	Unit
754	6D203	-	-

Item Name and Description

Software or encryption keys/codes specifically designed to enhance or enable the performance characteristics of items not controlled by 6A203.a, 6A203.b, or 6A203.c, so as to achieve or exceed the characteristics controlled by 6A203.a, 6A203.b, or 6A203.c.

Reference Commodity Name

Software or encryption keys/codes specifically designed to enhance or leverage the performance characteristics of uncontrolled items, so that they meet or exceed the relevant controlled characteristics of cameras.

Original Chinese source pp. 112-113

No.	Control Code	HS Code(s)	Unit
755	6D204	-	-

Item Name and Description

Software or encryption keys/codes specifically designed to enhance or exploit the performance characteristics of items controlled under 6A203.a, 6A203.b, and 6A203.c.

Reference Commodity Name

Software or encryption keys/codes specially designed to enhance or exploit the performance characteristics of items controlled under 6A203.a, 6A203.b, and 6A203.c

6E Technology

Original Chinese source p. 113

No.	Control Code	HS Code(s)	Unit
756	6E001	-	-

Item Name and Description

Technology and information for the production of item 6C001 (including process specifications, process parameters, processing procedures, etc.).

Reference Commodity Name

Production technology and data of bismuth related items

Original Chinese source p. 113

No.	Control Code	HS Code(s)	Unit
757	6E002	-	-

Item Name and Description

Technology and information for the production of item 6C002 (including process specifications, process parameters, processing procedures, etc.).

Reference Commodity Name

Production technology and data of tellurium related items

Original Chinese source p. 113

No.	Control Code	HS Code(s)	Unit
758	6E201	-	-

Item Name and Description

Technology used for the research, development, production, or use of items controlled under 6A202, 6A203, 6A205, 6A225, 6A226, 6D203, and 6D204.

Reference Commodity Name

The technology for researching, producing, or using the controlled items 6A202, 6A203, 6A205, 6A225, 6A226, 6D203, 6D204

(7) Navigation and avionics

7A Systems, equipment and components

Original Chinese source p. 114

No.	Control Code	HS Code(s)	Unit
759	7A101	9014800010	pieces/kg

Item Name and Description

Accelerometers with a proportional error of less than 0.25%. Description: Item 7A101 controls do not apply to accelerometers integrated into civil aircraft, general aviation aircraft, and other civil aviation aircraft. The export control of "unmanned aerial vehicles" and related items is stipulated elsewhere in this list and shall be governed accordingly.

Reference Commodity Name

accelerometer

Original Chinese source p. 114

No.	Control Code	HS Code(s)	Unit
760	7A102	9014209015	pieces/kg

Item Name and Description

Gyroscopes with a rated 'drift rate' of less than 0.5º/h. Note: Item 7A102 does not control gyroscopes integrated into civil aircraft, general aviation aircraft, and other civil aviation aircraft. The export control of 'unmanned aerial vehicles' and related items shall be governed by the provisions separately listed in this catalog.

Reference Commodity Name

gyroscope

Original Chinese source p. 114

No.	Control Code	HS Code(s)	Unit
761	7A103.a	9014209013	pieces/kg

Item Name and Description

Guidance and control system equipment and components: a. Gyrostabilized platform; Description: Item 7A103.a does not control gyrostabilized platforms integrated into civil aircraft, general aviation aircraft, and other civil aviation aircraft.

Reference Commodity Name

Gyro-stabilized platform

Original Chinese source p. 114

No.	Control Code	HS Code(s)	Unit
762	7A103.b	9014201010	pieces/kg

Item Name and Description

b. Autopilot of an 'unmanned aerial vehicle.' Note: The export control of 'unmanned aerial vehicles' and related items is stipulated elsewhere in this list, and shall be followed according to those provisions.

Reference Commodity Name

autopilot

Original Chinese source p. 114

No.	Control Code	HS Code(s)	Unit
763	7A104	9014209011 9014209012	pieces/kg

Item Name and Description

Astro gyrocompasses and other devices that use celestial bodies or artificial satellites for navigation. Explanation: Item 7A104 does not control astro gyrocompasses and other devices that use celestial bodies or artificial satellites for navigation when integrated into civil aircraft, general aviation aircraft, or other civil aviation aircraft. For the export control of 'unmanned aerial vehicles' and related items, if otherwise specified in this list, the relevant provisions shall apply.

Reference Commodity Name

Astronomical gyrocompasses and other devices that use celestial bodies or artificial satellites for navigation

Original Chinese source p. 114

No.	Control Code	HS Code(s)	Unit
764	7A105	9014209016	pieces/kg

Item Name and Description

Navigation information processors specially designed. Description: Item 7A105 is an uncontrolled navigation information processor integrated into civil aircraft, general aviation aircraft, and other civil aviation aircraft. The export control of 'unmanned aerial vehicles' and related items is stipulated elsewhere in this list and shall be governed by those provisions.

Reference Commodity Name

navigation information processor

Original Chinese source p. 114

No.	Control Code	HS Code(s)	Unit
765	7A106	9014800020	-

Item Name and Description

Altimeters for target detection. Description: Item 7A106 refers to altimeters integrated into civil aircraft, general aviation aircraft, or other civilian aircraft without export control. The export control of 'unmanned aerial vehicles' and related items is specified separately in this list and shall follow the corresponding provisions.

Reference Commodity Name

altimeter

7B Testing, Inspection and Production Equipment

Original Chinese source p. 114

No.	Control Code	HS Code(s)	Unit
766	7B101.a	9031200020	units/kg

Item Name and Description

Accelerometer test equipment: a. Accelerometer test bench

Reference Commodity Name

Accelerometer test bench

Original Chinese source p. 114

No.	Control Code	HS Code(s)	Unit
767	7B101.b	-	unit

Item Name and Description

b. Accelerometer axis calibration table

Reference Commodity Name

Accelerometer axis calibration table

Original Chinese source p. 114

No.	Control Code	HS Code(s)	Unit
768	7B102.a	9031809020	units/kg

Item Name and Description

Gyroscope and Inertia Testing Equipment: a. Gyroscope Tuning Tester;

Reference Commodity Name

Gyro Tuning Tester

Original Chinese source p. 114

No.	Control Code	HS Code(s)	Unit
769	7B102.b	9031100010	units/kg

Item Name and Description

b. Gyro dynamic balance tester;

Reference Commodity Name

Gyro dynamic balance tester

Original Chinese source pp. 114-115

No.	Control Code	HS Code(s)	Unit
770	7B102.c	9031200010	units/kg

Item Name and Description

c. Gyro/motor operation test bench;

Reference Commodity Name

Gyro/motor operation test bench

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
771	7B102.d	-	unit

Item Name and Description

d. gyroscopic pumping and inflation tables;

Reference Commodity Name

Gyro Pumping and Inflating Table

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
772	7B102.e	-	unit

Item Name and Description

e. Centrifuge for gyro bearings;

Reference Commodity Name

Centrifuge for gyro bearings

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
773	7B102.f	-	unit

Item Name and Description

f. Produces rectangular scatterometers for ring laser gyroscopes;

Reference Commodity Name

Rectangular scatterometer

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
774	7B102.g	-	unit

Item Name and Description

g. Polar scatterometers for the production of ring laser gyroscopes;

Reference Commodity Name

polar scatterometer

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
775	7B102.h	-	unit

Item Name and Description

h. Reflectometers used in the production of ring laser gyroscopes;

Reference Commodity Name

reflectometer

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
776	7B102.i	-	unit

Item Name and Description

i. Surface photometer for the production of ring laser gyroscopes;

Reference Commodity Name

Surface photometer

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
777	7B102.j	9031200040	units/kg

Item Name and Description

j. Inertial platform test bench (including high-precision centrifuge and turntable);

Reference Commodity Name

Inertial platform test bench

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
778	7B102.k	9031809010	units/kg

Item Name and Description

k. Inertial measurement unit tester;

Reference Commodity Name

Inertial Measurement Unit Tester

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
779	7B102.l	9031900020	kg

Item Name and Description

l□ Inertial measurement unit stabilization component processing fixture;

Reference Commodity Name

Inertial Measurement Unit Stabilization Component Processing Fixture

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
780	7B102.m	9031900030	kg

Item Name and Description

m. Inertial platform balancing fixture.

Reference Commodity Name

Inertial platform balancing fixture

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
781	7B103	-	unit

Item Name and Description

Test, calibration, and adjustment devices specially designed for gyroscopes or accelerometers

Reference Commodity Name

Gyro or accelerometer testing, calibration and calibration devices

7D software

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
782	7D101	-	-

Item Name and Description

Flight control software and test software. Description: Item 7D101 uncontrolled flight control software and test software integrated into civil aircraft, general aviation aircraft, and other civil aviation aircraft. For the export control of "unmanned aerial vehicles" and related items, if this list has other provisions, those provisions shall apply.

Reference Commodity Name

Flight control software and test software

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
783	7D105	-	-

Item Name and Description

Software specially designed for items controlled under 7A105.

Reference Commodity Name

Software specially designed for navigation information processors

7E Technology

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
784	7E102.a	-	-

Item Name and Description

Design techniques used to protect electronic devices and electrical systems from external electromagnetic pulses and electromagnetic interference hazards: a. Design techniques for shielding systems;

Reference Commodity Name

Shielding system design technology

Original Chinese source p. 115

No.	Control Code	HS Code(s)	Unit
785	7E102.b	-	-

Item Name and Description

b. Reinforced circuit and subsystem circuit design technology;

Reference Commodity Name

Reinforced circuit and subsystem wiring design technology

Original Chinese source p. 116

No.	Control Code	HS Code(s)	Unit
786	7E102.c	-	-

Item Name and Description

c. Determine the design technology of the reinforcement standard described in item 7E102.b.

Reference Commodity Name

Design techniques for determining reinforcement standards

(8) Ships

8A Systems, equipment and components

Original Chinese source p. 117

No.	Control Code	HS Code(s)	Unit
787	8A901.a	8905100010	vessels/kg

Item Name and Description

Dredger: Technical Description: For the 8A901, 'hopper capacity' refers to the effective volume of the dredger's hopper; 'dredging depth' refers to the maximum dredging depth during dredger operation; 'cutter power' refers to the input power required for the cutter of a cutter-suction dredger; 'total installed power' refers to the sum of all diesel engines and battery output power on the vessel; 'bucket capacity' refers to the total volume of the grab or chain bucket of a bucket dredger. a. A cutter-suction dredger with any of the following characteristics: 1. 'Hopper capacity' greater than or equal to 1500 m³; 2. 'Dredging depth' greater than or equal to 15 m; 3. Equipped with a bow thruster function and device;

Reference Commodity Name

Trailing suction dredger

Original Chinese source p. 117

No.	Control Code	HS Code(s)	Unit
788	8A901.b	8905100010	vessels/kg

Item Name and Description

b. Cutter suction dredgers with any of the following characteristics: 1. 'Cutter power' greater than or equal to 500 kW; 2. 'Digging depth' greater than or equal to 15 m; 3. 'Total installed power' greater than or equal to 2000 kW;

Reference Commodity Name

Cutter suction dredger

Original Chinese source p. 117

No.	Control Code	HS Code(s)	Unit
789	8A901.c	8905100010	vessels/kg

Item Name and Description

c. A bucket dredger with any of the following characteristics: 1. 'Bucket capacity' greater than or equal to 4 m^3; 2. 'Digging depth' greater than or equal to 15 m;

Reference Commodity Name

bucket dredger

Original Chinese source p. 117

No.	Control Code	HS Code(s)	Unit
790	8A901.d	8905100010	vessels/kg

Item Name and Description

d. Sand suction vessels with any of the following characteristics: 1. 'Hold capacity' greater than or equal to 500 m^3; 2. 'Total installed power' greater than or equal to 1000 kW;

Reference Commodity Name

sand suction boat

Original Chinese source p. 117

No.	Control Code	HS Code(s)	Unit
791	8A901.e	8901904110	vessels/kg

Item Name and Description

e. Self-propelled self-discharging dredger barges with any of the following characteristics: 1. 'Hold capacity' greater than or equal to 1000 m^3; 2. Equipped with bow blowing function and self-discharging device.

Reference Commodity Name

Self-propelled self-unloading mud barge

(9) Aerospace and Propulsion

9A Systems, equipment and components

Original Chinese source p. 118

No.	Control Code	HS Code(s)	Unit
792	9A012.a.1	8801009010 8806229010 8806239010 8806249010 8806299010 8806929010 8806939010 8806949010 8806990010 8806100010 8806221011 8806231011 8806241011 8806291011 8806921011 8806931011 8806941011	units/kg

Item Name and Description

"Unmanned Aerial Vehicles" and "Unmanned Airships" as well as related equipment and components: Description: Items 9A012.a, 9A012.b.1, and 9A012.d do not control model airplanes or model airships. Technical Description: Regarding item 9A012: 1. "Infrared imaging equipment" is a detection device that forms images using infrared radiation emitted by objects, widely used in night vision, thermal imaging, search and rescue, and other fields. 2. "Synthetic Aperture Radar" is an active microwave remote sensing system that obtains high-resolution radar images through synthetic aperture technology, suitable for terrain mapping, environmental monitoring, and so on. 3. "Target designator laser" is a laser device used in the military field that can accurately point to and mark a target to facilitate laser-guided weapon strikes. 4. "Instantaneous field of view" refers to the angle of the field of view that the detector can cover at a specific moment, determining the spatial resolution of the detector. 5. "Strip mode" is an operational mode of synthetic aperture radar. a. "Unmanned aerial vehicles" or "unmanned airships" that can be controlled outside the "operator"'s "line of sight" and have any of the following characteristics: Technical Description: 1. "Operator" refers to the professional personnel responsible for operating the "unmanned aerial vehicle" or "unmanned airship," remotely controlling or programming the aircraft via a ground control station to ensure the smooth completion of flight tasks; 2. "Endurance time" refers to the sustained flight time converted to sea-level zero-wind conditions under the International Standard Atmosphere (ISO 2533:1975); 3. "Line of sight" refers to

the maximum distance at which an observer on the earth's surface can clearly see an object under ideal conditions without any human interference or atmospheric pollution. The line of sight means the maximum distance an observer can clearly see an object on the earth's surface, limited by the curvature of the earth. In practical application, it is usually considered 1. Maximum "endurance time" greater than or equal to 30 minutes and less than 1 hour, and with takeoff capability and stable controllable flight capability under gust conditions of greater than or equal to 46.3 km/h (25 knots);

Reference Commodity Name

"Unmanned aerial vehicles" or "unmanned airships" with a flight time of greater than or equal to 30 minutes and less than 1 hour

Original Chinese source pp. 118-119

No.	Control Code	HS Code(s)	Unit
793	9A012.a.2	8801009010 8806229010 8806239010 8806249010 8806299010 8806929010 8806939010 8806949010 8806990010 8806100010 8806221011 8806231011 8806241011 8806291011 8806921011 8806931011 8806941011	units/kg

Item Name and Description

2. The maximum 'endurance time' is greater than or equal to 1 hour; in this formula, the radar beam continuously scans the ground along the flight direction, forming a wide swath. 6. 'Beamforming mode' is a mode of operation for synthetic aperture radar, in which the radar beam is focused on a specific area for an extended period to achieve higher spatial resolution. 7. 'Beam divergence angle' refers to the extent to which a beam spreads during propagation, usually used to describe the focusing performance of a laser beam or other types of beams. 8. 'Wireless TV range' refers to the maximum distance that radio waves can travel in free space without any obstacles, taking into account the impact of atmospheric conditions on the line of sight.

Reference Commodity Name

'Unmanned Aerial Vehicle' or 'Unmanned Airship' with a flight duration of greater than or equal to 1 hour

Original Chinese source p. 119

No.	Control Code	HS Code(s)	Unit
794	9A012.b.1	8407102010	units/kg

Item Name and Description

b. Engines for 'unmanned aerial vehicles' or 'unmanned airships': 1. Intake piston or rotary internal combustion engines designed or modified for 'high altitude' flight above 15,420 m (50,000 feet);

Reference Commodity Name

Air-breathing piston or rotary internal combustion engine

Original Chinese source p. 119

No.	Control Code	HS Code(s)	Unit
795	9A012.b.2	8501200010 8501320010 8501330010 8501340010 8501400010 8501520010 8501530010 8407101010 8407102010 8408909230 8408909320 8411111010 8411119010 8411121010 8411129020 8411210010 8411221010 8411222010 8411223010 8411810002	units/kg

Item Name and Description

2. Aircraft engines with a maximum continuous power exceeding 16 kW;

Reference Commodity Name

Aero engine with power exceeding 16 kW

Original Chinese source p. 119

No.	Control Code	HS Code(s)	Unit
796	9A012.c.1	8525891110 8525892110 8525893110	units/kg

Item Name and Description

c. Payloads specifically designed for the 'unmanned aerial vehicles' or 'unmanned airships' controlled under entry 9A012.a that meet certain technical specifications, including 'infrared imaging devices,' 'synthetic aperture radar,' 'target-designator lasers,' and inertial measurement devices: 1. 'Infrared imaging devices' with the following two characteristics: a. Wavelength range of 780–30000 nm; b. Instantaneous field of view (IFOV) less than 2.5 mrad;

Reference Commodity Name

Infrared imaging equipment

Original Chinese source pp. 119-120

No.	Control Code	HS Code(s)	Unit
797	9A012.c.2	8526109011	units/kg

Item Name and Description

2. The effective range is greater than 5 km, and the 'Synthetic Aperture Radar' (SAR) has any of the following characteristics: a. 'Strip mode' resolution better than 0.3 m; b. 'Spotlight mode' resolution better than 0.1 m;

Reference Commodity Name

synthetic aperture radar

Original Chinese source p. 120

No.	Control Code	HS Code(s)	Unit
798	9A012.c.3	9013200093	-

Item Name and Description

3. A 'target-indicating laser' that can operate stably in environments above 55°C and has all of the following characteristics: a. no temperature control required; b. energy greater than 80 mJ; c. stability better than 15%; d. 'beam divergence angle' less than 0.3 mrad;

Reference Commodity Name

target designating laser

Original Chinese source p. 120

No.	Control Code	HS Code(s)	Unit
799	9A012.c.4	9014209014	-

Item Name and Description

4. Inertial measurement devices with all of the following characteristics: a. Heading accuracy less than 2°; b. Attitude accuracy less than 0.5°; c. Resolution less than 0.1°; Note: Item 9A012.c.4 does not control items related to 7A and 7B.

Reference Commodity Name

Inertial Measurement Equipment

Original Chinese source p. 120

No.	Control Code	HS Code(s)	Unit
800	9A012.d	-	-

Item Name and Description

d. Equipment or components specifically designed to convert manned aircraft or manned airships into 'unmanned aerial vehicles' or 'unmanned airships' controlled under item 9A012.a;

Reference Commodity Name

Devices or components that convert manned aircraft or manned airships into 'unmanned aerial vehicles' or 'unmanned airships'

Original Chinese source p. 120

No.	Control Code	HS Code(s)	Unit
801	9A012.e	8517629910 8517691002 8526920010	-

Item Name and Description

e. Radio communication equipment specifically used for 'unmanned aerial vehicles' or 'unmanned airships' controlled under item 9A012.a, and having any of the following characteristics: 1. 'Wireless television distance' transmission distance greater than 50 km; 2. Single-station control of more than 10 machines.

Reference Commodity Name

radio communication equipment

Original Chinese source p. 120

No.	Control Code	HS Code(s)	Unit
802	9A101.a	8411129010	units/kg

Item Name and Description

Turbofan and turbojet engines not controlled under 9A012.b: Description: 9A101 Item a. Turbojet engines with a thrust greater than or equal to 90 kN;

Reference Commodity Name

turbojet engine

Original Chinese source p. 121

No.	Control Code	HS Code(s)	Unit
803	9A101.b	8411111090 8411121090	units/kg

Item Name and Description

Uncontrolled turbine jet engines and turbofan engines integrated into civil aircraft, general aviation aircraft, and other civil aviation aircraft. The export control of "unmanned aerial vehicles" and related items, if otherwise specified in this list, shall follow those specifications. b. Turbofan engines;

Reference Commodity Name

turbofan engine

Original Chinese source p. 121

No.	Control Code	HS Code(s)	Unit
804	9A101.c	-	units/kg

Item Name and Description

c. Turbine combined engine.

Reference Commodity Name

Turbine combined engine

Original Chinese source p. 121

No.	Control Code	HS Code(s)	Unit
805	9A106.a	8481802110 8481802910 8481803110 8481803910 8481804010	kg

Item Name and Description

Liquid and slurry propellant control systems that, after design or modification, can operate in vibration environments with a frequency range of 20–2000 Hz and acceleration greater than 10 g RMS, as well as components specifically designed for this purpose: Note: Item 9A106 does not control servo valves and pumps integrated into civil aircraft, general aviation aircraft, and other civil aviation vehicles. a. Servo valves with an 'absolute pressure' greater than or equal to 7000 kPa, a flow rate greater than or equal to 24 L per minute, and an actuator response time of less than 100 μs;

Reference Commodity Name

servo valve

Original Chinese source p. 121

No.	Control Code	HS Code(s)	Unit
806	9A106.b	8413701040 8413709980	units/kg

Item Name and Description

b. Used for liquid propellants, with a rotation speed greater than or equal to 8000 rpm and an outlet pressure greater than or equal to 7000 kPa.

Reference Commodity Name

Pumps for liquid propellants

Original Chinese source p. 121

No.	Control Code	HS Code(s)	Unit
807	9A111.a	8412101040	units/kg

Item Name and Description

Ramjet, scramjet, pulsejet, combined cycle engines and their combustion control devices: Description: Item 9A111 uncontrolled ramjet engines, scramjet engines, pulsejet engines, and combined cycle engines integrated into civil aircraft, general aviation aircraft, and other civilian aircraft. The export control of "unmanned aerial vehicles" and related items is separately stipulated in this list and shall be carried out in accordance with those provisions. a. Ramjet engines;

Reference Commodity Name

ramjet

Original Chinese source p. 121

No.	Control Code	HS Code(s)	Unit
808	9A111.b	8412101040	units/kg

Item Name and Description

b. scramjet;

Reference Commodity Name

scramjet engine

Original Chinese source p. 121

No.	Control Code	HS Code(s)	Unit
809	9A111.c	8412101040	units/kg

Item Name and Description

c. pulse jet engine;

Reference Commodity Name

pulse jet engine

Original Chinese source p. 121

No.	Control Code	HS Code(s)	Unit
810	9A111.d	8412101040	units/kg

Item Name and Description

d. combined cycle engines;

Reference Commodity Name

combined cycle engine

Original Chinese source p. 121

No.	Control Code	HS Code(s)	Unit
811	9A111.e	8412901010 9032899020	units/kg, kg

Item Name and Description

e. Used for the combustion control devices of items 9A111.a to 9A111.d.

Reference Commodity Name

Combustion regulating device

Original Chinese source pp. 121-122

No.	Control Code	HS Code(s)	Unit
812	9A501.a	8806239010 8806249010 8806299010 8806939010 8806949010 8806990010 8806100010 8806221011 8806231011 8806241011 8806291011 8806921011 8806931011 8806941011	units/kg

Item Name and Description

Unmanned aerial vehicles not controlled under 9A012: a. Unmanned aerial vehicles with a 'range/flight distance' greater than or equal to 300 km; Note: Items under 9A501 do not control model aircraft specifically designed for recreation or competition.

Reference Commodity Name

Unmanned aerial vehicle with a range/flight distance greater than or equal to 300 km

Original Chinese source p. 122

No.	Control Code	HS Code(s)	Unit
813	9A501.b.1	8806239010 8806249010 8806299010 8806939010 8806949010 8806990010 8806100010 8806221011 8806231011 8806241011 8806291011 8806921011 8806931011 8806941011	units/kg

Item Name and Description

b. An 'unmanned aerial vehicle' with autonomous flight control and navigation capabilities that has any of the following characteristics: 1. Contains an aerosol dispensing system/device with a capacity of over 20 liters;

Reference Commodity Name

Autonomous unmanned aerial vehicle equipped with an aerosol spraying system/device

Original Chinese source p. 122

No.	Control Code	HS Code(s)	Unit
814	9A501.b.2	8806239010 8806249010 8806299010 8806939010 8806949010 8806990010 8806100010 8806221011 8806231011 8806241011 8806291011 8806921011 8806931011 8806941011	units/kg

Item Name and Description

2. After design or improvement, it can be equipped with an aerosol spreading system/device with a capacity of 20 L or more;

Reference Commodity Name

Autonomous unmanned aerial vehicle capable of being equipped with an aerosol spraying system/device

Original Chinese source p. 122

No.	Control Code	HS Code(s)	Unit
815	9A501.c.1	8806239010 8806249010 8806299010 8806939010 8806949010 8806990010 8806100010 8806221011 8806231011 8806241011 8806291011 8806921011 8806931011 8806941011	units/kg

Item Name and Description

c. An "unmanned aerial vehicle" that has the capability for an operator to control its flight beyond visual line of sight and possesses any of the following characteristics: 1. Includes an aerosol dispersal system/device with a capacity of more than 20 liters;

Reference Commodity Name

Unmanned aerial vehicle equipped with an aerosol spraying system/device

Original Chinese source pp. 122-123

No.	Control Code	HS Code(s)	Unit
816	9A501.c.2	8806239010 8806249010 8806299010 8806939010 8806949010 8806990010 8806100010 8806221011 8806231011 8806241011 8806291011 8806921011 8806931011 8806941011	units/kg

Item Name and Description

2. After design or improvement, it can be equipped with an aerosol spreading system/device with a capacity of over 20 liters.

Reference Commodity Name

Unmanned aerial vehicle capable of being equipped with an aerosol spraying system/device

Note: For all unmanned aerial vehicles not listed in the export control list or not subject to temporary control, exporters shall not export them if they know or should know that the export will be used for the proliferation of weapons of mass destruction, terrorist activities, or military purposes.

Violators shall be punished in accordance with Article 34 of the Export Control Law of the People's Republic of China.

9B Testing, inspection and production equipment

Original Chinese source p. 123

No.	Control Code	HS Code(s)	Unit
817	9B001.a	8454301010 8454309010	units/kg

Item Name and Description

Equipment related to gas turbine engine/gas turbine manufacturing: a. Oriented crystal or single crystal casting equipment for producing "high-temperature alloys" required for turbine configuration components such as blades and guides;

Reference Commodity Name

Oriented crystal or single crystal casting equipment

Original Chinese source p. 123

No.	Control Code	HS Code(s)	Unit
818	9B001.b	6903100010 6903200010 6903900010 6909110010 6909120010 6909190010 8480490010 8205900020 8428909030 8480600010 7326901920 7616991020 9031809081	kg, units/kg, sets/kg

Item Name and Description

b. Precision casting intermediate products specifically designed for the manufacture of turbine configuration components of gas turbine engines/gas turbines, such as blades, guide vanes, and casings (including ceramic cores, wax pattern modules, and shells), as well as process equipment such as tools, molds, and fixtures specifically designed for making the above intermediate products.

Reference Commodity Name

Precision casting intermediate products

Original Chinese source p. 123

No.	Control Code	HS Code(s)	Unit
819	9B004	8205900030 6804219010 6804229010 8207201010 8207209010 8207300030 8480419020 8466200010 7326901930 9031809082	kg, kg/set, units/kg

Item Name and Description

Process equipment such as tools, molds, and fixtures required for the solid-state joining of discs made from materials specially designed for gas turbine engines/gas turbines, such as 'superalloys,' titanium alloys, or intermetallic compounds.

Reference Commodity Name

Process equipment such as tools, molds, and fixtures required for disc solid-state bonding

Original Chinese source p. 123

No.	Control Code	HS Code(s)	Unit
820	9B105	-	unit

Item Name and Description

Supersonic (Mach 1.4–5) and hypersonic (Mach 5–15) wind tunnels. Description: Item 9B105 is uncontrolled and is a wind tunnel specifically designed for educational purposes and experimental areas, with dimensions (measured internally) smaller than 25 cm.

Reference Commodity Name

wind tunnel

Original Chinese source p. 123

No.	Control Code	HS Code(s)	Unit
821	9B116	-	unit

Item Name and Description

Production facilities specifically designed for items 9A101, 9A106, and 9A111.

Reference Commodity Name

Production facilities specially designed for items 9A101, 9A106, 9A111

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
822	9B117	9031200030	units/kg

Item Name and Description

Test stands with any of the following characteristics can be used for testing missile and rocket engines: a. Test stands capable of testing solid or liquid propellant rocket engines with a thrust greater than 90 kN; b. Test stands capable of simultaneously measuring three components of thrust.

Reference Commodity Name

Test bench

9C Material

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
823	9C110.a	3926909010	kg

Item Name and Description

Structural composite materials, including various composite structural components, laminates and products, as well as various prepregs and preforms made by reinforcing resin or metal matrices with fibers and filaments, where the reinforced materials have a 'specific tensile strength' greater than 7.62×10^4 m and 'specific modulus' greater than 3.18×10^6 m: a. Polyimide composite materials

Reference Commodity Name

Polyimide composite

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
824	9C110.b	3926909010	kg

Item Name and Description

b. Polyamide based composites

Reference Commodity Name

Polyamide based composites

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
825	9C110.c	3926909010	kg

Item Name and Description

c. polycarbonate composite;

Reference Commodity Name

polycarbonate composite

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
826	9C110.d	3921909010	kg

Item Name and Description

d. Quartz fiber reinforced composites;

Reference Commodity Name

Quartz fiber reinforced composite materials

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
827	9C110.e	3921909010	kg

Item Name and Description

e. carbon fiber reinforced composites;

Reference Commodity Name

Carbon fiber reinforced composite materials

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
828	9C110.f	3921909010	kg

Item Name and Description

f. Boron fiber reinforced composites;

Reference Commodity Name

Boron fiber reinforced composite materials

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
829	9C110.g	8104902010	kg

Item Name and Description

g. Magnesium metal matrix composites;

Reference Commodity Name

Magnesium metal matrix composites

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
830	9C110.h	8108901020 8108903210	kg

Item Name and Description

h. Titanium metal matrix composites.

Reference Commodity Name

Titanium metal matrix composites

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
831	9C116.a	-	kg

Item Name and Description

Ceramic or ablative heat-proof material a. Ceramic heat-proof material

Reference Commodity Name

Ceramic heat-proof material

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
832	9C116.b	-	kg

Item Name and Description

b. Ablative heat protection material

Reference Commodity Name

Ablative heat protection material

9D software

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
833	9D001	-	-

Item Name and Description

Software specifically designed or modified for the development, production, or use of items controlled under 9B001 or 9B004.

Reference Commodity Name

Gas turbine engine/gas turbine related software

9E Technology

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
834	9E001	-	-

Item Name and Description

Technology and carriers used for the research, development, production, or use of the items controlled under 9B001 and 9B004, including design drawings, process specifications, process parameters, processing programs, simulation data, etc.

Reference Commodity Name

Gas turbine engine/gas turbine related technology

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
835	9E101.a	-	-

Item Name and Description

Technology for research and development, and production of re-entry vehicle components and parts: a. Design and manufacturing technology of ceramic thermal protection components;

Reference Commodity Name

Design and manufacturing technology of ceramic heat-proof components

Original Chinese source p. 124

No.	Control Code	HS Code(s)	Unit
836	9E101.b	-	-

Item Name and Description

b. Design and manufacturing technology of ablative heat protection components;

Reference Commodity Name

Design and manufacturing technology of ablative heat protection components

Original Chinese source p. 125

No.	Control Code	HS Code(s)	Unit
837	9E101.c	-	-

Item Name and Description

c. Design and manufacturing technology of heat sink devices and their components;

Reference Commodity Name

Design and manufacturing technology of heat sink devices and their components

Original Chinese source p. 125

No.	Control Code	HS Code(s)	Unit
838	9E101.d	-	-

Item Name and Description

d. “Radiation-resistant reinforcement” design technology;

Reference Commodity Name

Design technology for radiation-resistant reinforcement

Original Chinese source p. 125

No.	Control Code	HS Code(s)	Unit
839	9E101.e	-	-

Item Name and Description

e. Design techniques for strengthening structures.

Reference Commodity Name

Design technology for reinforced structures

(10) Other items

0A Systems, equipment and components

Original Chinese source p. 126

No.	Control Code	HS Code(s)	Unit
840	0A901	8424899930	units/kg

Item Name and Description

"High-pressure water cannon" with all the following characteristics: a. "Maximum range" greater than or equal to 100m; b. "Rated flow" greater than or equal to 540m³/h; c. "Rated pressure" greater than or equal to 1.2MPa. Technical description: 1. A "high-pressure water cannon" is a device that uses a high-pressure water pump to do work on a liquid medium, creating a device capable of projecting high-speed fluid over a long distance in the air. 2. "Maximum range" refers to the farthest distance from the cannon outlet to the area of dispersal. The impact force at the maximum range is relatively small, and there is no possibility of aiming. 3. "Rated flow" refers to the flow under rated operating conditions. 4. "Rated pressure" refers to the maximum pressure that meets the normal operational requirements of the equipment.

Reference Commodity Name

high pressure water cannon

Original Chinese source p. 126

No.	Control Code	HS Code(s)	Unit
841	0A902	8424909010 8413603130 8413603902 8537109040 9032899092	kg, units/kg, pieces/kg

Item Name and Description

Main components and supporting equipment specially designed for items controlled under 0A901. Technical description: The main components and supporting equipment of a 'high-pressure water cannon' include the water cannon body, high-pressure water pump, and control system.

Reference Commodity Name

Main components and supporting equipment of high-pressure water cannon

Original Chinese source p. 126

No.	Control Code	HS Code(s)	Unit
842	0A903.a	8543709960	-

Item Name and Description

Civil counter-unmanned aerial vehicle system: a. Anti-drone electronic jamming equipment with a jamming range greater than 5 km;

Reference Commodity Name

Counter-unmanned aircraft electronic jamming equipment

Original Chinese source p. 126

No.	Control Code	HS Code(s)	Unit
843	0A903.b	9013200093	-

Item Name and Description

b. High-power lasers specifically used for counter-unmanned aerial vehicle systems, with an output power greater than 1.5 kW.

Reference Commodity Name

High-power laser with an output power greater than 1.5 kW

0B Testing, inspection and production equipment

Original Chinese source p. 126

No.	Control Code	HS Code(s)	Unit
844	0B901	8480719020	sets/kg

Item Name and Description

Molds specially designed for manufacturing space suit visor windows.

Reference Commodity Name

Molds for manufacturing spacesuit face windows

0D software

Original Chinese source p. 126

No.	Control Code	HS Code(s)	Unit
845	0D901	-	-

Item Name and Description

Software specifically designed or modified for the development, production, or use of items controlled under 0B901.

Reference Commodity Name

Space suit window mold related software

0E Technology

Original Chinese source p. 126

No.	Control Code	HS Code(s)	Unit
846	0E901	-	-

Item Name and Description

Technology and its carriers used for the research, development, production, or use of items controlled under 0B901, including design drawings, process specifications, process parameters, machining programs, simulation data, etc.

Reference Commodity Name

Space suit window mold related technologies

2. Items and technologies included in the nuclear export control list

(1) Nuclear materials

Original Chinese source p. 127

No.	HS Code(s)	Unit
1	2844100010 2844100090	g/MBq

Commodity Name

Natural uranium and its compounds

Description

Various materials in the form of metal, alloy, compound, or concentrate do not include: (1) source materials that the government is convinced are used only for non-nuclear activities; (2) exports to a recipient country within a calendar year (January 1 to December 31) of less than 500 kg of natural uranium.

Original Chinese source p. 127

No.	HS Code(s)	Unit
2	2844300000	g/MBq

Commodity Name

Depleted uranium, thorium and their compounds

Description

Various materials in the form of metal, alloy, compound, or concentrate do not include: (1) source materials that the government is convinced are used solely for non-nuclear activities; (2) exports to a recipient country within one calendar year (January 1 to December 31) of: □ less than 1000 kg of depleted uranium; □ less than 1000 kg of thorium.

Original Chinese source p. 127

No.	HS Code(s)	Unit
3	2844200010 2844200090	g/MBq

Commodity Name

Uranium-235 enriched uranium, plutonium and their compounds

Description

Plutonium-239, Uranium-233, isotope Uranium-235, or Uranium-233, or any combination containing Uranium-233 and Uranium-235 whose total abundance relative to Uranium-238 is greater than the natural ratio of Uranium-235 to Uranium-238, as well as any material containing the aforementioned substances. Exclusions: (1) Plutonium with an isotope abundance of Plutonium-238 exceeding 80%; (2) Special fissile materials in gram quantities or less used as instrument sensor elements; (3) Special fissile materials exported to a recipient country in less than 50 effective grams within one natural year (January 1 to December 31).

Original Chinese source p. 127

No.	HS Code(s)	Unit
4	2844439010	g/MBq

Commodity Name

Uranium-233 and its compounds

Description

Including various materials in the form of metals, alloys, compounds, or concentrates, as well as any materials containing the aforementioned substances. Excluded are: (1) special fissionable materials used in gram or sub-gram quantities as instrument sensing elements; (2) exports of less than 50 effective grams of special fissionable materials to a recipient country within a natural year (January 1 to December 31).

Original Chinese source p. 128

No.	HS Code(s)	Unit
5	8401301000 2844500000	kg

Commodity Name

nuclear fuel assembly

Description

Fuel assemblies for a reactor that are either unirradiated or spent (irradiated)

(2) Nuclear reactors and equipment and components specially designed for them

Original Chinese source p. 128

No.	HS Code(s)	Unit
6	8401100000	kg/unit

Commodity Name

nuclear reactor

Description

A nuclear reactor capable of sustaining a controlled, self-sustaining chain fission reaction. Note: A 'nuclear reactor' basically includes items inside the reactor vessel or installed directly on it, devices that control the core power level, and components that usually contain, directly contact, or control the primary coolant of the reactor core.

Original Chinese source p. 128

No.	HS Code(s)	Unit
7	8401409040	kg/unit

Commodity Name

Nuclear reactor vessel (including its top cover)

Description

Metal containers, or factory-prefabricated main components of this device, are specially designed or manufactured to house the reactor core of the nuclear reactor defined in item 6 above, as well as the related in-core components mentioned in item 13 below. Note: Nuclear reactor vessels are not classified by pressure level and include both reactor pressure vessels and tube-sheet vessels. This item includes the reactor pressure vessel lid, which is a main component of the factory-prefabricated reactor vessel.

Original Chinese source p. 128

No.	HS Code(s)	Unit
8	8428909020	units/kg

Commodity Name

Nuclear reactor fuel loader

Description

Equipment specifically designed or manufactured for performing operations to insert or remove fuel in the nuclear reactors defined in item 6 above. Note: This item is capable of performing loading operations or utilizing technically advanced positioning or alignment devices to allow for complex shutdown fueling operations, such as operations where it is usually impossible to directly observe or approach the fuel.

Original Chinese source p. 128

No.	HS Code(s)	Unit
9	8401409040	kg/unit

Commodity Name

Nuclear reactor control rods and equipment

Description

Rods, supporting structures or suspension structures, rod drive mechanisms, or rod guide tubes specifically designed or manufactured for controlling the nuclear fission process of the reactor defined in item 6 above.

Original Chinese source p. 128

No.	HS Code(s)	Unit
10	8401409040	kg/unit

Commodity Name

nuclear reactor pressure tube

Description

Pressure tubes specially designed or manufactured to accommodate the reactor fuel elements and primary coolant mentioned in item 6 above. Note: The pressure tube is part of the fuel channel, designed to operate under high pressure, with pressure sometimes exceeding 5 MPa.

Original Chinese source p. 129

No.	HS Code(s)	Unit
11	8109910010	kg

Commodity Name

Zirconium tube (the weight ratio of hafnium to zirconium is less than 1:500)

Description

Tubes or components of zirconium metal and alloys, specifically designed or manufactured for use as fuel cladding in nuclear reactors as defined in item 6 above, in quantities exceeding 10 kg. Note: The control of zirconium pressure tubes applies to item 10, and the control of zirconium channels applies to item 13.

Original Chinese source p. 129

No.	HS Code(s)	Unit
12	8413709980	units/kg

Commodity Name

Primary coolant pump or circulation pump

Description

Pumps or circulating pumps specifically designed or manufactured for circulating the primary coolant of nuclear reactors defined in item 6 above. Specially designed and manufactured pumps or circulating pumps include water-cooled reactor pumps, gas-cooled reactor circulating pumps, as well as electromagnetic pumps and mechanical pumps for liquid metal-cooled reactors. Such equipment includes systems with precision seals or multiple seals to prevent primary coolant leakage, fully sealed driven pumps, pumps with inertial mass systems, and pumps identified as NC-1 or equivalent standards.

Original Chinese source p. 129

No.	HS Code(s)	Unit
13	8401402000	kg/unit

Commodity Name

nuclear reactor internals

Description

“Reactor internal components” specially designed or manufactured for the nuclear reactors defined in item 6 above, including core support columns, fuel channels, discharge pipes, thermal shields, core cushions, core grids, and diffusion plates. Note: "Reactor internal components" are the main structures inside the reactor vessel, serving one or more functions, such as supporting the core, maintaining fuel alignment, guiding the primary coolant flow, providing radiation shielding for the reactor vessel, and directing instruments within the core.

Original Chinese source p. 129

No.	HS Code(s)	Unit
14	8419500010	units/kg

Commodity Name

heat exchanger

Description

1. Heat exchangers specifically designed or manufactured for the primary coolant or intermediate coolant circuit of nuclear reactors as defined in item 6 above; 2. Other heat exchangers specifically designed or manufactured for the primary coolant circuit of nuclear reactors as defined in item 6 above. Note: In the case of a fast reactor with an intermediate cooling circuit, heat exchangers used to transfer heat from one circuit side to the intermediate cooling circuit, except for steam generators, are naturally within the scope of control. In gas-cooled reactors, heat exchangers can be used to drive the secondary gas circuit of a gas turbine. The scope of control of this provision does not include heat exchangers of reactor support systems such as emergency cooling systems and decay heat cooling systems.

Original Chinese source p. 130

No.	HS Code(s)	Unit
15	8419500020	units/kg

Commodity Name

steam generator

Description

Specifically designed or manufactured to transfer the heat generated in the above nuclear reactor (primary loop side) to the feedwater (secondary loop side) to produce steam.

Original Chinese source p. 130

No.	HS Code(s)	Unit
16	9030899010	units/kg

Commodity Name

neutron detector

Description

Neutron detectors specifically designed or manufactured for measuring neutron flux inside nuclear reactor cores. Note: The scope of this clause includes in-core and extra-core detectors for measuring neutron flux in the large range range (104 neutrons per square centimeter per second or more). Off-core means instruments outside the nuclear reactor core as defined in item 6 above but located within biological shielding layers.

Original Chinese source p. 130

No.	HS Code(s)	Unit
17	-	-

Commodity Name

external heat shield

Description

Specifically designed or manufactured 'external thermal shield' for use in the nuclear reactors defined in item 6 above, which is used to reduce heat loss and also to protect the containment. Note: The 'external thermal shield' is the main structure placed above the reactor vessel, used to reduce the reactor's heat loss and lower the temperature inside the containment.

(3) Non-nuclear materials for nuclear reactors

Original Chinese source p. 131

No.	HS Code(s)	Unit
18	2845900001	g

Commodity Name

Deuterium and its deuterides (except heavy water)

Description

Any Recipient receiving during a calendar year (January 1 to December 31) more than 200 kg of deuterium atoms for nuclear reactors as defined in item 6 above, as well as any other deuterides in which the ratio of deuterium to hydrogen atoms exceeds 1:5000.

Original Chinese source p. 131

No.	HS Code(s)	Unit
19	2845100000	g

Commodity Name

Heavy water (deuterium oxide)

Description

Any recipient receiving, within a calendar year (January 1 to December 31), more than 200 kg of deuterium atoms of heavy water (D□O) used for nuclear reactors as defined in item 6 above, and with a deuterium-to-hydrogen atom ratio exceeding 1:5000.

Original Chinese source p. 131

No.	HS Code(s)	Unit
20	3801100040	kg

Commodity Name

Nuclear grade graphite

Description

Graphite weighing more than 1kg, with a boron equivalent purity greater than 5 ppm, and a density greater than 1.50 g/cm³. Note: For the purposes of export control, the government will determine whether graphite that meets the above technical specifications is intended for use in nuclear reactors. The control scope of this provision does not include graphite with a boron equivalent purity greater than 5 ppm and a density greater than 1.50 g/cm³ that is not used in nuclear reactors. Boron equivalent (BE) can be determined experimentally or calculated as the total BE of impurities including boron (Z in carbon is not considered an impurity, so its BE is not included), where: Carbon BE (ppm) = CF × concentration of element Z (ppm, Z as the unit); CF is the conversion factor: (σ × A) divided by (σ_B × A_B); σ_B and σ are the thermal neutron capture cross sections of boron and element Z in nature (in barns); and A_B and A are the atomic masses of boron and element Z in nature.

(4) Post-irradiation component processing plants and equipment specifically designed or manufactured for them

Original Chinese source p. 132

No.	HS Code(s)	Unit
21	8461500010 8456110010	units/kg

Commodity Name

Irradiated fuel element decladding equipment and cutting machines

Description

Remotely controlled equipment specifically designed or manufactured for use in reprocessing plants to remove the cladding of irradiated fuel assemblies, fuel rod bundles, or rods to expose the fuel pellets. Note: This equipment can cut or shear the fuel cladding in order to process the irradiated nuclear material. Specially designed metal cutters are the most commonly used, although advanced equipment such as lasers or peelers may also be employed. Fuel decladding includes the process of removing the cladding before dissolving the irradiated nuclear fuel.

Original Chinese source p. 132

No.	HS Code(s)	Unit
22	-	unit

Commodity Name

dissolver

Description

A dissolver or mechanically operated dissolver specifically designed or manufactured for reprocessing plants to dissolve irradiated nuclear fuel, capable of withstanding heat and highly corrosive liquids, and allowing remote loading, operation, and maintenance. Note: Dissolvers typically receive solid spent fuel. Nuclear fuel with cladding made of zirconium, stainless steel, or other similar alloy materials must have the cladding removed or cut before being placed into the dissolver so that the acid can contact the fuel pellets. Irradiated nuclear fuel is usually dissolved in strong inorganic acids such as nitric acid, and the remaining undissolved cladding is removed. Although some designs (such as small-diameter, annular, or plate-type containers) can be used to ensure criticality safety, they are not strictly necessary. Some administrative controls can achieve equivalent effects, such as small batch sizes or low fissile material content. Dissolving vessels and mechanically operated dissolvers are usually made of high-quality materials such as low-carbon stainless steel, titanium, or zirconium. Dissolvers may include systems for removing cladding or cladding waste, systems for controlling and treating radioactive off-gases, and can be remotely located, as dissolvers are mostly installed, operated, and maintained behind thick shielding.

Original Chinese source p. 133

No.	HS Code(s)	Unit
23	-	unit

Commodity Name

Solvent Extractors and Solvent Extraction Equipment

Description

Solvent extractors specifically designed or manufactured for irradiated fuel reprocessing plants, such as packed towers or pulse columns, mixer-settlers, or centrifugal contactors. Solvent extractors must be resistant to the corrosive effects of nitric acid. Solvent extractors are usually made from low-carbon stainless steel, titanium, zirconium, or other high-quality materials and are manufactured to very high standards (including special welding and inspection as well as quality assurance and quality control techniques). Solvent extractors receive solutions from dissolved irradiated fuel in dissolvers and organic solutions that separate uranium, plutonium, and fission products. Solvent extraction equipment is generally designed to meet stringent operating parameters, such as a long service life, maintenance-free or easy to replace, simple operation and control, and adaptability to various changes in process conditions.

Original Chinese source p. 133

No.	HS Code(s)	Unit
24	-	unit

Commodity Name

Chemical solution preservation or storage containers

Description

Specifically designed or manufactured storage or holding containers for irradiated fuel reprocessing plants. These storage or holding containers must be resistant to the corrosive effects of nitric acid. Storage or holding containers are usually made of low-carbon stainless steel, titanium, zirconium, or other high-quality materials. The storage or holding containers can be designed for remote operation and maintenance, and they may have the following features to control nuclear criticality: (1) walls or internal structures with at least 2% boron equivalent, or (2) a maximum diameter of 175 mm for cylindrical containers, or (3) a maximum width of 75 mm for plate or annular containers. Note: Three main process streams are produced during the solvent extraction stage. All three streams require the use of storage or holding containers in the following further processing steps: (a) concentrating a pure uranyl nitrate solution by evaporation, then subjecting it to denitration, during which it is converted into uranium oxide. This oxide is then used in the nuclear fuel cycle; (b) typically concentrating highly radioactive fission product solutions by evaporation and storing them in concentrated form. This concentrated solution can subsequently be evaporated and converted into a form suitable for storage or disposal; (c) concentrating and storing pure plutonium nitrate solutions before transferring them to the subsequent process steps. In particular, the storage or holding containers for plutonium solutions should be designed to prevent criticality issues caused by changes in the concentration and configuration of this stream.

Original Chinese source p. 134

No.	HS Code(s)	Unit
25	-	-

Commodity Name

Neutron measurement systems for process control

Description

Neutron measurement systems specifically designed or manufactured to be combined and used together with the automated process control systems of irradiated fuel element reprocessing plants. Note: These systems involve both active and passive neutron measurement and identification capabilities, aimed at determining the quantity and composition of special fissile materials. The complete system consists of neutron generators, neutron probes, amplifiers, and signal processing electronics. The scope of this clause does not include neutron detection and measurement instruments designed for any other applications unrelated to nuclear material accountancy and safeguards or to combination and joint use with the automated process control systems of irradiated fuel element reprocessing plants.

(5) Factories used for manufacturing nuclear reactor fuel elements and equipment specially designed or manufactured for them

Original Chinese source p. 135

No.	HS Code(s)	Unit
26	-	-

Commodity Name

Factories for manufacturing nuclear reactor fuel elements and equipment specifically designed or manufactured for them

Description

Nuclear fuel elements are manufactured from one or more source materials or special fissionable materials referred to in Part I of the Nuclear Export Control List. For oxide fuel, which is the most commonly used fuel type, commonly used equipment includes pellet pressing, sintering, grinding, and sizing. Mixed oxide fuel is handled inside a glove box (or an equivalent enclosure) until it is sealed within a cladding. In all cases, the fuel is sealed within a suitable cladding, which is designed as the primary cladding to package the fuel to provide appropriate performance and safety during reactor operation. In addition, in all cases, to ensure predictable and safe fuel performance, processes, procedures, and equipment must be precisely controlled to the highest standards.

Note: Equipment items that fall under fuel element fabrication and 'specially designed or manufactured equipment' include: (a) equipment that usually comes into direct contact with or processes or controls nuclear material production processes; (b) equipment for sealing nuclear material into cladding; (c)

equipment for inspecting cladding or the integrity of the seal; (d) equipment for inspecting the final processing of sealed fuel; (e) equipment used for assembling nuclear fuel elements. These equipment or equipment systems may include: (1) fully automated pellet inspection stations specially designed or manufactured to inspect the final dimensions and surface defects of fuel pellets; (2) automated welding machines specially designed or manufactured for welding end plugs onto fuel pins (or rods); (3) automated testing and inspection stations specially designed or manufactured to check the seal integrity of finished fuel pins (or rods); (4) systems specially designed or manufactured for producing nuclear fuel cladding.

Item (3) representative equipment includes and is used for: (a) X-ray inspection of end plug welds on fuel pins (or rods); (b) helium leak detection under pressure for fuel pins (or rods); (c) gamma scanning of fuel pins (or rods) to check the proper loading of internal fuel pellets.

Original Chinese source p. 136

No.	HS Code(s)	Unit
27	-	-

Commodity Name

Equipment that usually comes into direct contact with or processes or controls the production processes of nuclear materials

Description

-

Original Chinese source p. 136

No.	HS Code(s)	Unit
28	-	-

Commodity Name

Equipment for sealing nuclear material into cladding

Description

-

Original Chinese source p. 136

No.	HS Code(s)	Unit
29	-	-

Commodity Name

Equipment for inspecting the integrity of cladding or seals

Description

-

Original Chinese source p. 136

No.	HS Code(s)	Unit
30	-	-

Commodity Name

Equipment for inspection of final handling of sealed fuels

Description

-

Original Chinese source p. 136

No.	HS Code(s)	Unit
31	-	-

Commodity Name

Nuclear fuel element assembly equipment

Description

Equipment specially designed or prepared for the assembly of fuel elements.

Original Chinese source p. 136

No.	HS Code(s)	Unit
32	9022199010 9022299010	units/kg

Commodity Name

Fully automatic pellet inspection station

Description

Specifically designed or manufactured for inspecting the final dimensions and surface defects of fuel pellets.

Original Chinese source p. 136

No.	HS Code(s)	Unit
33	8515809010 8468200010	units/kg

Commodity Name

Automatic welding machine

Description

Specifically designed or manufactured for welding end plugs onto fuel pins (or rods).

Original Chinese source p. 136

No.	HS Code(s)	Unit
34	-	unit

Commodity Name

Automated testing and inspection benches

Description

Specifically designed or manufactured for inspecting the sealing of finished fuel rods (or sticks), representative equipment includes and is used for: (a) X-ray inspection of weld seams at the ends of rods (or sticks); (b) helium leak testing of pressurized rods (or sticks); (c) gamma-ray scanning of rods (or sticks) to verify the correct loading of internal fuel pellets.

Original Chinese source p. 136

No.	HS Code(s)	Unit
35	-	-

Commodity Name

Fuel cladding manufacturing system

Description

Systems specially designed or manufactured for producing nuclear fuel cladding.

(6) Natural uranium, depleted uranium, or special fissionable material isotope separation plants, as well as equipment specifically designed or manufactured for them (excluding analytical instruments)

Original Chinese source p. 137

No.	HS Code(s)	Unit
36	8401200000	pieces/kg

Commodity Name

gas centrifuge

Description

Gas centrifuges usually consist of thin-walled cylinders with diameters between 75mm and 650mm. The cylinders operate in a vacuum environment and rotate at a linear speed of about 300 m/s or higher, with their axis maintained vertically during rotation. To achieve high rotational speeds, the structural material of the rotating components must have a high strength-to-density ratio, and the rotor assembly and its individual components must be manufactured to high-precision tolerances to minimize imbalance. Unlike other centrifuges, gas centrifuges used for uranium enrichment feature one (or several) disk-shaped baffles in the rotor chamber and a fixed tube array for supplying and extracting UF gas, characterized by at least three separate channels, two of which are connected to collectors extending from the axial rotor to the periphery of the rotor chamber. There are also several non-rotating key elements in the vacuum environment, which, although specially designed, are not difficult to manufacture and are not made of unique materials. However, a centrifuge facility requires a large number of such components, so their quantity is an important indicator reflecting the final use.

Original Chinese source p. 137

No.	HS Code(s)	Unit
37	-	unit

Commodity Name

Components and parts specially designed or manufactured for gas centrifuges

Description

-

Original Chinese source p. 137

No.	HS Code(s)	Unit
38	8401200000	pieces/kg

Commodity Name

Gas centrifuge complete bowl assembly

Description

Several thin-walled cylinders or some interconnected thin-walled cylinders made of one or more high strength/density ratio materials described in this section of the notes; if they are interconnected, the cylinders are connected by the elastic bellows or ring of the gas centrifuge bellows or corrugated tube. The drum (if in final form) is equipped with one (or several) internal baffles and end caps of the gas centrifuge baffles and gas centrifuge top/bottom covers. However, the complete assembly may be delivered only in a partially assembled form.

Original Chinese source p. 137

No.	HS Code(s)	Unit
39	8401200000	pieces/kg

Commodity Name

Gas centrifuge bowl

Description

A thin-walled cylinder specially designed or manufactured with a thickness of 12mm or less, a diameter between 75mm and 650mm, and made of one or more high strength-to-density ratio materials used for centrifuge rotating components as specified in this section's notes.

Original Chinese source p. 137

No.	HS Code(s)	Unit
40	8401200000	pieces/kg

Commodity Name

Gas centrifuge rings or bellows

Description

Components specifically designed or manufactured for locally supporting a drum or connecting several drums together. A bellows is a short corrugated cylinder with a wall thickness of 3 mm or less, a diameter between 75 mm and 650 mm, and made of one or more high strength-to-density ratio materials of the type used for rotating parts of centrifuges as noted in this section.

Original Chinese source p. 138

No.	HS Code(s)	Unit
41	8401200000	pieces/kg

Commodity Name

Gas centrifuge baffle

Description

A disc-shaped component, specifically designed or manufactured with a diameter between 75mm and 650mm, made from one of the various high strength/density ratio materials used for the rotating parts of centrifuges as noted in this section, installed inside the centrifuge drum, whose function is to separate the exhaust chamber from the main separation chamber and, in some cases, help the UF material circulate in the main separation chamber of the drum.

Original Chinese source p. 138

No.	HS Code(s)	Unit
42	8401200000	pieces/kg

Commodity Name

Gas centrifuge top cover/bottom cover

Description

A disc-shaped component mounted at the end of the drum, specially designed or manufactured with a diameter between 75mm and 650mm, made from one of the various high strength/density ratio materials used for rotating parts of centrifuges noted in this section, in such a way that the UF is contained within the drum, and in some cases also serving as part of the whole to support, hold, or accommodate the upper bearing component (top cover) or support the rotating component of the motor and the lower bearing component (bottom cover).

Note:

The materials used for the rotating components of the centrifuge are:

1. Martensitic steel with an ultimate tensile strength of 1.95×10^9 N/m² or higher; 2. Aluminum alloy with an ultimate tensile strength of 0.46×10^9 N/m² or higher; 3. Fiber materials suitable for composite structures, with a specific modulus of 3.18×10^6 m or higher and a specific ultimate tensile strength of 7.62×10^4 m or higher ('specific modulus' is the Young's modulus in N/m² divided by the specific weight in N/m³; 'specific ultimate tensile strength' is the ultimate tensile strength in N/m² divided by the specific weight in N/m³).

1. Materials used for rotating components

Original Chinese source p. 139

No.	HS Code(s)	Unit
43	-	kg

Commodity Name

Martensitic steel with an ultimate tensile strength of 1.95×10^9 N/m² or higher

Description

-

Original Chinese source p. 139

No.	HS Code(s)	Unit
44	-	kg

Commodity Name

Aluminum alloy with an ultimate tensile strength of 0.46×10^9 N/m² or higher

Description

-

Original Chinese source p. 139

No.	HS Code(s)	Unit
45	-	kg

Commodity Name

fiberglass roving

Description

Glass fiber materials suitable for composite structures should have a specific modulus of 3.18×10^6 m or higher, and a specific ultimate tensile strength of 7.62×10^4 m or higher ('specific modulus' is the Young's modulus in N/m² divided by the specific gravity in N/m³; 'specific ultimate tensile strength' is the ultimate tensile strength in N/m² divided by the specific gravity in N/m³).

Original Chinese source p. 139

No.	HS Code(s)	Unit
46	-	kg

Commodity Name

fiberglass yarn

Description

Glass fiber materials suitable for composite structures should have a specific modulus of 3.18×10^6 m or higher and a specific ultimate tensile strength of 7.62×10^4 m or higher ('specific modulus' is the Young's modulus in N/m² divided by the specific weight in N/m³; 'specific ultimate tensile strength' is the ultimate tensile strength in N/m² divided by the specific weight in N/m³).

Original Chinese source p. 139

No.	HS Code(s)	Unit
47	-	kg

Commodity Name

carbon fiber yarn

Description

Carbon fiber materials suitable for composite structures should have a specific modulus of 3.18×10^6 m or higher, and a specific ultimate tensile strength of 7.62×10^4 m or higher ('specific modulus' is the Young's modulus in N/m² divided by the specific gravity in N/m³; 'specific ultimate tensile strength' is the ultimate tensile strength in N/m² divided by the specific gravity in N/m³).

2. Static components

Original Chinese source p. 139

No.	HS Code(s)	Unit
48	8483300030	pieces/kg

Commodity Name

Magnetic bearings

Description

A specially designed or manufactured bearing assembly consisting of an annular magnet suspended in a box filled with a damping medium. This box should be made of UF-resistant materials (see Section 6 notes). The magnet is coupled with a pole piece or another magnet mounted on the cover described in item 42. This magnet can be annular, with an outer-to-inner diameter ratio less than or equal to 1.6:1. Its initial permeability can be 0.15 H/m (120,000 CGS units) or higher, or the remanence 98.5% or higher, or the energy output exceeding 80 kJ/m³ (10^7 Gauss-Oersted). In addition to having the usual material properties, a prerequisite is that the deviation of the magnetic axis from the geometric axis should be limited to a very small tolerance range (less than 0.1 mm or 0.004 in), or there are special requirements for the uniformity of the magnet material.

Original Chinese source p. 140

No.	HS Code(s)	Unit
49	-	-

Commodity Name

Active magnetic bearings

Description

Active magnetic bearings specifically designed or manufactured for use in gas centrifuges. Note: These bearings usually have the following characteristics: 1. They are designed to keep a rotor rotating at 600Hz or higher centered; 2. They are connected to a reliable power supply and/or an uninterruptible power supply unit to operate for more than 1 hour.

Original Chinese source p. 140

No.	HS Code(s)	Unit
50	8483300030	pieces/kg

Commodity Name

Bearings/Dampers

Description

A bearing specifically designed or manufactured to be installed on a damper, with a pivot/cap. The pivot is usually a hardened steel shaft, one end machined into a hemisphere, and the other end can connect to the base cap mentioned in item 42. However, this shaft may be equipped with a hydrodynamic bearing. The cap is spherical, with one side having a hemispherical recess. These components are usually provided separately for the damper.

Original Chinese source p. 140

No.	HS Code(s)	Unit
51	8414909010	kg

Commodity Name

molecular pump

Description

Pump bodies specifically designed or manufactured with machined or extruded threaded grooves and machined cavities inside. Typical dimensions are as follows: inner diameter 75mm to 650mm, wall thickness 10mm (or thicker, length equal to or greater than the diameter). The cross-section of the grooved slot is typically rectangular, with a groove depth of 2mm or deeper.

Original Chinese source p. 140

No.	HS Code(s)	Unit
52	8503009010	kg

Commodity Name

Motor stator

Description

Annular stators specially designed or manufactured for high-speed multiphase AC hysteresis (or reluctance) motors operating synchronously in a vacuum at a frequency range of 600 Hz or higher and a power range of 40 VA or higher. The stator consists of multiphase windings on a low-loss laminated core made of thin layers, typically 2.0 mm thick or slightly thinner.

Original Chinese source p. 140

No.	HS Code(s)	Unit
53	8421919011	kg

Commodity Name

Centrifuge housing/collector

Description

Parts specifically designed or manufactured to accommodate the drum assembly of a gas centrifuge. The centrifuge casing consists of a rigid cylinder with a wall thickness of up to 30 mm (1.2 in), featuring two precisely machined end faces for mounting bearings and one or more flanges for installation. These two machined end faces are parallel to each other and perpendicular to the cylinder's longitudinal axis with an error not exceeding 0.05 degrees. The centrifuge casing can also be a lattice structure to accommodate multiple drums.

Original Chinese source p. 140

No.	HS Code(s)	Unit
54	8421919012	kg

Commodity Name

Collector

Description

Pipe fittings specifically designed or manufactured to extract UF gas from inside a drum using the action of a Pitot tube (that is, by using a surface formed at the end of a pipe configured, for example, with a bent radial arrangement to face the annular airflow inside the drum), and that can also be connected to a central gas extraction system.

3. Auxiliary systems, equipment, and components specifically designed or manufactured for gas centrifuge enrichment plants

Original Chinese source p. 141

No.	HS Code(s)	Unit
55	8419899021□	units/kg

Commodity Name

Feeding system/product and tailings extraction system

Description

Process systems or equipment specifically designed or manufactured, made of materials resistant to UF6 corrosion or protected with such materials, including: feed vessels (or feeders), furnaces or systems for delivering UF6 to a centrifuge cascade; condensors (or cold traps) or pumps for withdrawing UF6 from the cascade for subsequent heating and transfer; solidification stations or liquefaction stations used to compress UF6 and convert it into liquid or solid form so that UF6 can leave the enrichment process line; 'product' and 'tails' containers used for collecting UF6 into containers.

Original Chinese source p. 141

No.	HS Code(s)	Unit
56	-	unit

Commodity Name

Mechanical header piping system

Description

Pipeline systems and manifold systems specially designed or manufactured for operating UF in centrifuge cascades. A 6-pipeline network is usually a 'three-head' manifold system, with each centrifuge connected to a manifold head. In this way, there is a large amount of repetition in form. All are made of materials resistant to UF-6 (see notes in this section) or are protected with such materials, and are manufactured according to very high standards of vacuum and cleanliness.

Original Chinese source p. 141

No.	HS Code(s)	Unit
57	-	-

Commodity Name

Special shut-off and control valves

Description

(a) Valves specially designed or manufactured to intercept the feed, product, or tail UF6 gas flow in a single gas centrifuge. (b) Valves specially designed or manufactured for manual or automatic bellows-sealed valves, intercepting valves, or control valves used in the main or auxiliary systems of a gas centrifuge enrichment plant, made of materials resistant to UF6 corrosion or protected with these six materials, with an inner diameter of 10-160 mm. Note: The specially designed or manufactured valves typically include bellows-sealed valves, quick-closing valves, fast-acting valves, and other valves.

Original Chinese source p. 142

No.	HS Code(s)	Unit
58	9027819010	units/kg

Commodity Name

UF Mass Spectrometer/Ion Source6

Description

Mass spectrometers specifically designed or manufactured, which can obtain samples from UF gas streams "online," and have all of the following features: 1. capable of measuring ions of 320 atomic mass units or greater, with a unit resolution above 320; 2. ion source made of or protected with nickel, nickel-copper alloy containing 60% or more nickel (by weight), or nickel-chromium alloy; 3. electron impact ion source; 4. collection system suitable for isotope analysis.

Original Chinese source p. 142

No.	HS Code(s)	Unit
59	8504409930	pieces/kg

Commodity Name

frequency converter

Description

Frequency converters (also known as inverters or converters) or components, units, and subcomponents of such frequency converters, specially designed or manufactured to meet the requirements of 52 defined electric motor stators. They have all of the following characteristics: 1. Multi-phase output of 600Hz or higher; 2. High stability (frequency control better than 0.2%).

Note:

1. The items listed above do not directly contact UF process gas, nor do they directly control the centrifuge or directly control the passage of this gas from centrifuge to centrifuge and from cascade to cascade; 2. Materials resistant to UF corrosion include stainless steel, aluminum, aluminum alloys, nickel or nickel-containing alloys with 60% (or more) nickel, and fluorinated hydrocarbon polymers.

4. Components and parts specially designed or manufactured for gas diffusion enrichment

Original Chinese source p. 143

No.	HS Code(s)	Unit
60	8421919013	kg

Commodity Name

Gas diffusion membranes and diffusion membrane materials

Description

(a) Thin, highly porous filter membranes specially designed or manufactured from UF-resistant metals, polymers, or ceramic materials, with pore sizes of 100-1000 Å, membrane thickness of 5 mm (or less), and for tubular membranes, a diameter of 25 mm (or less); and (b) compounds or powders specially prepared for manufacturing such filter membranes. These compounds and powders include nickel or nickel-containing alloys with 60% (or more) nickel, alumina, or UF-resistant fully fluorinated hydrocarbon polymers with a purity of 99.9% (or more), with particle sizes less than 10 μm. The particle sizes are highly uniform. All of these are specially prepared for the manufacture of gas diffusion membranes.

Original Chinese source p. 143

No.	HS Code(s)	Unit
61	8421919014	kg

Commodity Name

diffusion chamber

Description

A specially designed or manufactured sealed container used to hold gas diffusion membranes, made of UF-resistant materials or protected with such materials.

Original Chinese source p. 143

No.	HS Code(s)	Unit
62	8414804910	units/kg

Commodity Name

compressor

Description

Compressors specially designed or manufactured, with a suction capacity of 1 m³ UF/min (or more), an outlet pressure of up to 500 kPa, and designed for long-term operation in a UF environment. These compressors have a pressure ratio of 10:1 or lower, are made of UF-resistant materials, or are protected with such materials.

Original Chinese source p. 143

No.	HS Code(s)	Unit
63	8414599020	units/kg

Commodity Name

Blower

Description

Blowers specially designed or manufactured, with a suction capacity of 1 m³ UF/min (or more), an outlet pressure of up to 500 kPa, designed for long-term operation in UF environments. The pressure ratio of this blower is 10:1 or lower, made of UF-resistant materials or protected with such materials.

Original Chinese source p. 143

No.	HS Code(s)	Unit
64	8484200010	kg

Commodity Name

Rotating shaft seal

Description

A vacuum sealing device that is specially designed or manufactured, with sealed air inlet and outlet ports, is used to seal the rotating shaft that connects the compressor or blower rotor to the drive motor, in order to ensure reliable sealing and prevent air from leaking into the compressor or blower chamber filled with UF. This sealing device is usually designed to limit the leakage rate of the buffer gas to less than 1000 cm³/min (60 in³/min).

Original Chinese source p. 143

No.	HS Code(s)	Unit
65	8419500030	units/kg

Commodity Name

Heat exchanger 6 for cooling UF

Description

A heat exchanger specifically designed or manufactured using UF-resistant materials, with 6 or protective coatings, has a permeation pressure change rate of less than 10 Pa/h under a pressure difference of 100 kPa.

5. Auxiliary systems, equipment, and components specially designed or manufactured for gas diffusion enrichment

Original Chinese source p. 144

No.	HS Code(s)	Unit
66	8419899021□	units/kg

Commodity Name

Feeding system/product and tailings extraction system

Description

Process systems or equipment specially designed or manufactured for enrichment plants, made of materials resistant to UF6 corrosion or protected with such materials, including: feed vessels, heaters, or systems for delivering UF6 to gaseous diffusion cascades; condensors (or cold traps) or pumps for extracting UF6 from the diffusion cascades; solidification stations or liquefaction stations to compress and condense UF6 gas from the cascade into liquid or solid UF6 to remove it from the gaseous diffusion cascade; 'product' containers or 'tailings' containers for collecting UF6 into vessels.

Original Chinese source p. 144

No.	HS Code(s)	Unit
67	-	unit

Commodity Name

Feed kettle, furnace or system

Description

Used to feed UF into the gas diffusion cascade. 6

Original Chinese source p. 144

No.	HS Code(s)	Unit
68	8419899021	units/kg

Commodity Name

Desublimator (or cold trap) or pump

Description

Used to remove UF from diffusion cascade. 6

Original Chinese source p. 144

No.	HS Code(s)	Unit
69	8419609010	units/kg

Commodity Name

Solidification station or liquefaction station

Description

Compress and condense the UF gas from the cascade into liquid or solid UF6.

Original Chinese source p. 144

No.	HS Code(s)	Unit
70	-	unit

Commodity Name

"Product" device or "tails" device

Description

Used to collect UF into containers. 6

Original Chinese source p. 144

No.	HS Code(s)	Unit
71	-	unit

Commodity Name

Header piping system

Description

Piping systems and header systems specially designed or manufactured for operating UF in gas diffusion cascades. Such piping networks are usually 'double-headed' header systems, with each diffusion unit connected to a header head.

Original Chinese source p. 144

No.	HS Code(s)	Unit
72	-	unit

Commodity Name

Specially designed or manufactured large vacuum manifolds and vacuum headers

Description

-

Original Chinese source p. 144

No.	HS Code(s)	Unit
73	8414100030	units/kg

Commodity Name

Vacuum pump 6 specially designed for use in a UF-containing atmosphere

Description

Made of or protected with corrosion-resistant UF materials. These pumps can be rotary or positive pressure, may have displacement seals and fluorocarbon seals, and special working fluids may be present.

Original Chinese source p. 144

No.	HS Code(s)	Unit
74	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Commodity Name

Special shut-off and control valves

Description

Specially designed and manufactured bellows-sealed valves, shut-off valves, and control valves made of durable UF material or protected, which can be operated manually or automatically, intended for installation in the main and auxiliary systems of gas diffusion enrichment plants.

Original Chinese source pp. 144-145

No.	HS Code(s)	Unit
75	9027819010	units/kg

Commodity Name

UF Mass Spectrometer/Ion Source6

Description

Mass spectrometers specially designed or manufactured to obtain samples 'online' from UF gas streams, and having all of the following characteristics: 1. Able to measure ions of 320 atomic mass units or greater, with a unit resolution higher than 320; 2. The ion source is made of or protected with nickel, nickel-copper alloy containing more than 60% nickel (by weight), or nickel-chromium alloy; 3. Electron impact ion source; 4. A collection system suitable for isotope analysis.

Original Chinese source p. 145

No.	HS Code(s)	Unit
76	8414100040	units/kg

Commodity Name

Vacuum pump specifically designed or manufactured with a pumping capacity of 5 m³/min (or above)

Description

Specially used for isotope gas diffusion concentration

6. Systems, equipment, and components specifically designed or manufactured for pneumatic beneficiation plants

Original Chinese source p. 145

No.	HS Code(s)	Unit
77	8424899930	units/kg

Commodity Name

separation nozzle

Description

Specifically designed or manufactured separation nozzles and their components. The separation nozzle is composed of a set of slit-shaped, curved channels with a radius of curvature less than 1mm that are resistant to UF corrosion. Inside the nozzle, there is a separation wedge tip that can divide the gas passing through the nozzle into two parts.

Original Chinese source p. 145

No.	HS Code(s)	Unit
78	-	unit

Commodity Name

Vortex tube

Description

Vortex tubes and their components specifically designed or manufactured. Vortex tubes are cylindrical or conical, made of or protected with material resistant to UF corrosion, and have one or more tangential inlets. One or both ends of these vortex tubes are equipped with nozzle-type attachments. Note: The feed gas enters the vortex tube tangentially at one end of the vortex tube, either through some swirl vanes or from several tangential positions distributed along the circumference of the vortex tube.

Original Chinese source p. 145

No.	HS Code(s)	Unit
79	8414804940	units/kg

Commodity Name

compressor

Description

A compressor specially designed or manufactured using materials resistant to corrosion by UF/carrier gas (hydrogen-6 or helium) mixtures or protected against it.

Original Chinese source p. 145

No.	HS Code(s)	Unit
80	8414599030	units/kg

Commodity Name

Blower

Description

A blower specially designed or manufactured using materials resistant to corrosion by UF/carrier gas (hydrogen or helium) mixtures, or protected accordingly.

Original Chinese source p. 145

No.	HS Code(s)	Unit
81	8484200020	kg

Commodity Name

Rotating shaft seal

Description

A rotary shaft seal specially designed or manufactured with sealed air inlet and outlet ports, used to seal the rotary shaft connecting the compressor or blower rotor to the drive motor, to ensure reliable sealing, prevent process gases from leaking out, or prevent air or sealing gas from infiltrating into the compressor or blower chamber filled with UF/carrier gas mixture.

Original Chinese source p. 145

No.	HS Code(s)	Unit
82	8419500040	units/kg

Commodity Name

Heat exchanger for cooling gas

Description

Heat exchangers specifically designed or manufactured from corrosion-resistant UF materials or protected with them.

Original Chinese source p. 146

No.	HS Code(s)	Unit
83	-	unit

Commodity Name

Separate element housing

Description

A separation element housing specifically designed or manufactured from materials resistant to UF corrosion or protected, used to accommodate vortex tubes or separation nozzles.

Original Chinese source p. 146

No.	HS Code(s)	Unit
84	8419899021□	units/kg

Commodity Name

Feeding system/product and tailings extraction system

Description

6-process systems or equipment specifically designed or manufactured for concentration plants, made of corrosion-resistant materials for UF, or protected with such materials, including: (a) feed tanks, feed heaters, or feed systems used to deliver UF into the concentration process; (b) sublimators (or cold traps) used to remove UF from the concentration process for the next heating transfer; (c) curing units or liquefiers used to compress UF and convert it into liquid or solid form, removing it from the concentration process; (d) “product” vessels or “tailings” vessels used to collect UF into containers.

Original Chinese source p. 146

No.	HS Code(s)	Unit
85	-	unit

Commodity Name

Feed kettle, feed heating furnace or feed system

Description

Used to feed UF into the concentration process. 6

Original Chinese source p. 146

No.	HS Code(s)	Unit
86	8419899021	units/kg

Commodity Name

Desublimator (or cold trap)

Description

Used to remove UF from the concentration process for the next 6-step heating transfer.

Original Chinese source p. 146

No.	HS Code(s)	Unit
87	-	unit

Commodity Name

solidifier or liquefier

Description

Used to remove UF from the concentration process by compressing UF and converting it into liquid 6 form or solid form. 6

Original Chinese source p. 146

No.	HS Code(s)	Unit
88	-	unit

Commodity Name

"Product" device or "tails" device

Description

Used to collect UF into containers. 6

Original Chinese source p. 146

No.	HS Code(s)	Unit
89	-	unit

Commodity Name

Header piping system

Description

A manifold piping system specifically designed or manufactured for operation in pneumatic cascades containing UF, made of materials resistant to UF corrosion or protected against it. This piping network is usually a 'double-headed' manifold system, with each diffusion unit connected to one manifold head.

Original Chinese source p. 146

No.	HS Code(s)	Unit
90	-	unit

Commodity Name

A vacuum system specifically designed or manufactured to work in a UF-containing atmosphere, consisting of a vacuum manifold, a vacuum header, and a vacuum pump.

Description

-

Original Chinese source p. 146

No.	HS Code(s)	Unit
91	8414100050	units/kg

Commodity Name

A vacuum pump specially designed or manufactured to work in an atmosphere containing UF, made of or protected with materials resistant to UF corrosion

Description

These pumps are also available with fluorocarbon seals and special working fluids.

Original Chinese source p. 146

No.	HS Code(s)	Unit
92	8481802110 8481802910 8481803110 8481803910 8481804010	sets/kg

Commodity Name

Special shut-off and control valves

Description

Manually or automatically operable corrugated sealing valves, shut-off valves, and control valves with a diameter of 40 mm or more, specially designed or manufactured from or protected by UF-resistant corrosion materials, intended for installation in the main and auxiliary systems of pneumatic concentration plants.

Original Chinese source p. 147

No.	HS Code(s)	Unit
93	9027819010	units/kg

Commodity Name

UF Mass Spectrometer/Ion Source6

Description

Mass spectrometers that are specially designed or manufactured to obtain samples 'online' from UF gas streams, and that have all of the following characteristics: 1. Capable of measuring ions with an atomic mass of 320 or greater, with a unit resolution above 320; 2. Made of or protected with nickel, nickel-copper alloy containing 60% or more nickel by weight, or nickel-chromium alloy; 3. Electron impact ion source; 4. Collector system suitable for isotope analysis.

Original Chinese source p. 147

No.	HS Code(s)	Unit
94	-	unit

Commodity Name

UF/Carrier Gas Separation System 6

Description

These systems are designed to reduce UF content in carrier gases by 6 to 1 ppm or lower, and may be equipped with the following devices: (a) cryogenic heat exchangers and cryogenic separators capable of withstanding -120°C or lower, or (b) cryogenic refrigeration equipment capable of withstanding -120°C or lower, or (c) separation nozzles or vortex tube devices used to separate UF from carrier gas, or (d) cold traps capable of freezing and separating UF 6

Original Chinese source p. 147

No.	HS Code(s)	Unit
95	-	unit

Commodity Name

Cryogenic heat exchangers and cryogenic separators

Description

Can withstand temperatures of -120°C or lower.

Original Chinese source p. 147

No.	HS Code(s)	Unit
96	8419899022	units/kg

Commodity Name

Low temperature refrigeration equipment

Description

Can withstand temperatures of -120°C or lower.

Original Chinese source p. 147

No.	HS Code(s)	Unit
97	-	unit

Commodity Name

Equipment such as separation nozzles or vortex tubes used to separate UF from the carrier gas

Description

-

Original Chinese source p. 147

No.	HS Code(s)	Unit
98	8419899023	units/kg

Commodity Name

UF Cold Trap 6

Description

A cold trap capable of freezing and separating UF. 6

Note:

The items listed in this section do not directly contact UF process gas nor directly control such gas flow in the cascade. All surfaces that come into contact with the process gas must be made of UF-resistant materials or protected with UF-resistant materials. With regard to pneumatic concentration items in this section, UF-corrosion-resistant materials include: copper, stainless steel 666, aluminum, aluminum alloys, nickel or nickel-containing alloys (60% or more), and fully fluorinated hydrocarbon polymers that are resistant to UF.

7. Systems, equipment, and components specially designed or manufactured for chemical exchange or ion exchange concentration plants

Original Chinese source p. 148

No.	HS Code(s)	Unit
99	-	unit

Commodity Name

Liquid-liquid exchange column (chemical exchange)

Description

Countercurrent liquid-liquid extraction columns with mechanical power input, specifically designed or manufactured for uranium enrichment plants using chemical exchange processes. To resist corrosion by concentrated hydrochloric acid solutions, these extraction columns and their internal components are generally made of or protected with suitable plastics (such as fluorocarbon polymers) or glass. The stage residence time of the extraction columns is generally designed to be very short (30 seconds or less).

Original Chinese source p. 148

No.	HS Code(s)	Unit
100	8421199040	units/kg

Commodity Name

Liquid-liquid centrifugal contactor (chemical exchange)

Description

Liquid-liquid centrifugal contactors specifically designed or manufactured for uranium enrichment plants using chemical exchange processes. These contactors use rotation to achieve the dispersion of the organic phase and the aqueous phase, and then use centrifugal force to separate the two phases. To resist corrosion from concentrated hydrochloric acid solutions, these contactors are generally made of or protected with suitable plastics (such as carbon-fluorine polymers) or glass. The stage residence time of centrifugal contactors is designed to be very short (30 seconds or less).

Original Chinese source p. 148

No.	HS Code(s)	Unit
101	-	unit

Commodity Name

Uranium reduction systems and equipment (chemical exchange)

Description

It includes the following two parts: item 102 and item 103.

Original Chinese source p. 148

No.	HS Code(s)	Unit
102	8543300010	units/kg

Commodity Name

Electrochemical reduction tank

Description

This equipment is specifically designed or manufactured for uranium enrichment plants using chemical exchange processes, intended to reduce uranium from one valence state to another. The material of this tank, which comes into contact with process solutions, must be able to resist corrosion by concentrated hydrochloric acid solutions. The cathode compartment of this tank must be designed to prevent uranium from being re-oxidized to a higher valence state. To retain uranium in the cathode compartment, this tank may have an impervious diaphragm made of special cation exchange material. The cathode is generally made of a suitable solid conductor such as graphite.

Original Chinese source p. 148

No.	HS Code(s)	Unit
103	-	unit

Commodity Name

A system installed at the cascade product end, specially designed or manufactured to remove U+4 from the organic phase stream, adjust acid concentration, and supply feed to the electrochemical reduction cell.

Description

These systems are composed of the following devices: solvent extraction equipment that back-extracts U+4 from the organic phase into the aqueous solution, evaporation equipment and/or other devices that complete the adjustment and control of the solution pH, and pumps or other transport devices that supply feed to the electrochemical reduction cell. An important design issue is to avoid contamination of the aqueous phase by certain types of metal ions. Therefore, the parts of the system that come into contact with this process stream should be made of or protected with appropriate materials (such as glass, fluorocarbon polymers, polyphenyl sulfone, polyethersulfone, and graphite impregnated with resin).

Original Chinese source p. 149

No.	HS Code(s)	Unit
104	-	unit

Commodity Name

Feed preparation system (chemical exchange)

Description

A system specially designed or manufactured to produce high-purity uranium chloride feed solutions for chemical exchange uranium isotope separation plants. These systems consist of dissolution equipment required for purification, solvent extraction equipment, and/or ion exchange equipment, as well as electrolytic cells used to reduce U+6 or U+4 to U+3. These systems produce uranium chloride solutions containing only a few ppm of chromium, iron, vanadium, molybdenum, and other divalent or higher-valence cation metal impurities. Construction materials for several parts of the high-purity U+3 handling systems include glass, fluorocarbon polymers, graphite lined with polystyrene sulfate or polyether sulfone plastics, and resin-impregnated graphite.

Original Chinese source p. 149

No.	HS Code(s)	Unit
105	-	unit

Commodity Name

Uranium oxidation system (chemical exchange)

Description

Systems specifically designed or manufactured for converting U+3 to U+4 in order to return to the chemical exchange enrichment process of uranium isotope separation cascades. These systems may be equipped with the following devices: (a) devices for contacting chlorine and oxygen with the aqueous phase from the isotope separation equipment and for extracting the resulting U+4 into the organic phase, which has been re-extracted and is returned from the product end of the cascade; (b) devices for separating water from hydrochloric acid so that water and concentrated hydrochloric acid can be reintroduced into the process at appropriate locations.

Original Chinese source p. 149

No.	HS Code(s)	Unit
106	-	unit

Commodity Name

Equipment for bringing chlorine and oxygen into contact with an aqueous stream from an isotope separation device, as well as equipment for extracting the resulting U+4 into an organic phase that has been back-extracted and returned from the product end of a cascade.

Description

-

Original Chinese source p. 149

No.	HS Code(s)	Unit
107	-	unit

Commodity Name

A device that separates water from hydrochloric acid so that the water and concentrated hydrochloric acid can be reintroduced into the process at the appropriate locations.

Description

-

Original Chinese source p. 150

No.	HS Code(s)	Unit
108	-	kg

Commodity Name

Rapid-response ion exchange resin/adsorbent (ion exchange)

Description

Fast-reacting ion exchange resins or adsorbents specifically designed or manufactured for uranium enrichment through ion exchange processes include: porous macroporous network resins, and/or film structures (in which active chemical exchange groups are limited to a coating on the surface of an inert porous support structure), as well as other composite structures in any suitable form, including particles or fibers. These ion exchange resins/adsorbents have diameters of 0.2 mm or smaller, and must be chemically resistant to corrosion by concentrated hydrochloric acid solution, and physically strong enough not to degrade in an exchange column. These resins/adsorbents are specifically designed to achieve very fast uranium isotope exchange kinetics (with an exchange half-life of less than 10 seconds), and can operate within a temperature range of 100-200°C.

Original Chinese source p. 150

No.	HS Code(s)	Unit
109	-	unit

Commodity Name

Ion exchange column (ion exchange)

Description

A cylinder specifically designed or manufactured to hold and support beds of ion exchange resin/adsorbent for uranium enrichment through the ion exchange process, with a diameter greater than 1000 mm. These columns are generally made of or lined with materials resistant to concentrated hydrochloric acid corrosion (such as titanium or fluorocarbon plastics) and are capable of operating at temperatures ranging from 100 to 200°C and at pressures above 0.7 MPa (102 psi).

Original Chinese source p. 150

No.	HS Code(s)	Unit
110	-	unit

Commodity Name

Ion exchange reflux system (ion exchange)

Description

(a) Chemical or electrochemical reduction systems specially designed and manufactured for regenerating chemical reductants used in ion exchange uranium enrichment cascades. (b) Chemical or electrochemical oxidation systems specially designed or manufactured for regenerating chemical oxidants used in ion exchange uranium enrichment cascades. The ion exchange enrichment process may use, for example, Ti+3 as the reducing cation, in which case the reduction system regenerates Ti+3 by reducing Ti+4. The ion exchange enrichment process may use, for example, Fe+3 as the oxidant, in which case the oxidation system regenerates Fe+3 by oxidizing Fe+2.

Original Chinese source p. 150

No.	HS Code(s)	Unit
111	-	unit

Commodity Name

A chemical or electrochemical reduction system specifically designed or manufactured for regenerating the chemical reducing agents used in ion exchange uranium enrichment cascades.

Description

-

Original Chinese source p. 150

No.	HS Code(s)	Unit
112	-	unit

Commodity Name

A chemical or electrochemical oxidation system specifically designed or manufactured for regenerating the chemical oxidants used in ion exchange uranium enrichment cascades.

Description

-

8. Systems, equipment, and components specifically designed or manufactured for laser-based enrichment plants

Original Chinese source p. 151

No.	HS Code(s)	Unit
113	-	unit

Commodity Name

Uranium evaporation system (AVLIS)

Description

Uranium evaporation systems specifically designed or manufactured for laser enrichment. These systems may contain electron beam guns designed to deliver power to the target (1 kW or greater) sufficient to produce uranium metal vapor at rates required for laser enrichment.

Original Chinese source p. 151

No.	HS Code(s)	Unit
114	-	unit

Commodity Name

Liquid or vapor uranium metal processing system (AVLIS) and components

Description

Systems specially designed or manufactured for the laser enrichment of molten uranium, molten uranium alloys, or uranium metal vapor, or parts specially designed or manufactured for these systems. Note: Liquid metal uranium processing systems may include crucibles and their cooling equipment. The crucibles of such systems and other parts that come into contact with molten uranium, molten uranium alloys, or uranium metal vapor must be made of or protected with materials having suitable corrosion resistance and high-temperature performance. Suitable materials include tantalum, yttria-coated graphite, or graphite coated with other rare earth oxides or their mixtures.

Original Chinese source p. 151

No.	HS Code(s)	Unit
115	-	unit

Commodity Name

Uranium Metal 'Product' and 'Waste' Collector Assembly (AVLIS)

Description

Collector assemblies specifically designed or manufactured for collecting liquid or solid uranium metal "products" and "residues." The parts of these assemblies are made of or protected by materials resistant to high temperatures and corrosive uranium metal vapors or liquids (such as yttria-coated graphite or tantalum). Such parts may include pipes, valves, pipe fittings, "discharge chutes," feed tubes, heat exchangers, and collection plates used for magnetic, electrostatic, or other separation methods.

Original Chinese source p. 151

No.	HS Code(s)	Unit
116	-	unit

Commodity Name

Splitter assembly housing (AVLIS)

Description

Cylindrical or rectangular containers specifically designed or manufactured to hold uranium metal vapor sources, electron beam guns, and collectors for 'product' and 'waste materials.' These housings have various types of openings for power lines, water pipes, laser beam windows, vacuum pump joints, and instrumentation diagnostics and monitoring. All these openings are equipped with opening and closing devices to allow maintenance of the internal components.

Original Chinese source p. 151

No.	HS Code(s)	Unit
117	-	unit

Commodity Name

Ultrasonic expansion nozzle (MLIS)

Description

Ultrasonic expansion nozzles specially designed or manufactured for cooling the mixture of UF and carrier gas to 150K or lower. These nozzles are resistant to UF corrosion.

Original Chinese source p. 152

No.	HS Code(s)	Unit
118	-	unit

Commodity Name

Product or tailings collector (MLIS)

Description

Components or equipment specifically designed or manufactured for collecting uranium product material or uranium residue material after laser irradiation. Note: For example, the function of a product collector is to collect enriched UF solid material. Such a collector may include filter-type, impact-type, or cyclone-type collectors, or a combination thereof; and it is resistant to corrosion in UF / UF environments.

Original Chinese source p. 152

No.	HS Code(s)	Unit
119	8414804920	units/kg

Commodity Name

UF/Carrier Gas Compressor (MLIS) 6

Description

UF/carrier gas mixture compressors specifically designed or manufactured for long-term operation in UF environments. The parts of these compressors that come into contact with process gases are made of or protected with materials resistant to UF corrosion.

Original Chinese source p. 152

No.	HS Code(s)	Unit
120	8484200030	kg

Commodity Name

Rotary shaft seal (MLIS)

Description

A rotary shaft seal specially designed or manufactured with sealed air inlet and outlet ports, used to seal the rotary shaft that connects the compressor rotor to the drive motor, to ensure reliable sealing, prevent process gas leakage, or prevent air or sealing gas from leaking into the compressor chamber filled with UF/carrier gas mixture 6.

Original Chinese source p. 152

No.	HS Code(s)	Unit
121	-	unit

Commodity Name

Fluorination System (MLIS)

Description

A system specifically designed or manufactured to fluorinate UF□ (solid) to UF□ (gas). These systems are designed to fluorinate the collected UF□ powder into UF□. The resulting UF□ is then collected in product containers or transferred as feed to MLIS units set up for further enrichment. In one scenario, this fluorination reaction can be carried out inside the isotope separation system so that the reaction and recovery occur immediately after leaving the 'product' collector. In another scenario, UF□ powder is removed from the 'product' collector and transferred to an appropriate reaction vessel (such as a fluidized bed reactor, spiral reactor, or flame tower reactor) for fluorination. In both scenarios, equipment for storing and transferring fluorine (or other suitable fluorinating agents) as well as UF□ collection and transfer equipment is used.

Original Chinese source p. 153

No.	HS Code(s)	Unit
122	9027819010	units/kg

Commodity Name

UF Mass Spectrometer/Ion Source (MLIS) 6

Description

Mass spectrometers that are specially designed or manufactured to obtain samples from UF gas streams "online" and have all of the following characteristics: 1. Able to measure ions with an atomic mass of 320 or greater, with a unit resolution above 320; 2. Ion source made of or protected by nickel, nickel-copper alloy containing 60% or more nickel (by weight), or nickel-chromium alloy; 3. Electron impact ion source; 4. A collector system suitable for isotope analysis.

Original Chinese source p. 153

No.	HS Code(s)	Unit
123	8419899021□	units/kg

Commodity Name

Feeding System/Product and Scrap Extraction System (MLIS)

Description

Process systems or equipment specially designed or manufactured for concentrators, made of or protected with materials resistant to UF corrosion, including: (a) feed kettles, heaters, or systems for introducing UF into the concentration process; (b) condensers (or cold traps) for removing UF from the concentration process for subsequent heating transfer; (c) solidifiers or liquefiers for compressing UF and converting it into liquid or solid form to remove UF during the concentration process; (d) 'product' or 'tailings' vessels for collecting UF into containers.

Original Chinese source p. 153

No.	HS Code(s)	Unit
124	-	unit

Commodity Name

UF/Carrier Gas Separation System (MLIS) 6

Description

A process system specifically designed or manufactured to separate UF from the carrier gas. The carrier gas can be nitrogen, argon, or other gases. Note: Such systems may be equipped with the following equipment: (a) cryogenic heat exchangers or cryogenic separators capable of withstanding -120°C or lower; or (b) cryogenic freezers capable of withstanding -120°C or lower; or (c) cold traps capable of freezing and separating UF.

Original Chinese source p. 154

No.	HS Code(s)	Unit
125	9013200020	pieces/kg

Commodity Name

Laser systems (AVLIS, MLIS, and CRISLA)

Description

Lasers or laser systems specifically designed or manufactured for uranium isotope separation. Lasers and laser components that are significant in laser-based concentration processes include those listed in the "Export Control List of Dual-Use Items of the People's Republic of China." Laser systems generally include optical and electronic components used to manage the laser beams (one or more) and to emit the laser beams into the isotope separation chamber. The laser system used in the AVLIS process typically consists of two lasers: a copper vapor laser or certain solid-state laser, and a tunable dye laser. The laser system used in MLIS typically consists of a CO2 laser or excited-excimer laser and a multi-pass optical chamber (with rotating mirrors at both ends). Both processes require a spectral frequency stabilizer to operate for extended periods.

9. Systems, equipment, and components specially designed or manufactured for plasma separation and enrichment plants

Original Chinese source p. 155

No.	HS Code(s)	Unit
126	-	unit

Commodity Name

Microwave power sources and antennas

Description

Microwave power sources and antennas specifically designed or manufactured to generate or accelerate ions, with the following characteristics: a frequency higher than 30 GHz, and an average output power used to generate ions greater than 50 kW.

Original Chinese source p. 155

No.	HS Code(s)	Unit
127	-	unit

Commodity Name

Ion excitation coil

Description

A radio frequency ion excitation coil specifically designed or manufactured, with a frequency above 100 kHz and capable of delivering an average power of more than 40 kW.

Original Chinese source p. 155

No.	HS Code(s)	Unit
128	-	unit

Commodity Name

Uranium plasma generation system

Description

A system specially designed or prepared for the generation of uranium plasma.

Original Chinese source p. 155

No.	HS Code(s)	Unit
129	-	unit

Commodity Name

Uranium metal "product" and "tails" collector assemblies

Description

Collector components specifically designed or manufactured for solid uranium metal 'products' and 'scrap.' These collector components are made of materials resistant to heat and uranium metal vapor corrosion, or have a protective layer made of such materials, for example, graphite or tantalum coated with yttrium.

Original Chinese source p. 155

No.	HS Code(s)	Unit
130	-	unit

Commodity Name

Separator assembly housing

Description

A cylindrical container specially designed or manufactured for use in plasma separation and enrichment plants to hold uranium plasma sources, radio frequency drive coils, and collectors for 'product' and 'tailings.' This housing has various types of openings for power lines, diffusion pump connections, and instrumentation diagnostics and monitoring. These openings are equipped with closure devices for the maintenance of internal components; they are made of suitable non-magnetic materials such as stainless steel.

10. Systems, equipment, and components specially designed or manufactured for electromagnetic concentration plants

Original Chinese source p. 156

No.	HS Code(s)	Unit
131	8401200000	pieces/kg

Commodity Name

Isotope electromagnetic separators and components

Description

Isotope electromagnetic separators and their equipment and components specifically designed or manufactured for uranium isotope separation include: (a) Ion sources, consisting of a single or multiple uranium ion sources specifically designed or manufactured, composed of a vapor source, ionizer, and beam accelerator, made of appropriate materials such as graphite, stainless steel, or copper, capable of providing an ion beam with a total current of 50 mA or more; (b) Ion collectors, the collector electrodes, made of two or more slots and containers specifically designed or manufactured to collect enriched and depleted uranium ion beams, made of appropriate materials such as graphite or stainless steel; (c) Vacuum housing, a vacuum housing specifically designed or manufactured for a uranium electromagnetic separator, made of appropriate non-magnetic materials such as stainless steel, designed to operate at a pressure of 0.1 Pa or below; Note: The housing is specifically designed to accommodate ion sources, collector electrodes, and water cooling pipelines, and has structures for connecting diffusion pumps and openings that allow these components to be removed and reinstalled. (d) Pole pieces, specifically designed or manufactured pole pieces with a diameter greater than 2 meters, used to maintain a constant magnetic field within the isotope electromagnetic separator and to transfer the magnetic field between adjacent separators.

Original Chinese source p. 156

No.	HS Code(s)	Unit
132	-	unit

Commodity Name

Ion source

Description

A single or multiple uranium ion source specifically designed or manufactured consists of a vapor source, an ionizer, and a beam accelerator, made of suitable materials such as graphite, stainless steel, or copper, capable of providing an ion beam with a total intensity of 50 mA or higher.

Original Chinese source p. 156

No.	HS Code(s)	Unit
133	-	unit

Commodity Name

Ion collector

Description

The collector plate electrode is composed of two or more slots and containers specifically designed or manufactured to collect enriched and depleted uranium ion beams, made of appropriate materials such as graphite or stainless steel.

Original Chinese source p. 157

No.	HS Code(s)	Unit
134	-	unit

Commodity Name

Vacuum enclosure

Description

A vacuum enclosure specifically designed or manufactured for a uranium electromagnetic separator, made from stainless steel or other suitable non-magnetic materials, designed to operate at a pressure of 0.1 Pa or lower. Note: The enclosure is specifically designed to house the ion source, collector electrodes, and water-cooling pipes, and has structures for connecting a diffusion pump as well as open-and-close structures that allow these components to be removed and reinstalled.

Original Chinese source p. 157

No.	HS Code(s)	Unit
135	8505190010	kg

Commodity Name

pole block

Description

Magnet blocks specially designed or manufactured, with a diameter greater than 2 meters, used to maintain a constant magnetic field in isotope electromagnetic separators and to transmit the magnetic field between adjacent separators.

Original Chinese source p. 157

No.	HS Code(s)	Unit
136	8504401940	pieces/kg

Commodity Name

high voltage power supply

Description

A high-voltage power supply specially designed or manufactured for ion sources, with all of the following characteristics: capable of continuous operation, output voltage of 20,000V or higher, output current of 1A or more, and voltage stability greater than 0.01% over 8 hours.

Original Chinese source p. 157

No.	HS Code(s)	Unit
137	8504401910	pieces/kg

Commodity Name

Magnet power supply

Description

High-power DC magnet power supply specifically designed or manufactured with all of the following characteristics: capable of continuously delivering a current output of 500A or more at 100V or higher, with current or voltage stability greater than 0.01% within 8 hours.

(7) Factories that produce or concentrate heavy water, deuterium, and deuterium compounds, and equipment specifically designed or manufactured for them

Original Chinese source p. 158

No.	HS Code(s)	Unit
138	-	unit

Commodity Name

Water-hydrogen sulfide exchange tower

Description

Exchange towers specifically designed or manufactured for the production of heavy water using the GS process. The tower has a diameter of 1.5 m or larger and is capable of operating at a pressure greater than or equal to 2 MPa.

Original Chinese source p. 158

No.	HS Code(s)	Unit
139	8414599040	units/kg

Commodity Name

Blower

Description

Single-stage, low-pressure head centrifugal fans specifically designed or manufactured for circulating hydrogen sulfide gas (i.e., gas containing more than 70% H□S) for the production of heavy water using the GS process. These fans handle gas with a capacity greater than or equal to 56 m³/s (120,000 SCFM), can operate at an inlet pressure greater than or equal to 1.8 MPa (260 psi), and are designed with seals for wet H□S media.

Original Chinese source p. 158

No.	HS Code(s)	Unit
140	8414804930	units/kg

Commodity Name

compressor

Description

Single-stage, low-head centrifugal compressors (i.e., 0.2 MPa or 30 psi) designed or manufactured specifically for producing heavy water using the GS process, for circulating hydrogen sulfide gas (i.e., gas containing more than 70% H□S). These compressors handle gas with a capacity greater than or equal to 56 m³/s (120,000 SCFM), are capable of operating at a suction pressure greater than or equal to 1.8 MPa (260 psi), and have sealing designs for wet H□S media.

Original Chinese source p. 158

No.	HS Code(s)	Unit
141	-	unit

Commodity Name

Ammonia-hydrogen exchange tower

Description

Ammonia-hydrogen exchange towers specifically designed or manufactured for the production of heavy water using the ammonia-hydrogen exchange method. The tower has a height of greater than or equal to 35 m (114.3 ft) and a diameter of 1.5 m (4.9 ft) to 2.5 m (8.2 ft), capable of operating at pressures greater than 15 MPa (2225 psi). These towers each have at least one axial hole connected by a flange, the diameter of which is equal to the diameter of the exchange tower shell, through which internal components of the tower can be installed or removed.

Original Chinese source p. 158

No.	HS Code(s)	Unit
142	-	unit

Commodity Name

Tower internals

Description

Tower internals specifically designed or manufactured for the production of heavy water using the ammonia-hydrogen exchange method. Tower internals include multi-stage contact devices specially designed to promote thorough gas/liquid contact.

Original Chinese source p. 158

No.	HS Code(s)	Unit
143	8413810020	units/kg

Commodity Name

multistage pump

Description

Multistage pumps specifically designed or manufactured for producing heavy water using the ammonia-hydrogen exchange method. The multistage pumps include specially designed submerged pumps used to circulate liquid ammonia from one contact stage to other stage towers.

Original Chinese source p. 158

No.	HS Code(s)	Unit
144	-	unit

Commodity Name

Ammonia cracker

Description

Ammonia cracker specifically designed or manufactured for producing heavy water using the ammonia-hydrogen exchange method. This device can operate at a pressure greater than or equal to 3 MPa (450 psi).

Original Chinese source p. 159

No.	HS Code(s)	Unit
145	-	unit

Commodity Name

Infrared absorption analyzer

Description

An infrared absorption analyzer that can analyze the hydrogen/deuterium ratio 'online' when the deuterium concentration is equal to or higher than 90%.

Original Chinese source p. 159

No.	HS Code(s)	Unit
146	-	unit

Commodity Name

catalytic burner

Description

A catalytic combustor specifically designed or manufactured to convert concentrated deuterium gas into heavy water when producing heavy water using the ammonia-hydrogen exchange method.

Original Chinese source p. 159

No.	HS Code(s)	Unit
147	-	unit

Commodity Name

Integrated heavy water concentration system, or its distillation tower

Description

A complete heavy water upgrading system specifically designed or manufactured for concentrating heavy water to reactor-grade deuterium levels, or its distillation columns. Note: These systems, which typically use water distillation technology to separate heavy water from light water, are specifically designed or manufactured to produce reactor-grade heavy water (i.e., 99.75% deuterium oxide) from lower concentration heavy water feedstock.

Original Chinese source p. 159

No.	HS Code(s)	Unit
148	-	-

Commodity Name

Ammonia synthesis converter or synthesizer

Description

Ammonia synthesis converters or synthesizers specifically designed or manufactured for producing heavy water using the ammonia-hydrogen exchange method. Note: These converters or synthesizers obtain synthesis gas (nitrogen and hydrogen) from ammonia/hydrogen high-pressure exchange towers, while the synthesized ammonia is returned to the exchange tower.

(8) Separately, uranium and plutonium conversion plants used for fuel element manufacture and uranium isotope separation as defined in items (5) and (6), and equipment specifically designed or manufactured for them

Original Chinese source p. 160

No.	HS Code(s)	Unit
149	-	-

Commodity Name

A system specifically designed or manufactured to convert uranium ore concentrate into UO

Description

Note: The conversion from uranium ore concentrate to UO□ can be achieved through the following steps: First, dissolve the uranium ore concentrate with nitric acid and extract the purified uranyl nitrate using a solvent such as tributyl phosphate; then, the uranyl nitrate is converted to UO□ through concentration and denitration, or reacted with gaseous ammonia to produce ammonium diuranate, which is then converted to UO□ through filtration, drying, and calcination.

Original Chinese source p. 160

No.	HS Code(s)	Unit
150	-	unit

Commodity Name

A system specifically designed or manufactured to convert UO to UF

Description

The conversion from UO to UF can be directly achieved through fluorination with F3 6. This process requires a source of fluorine gas or chlorine trifluoride.

Original Chinese source p. 160

No.	HS Code(s)	Unit
151	-	unit

Commodity Name

System specifically designed, 3 2 or manufactured to convert UO into UO

Description

The conversion from UO to UO can be achieved by reducing UO with 3 2 ammonia or hydrogen produced from cracking.

Original Chinese source p. 160

No.	HS Code(s)	Unit
152	-	unit

Commodity Name

A system specifically designed or manufactured to convert UO to UF

Description

The conversion from UO to UF can be achieved by reacting UO2 with hydrogen fluoride gas (HF) at 300-500°C.

Original Chinese source p. 160

No.	HS Code(s)	Unit
153	-	unit

Commodity Name

Systems specially designed or manufactured to convert UF to UF

Description

The conversion from UF to UF can be achieved by a exothermic reaction of UF with fluorine in a 4-6 tower reactor. The effluent gas is passed through a cold trap cooled to -10°C to condense the UF6 in the hot effluent gas. This process requires a source of fluorine.

Original Chinese source p. 160

No.	HS Code(s)	Unit
154	-	unit

Commodity Name

A system specially designed or manufactured to convert UF into metallic uranium

Description

The conversion from UF to metallic uranium can be achieved by reducing UF with magnesium (for large batches) or calcium (for small batches). The reduction reaction is generally carried out at temperatures above the melting point of uranium (1130°C).

Original Chinese source p. 160

No.	HS Code(s)	Unit
155	-	unit

Commodity Name

A system specifically designed or manufactured to convert UF to UO

Description

The conversion from UF to UO can be achieved by three methods. In the first method, UF is reduced and hydrolyzed to UO using hydrogen and steam. In the second method, UF is hydrolyzed by dissolving it in water, then ammonium diuranate is precipitated by adding ammonia, and subsequently, ammonium diuranate can be reduced to UO with hydrogen at 820°C. In the third method, gaseous UF, CO, and NH3 are passed into water, resulting in the precipitation of ammonium uranyl carbonate. At 500-600°C, ammonium uranyl carbonate reacts with steam and hydrogen to form UO. The conversion from UF to UO is usually the first step in a fuel fabrication plant.

Original Chinese source p. 160

No.	HS Code(s)	Unit
156	-	unit

Commodity Name

A system specifically designed or manufactured to convert UF to UF

Description

The conversion from UF to UF is realized by hydrogen reduction.

Original Chinese source p. 161

No.	HS Code(s)	Unit
157	-	unit

Commodity Name

Equipment specifically designed or manufactured to convert UO to UCl

Description

The conversion from UO□ to UCl□ can be achieved through two processes. In the first process, UO□ reacts with carbon tetrachloride (CCl□) at a temperature of about 400°C. In the second process, at a temperature of about 700°C, and in the presence of carbon black (CAS 1333-86-4) and carbon monoxide, UO□ reacts with chlorine to produce UCl□.

Original Chinese source p. 161

No.	HS Code(s)	Unit
158	-	unit

Commodity Name

Equipment specially designed or manufactured for converting plutonium nitrate to plutonium oxide

Description

The main functions included in this process are: process feed storage and conditioning, precipitation and solid-liquid separation, calcination, product handling, ventilation, waste management, and process control. The process system is specially designed to avoid criticality and radiation effects, as well as to minimize toxicity hazards. In most post-processing facilities, this process involves converting plutonium nitrate to plutonium oxide. Other processes may include the precipitation of plutonium oxalate or plutonium peroxide.

Original Chinese source p. 161

No.	HS Code(s)	Unit
159	-	unit

Commodity Name

Equipment specially designed or prepared for the production of plutonium metal

Description

This process typically involves the fluorination of plutonium, usually producing plutonium fluoride with highly corrosive hydrofluoric acid, followed by reduction with high-purity calcium metal to generate metallic plutonium and calcium fluoride residue. The main functions included in this process are fluorination (for example, using equipment made of or lined with precious metals), metal reduction (for example, using ceramic crucibles), residue recovery, product handling, ventilation, waste management, and process control. The process systems are specially designed to prevent criticality and radiation effects, as well as to minimize toxic hazards. Other processes include the fluorination of plutonium oxalate or plutonium peroxide, followed by reduction to metal.

3. Precursor chemicals

(one)

Original Chinese source p. 162

No.	HS Code(s)	Unit
1	2939410011	kg

Commodity Name

Ephedrine (ephedrine, ephedrine hydrochloride)

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
2	2939410011	kg

Commodity Name
Ephedrine sulfate

Description
Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
3	2939410011	kg

Commodity Name
Racemic ephedrine hydrochloride

Description
Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
4	2939410011	kg

Commodity Name
Ephedrine oxalate

Description
Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
5	2939420030	kg

Commodity Name
Pseudoephedrine (pseudoephedrine, pseudoephedrine hydrochloride)

Description
Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
6	2939420030	kg

Commodity Name
pseudoephedrine sulfate

Description
Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
7	2939490011	kg

Commodity Name
Methylephedrine hydrochloride

Description
Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
8	2939490011	kg

Commodity Name

Racemic methylephedrine hydrochloride

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
9	2939440000	kg

Commodity Name

Norephedrine and its salts

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
10	1302140011	kg

Commodity Name

Ephedra extract and extract powder for pesticide production

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
11	1302140012	kg

Commodity Name

Supply of ephedra extract and extract powder for medicinal purposes

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
12	1302140019	kg

Commodity Name

Other ephedra extract and extract powder

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
13	1302140020	kg

Commodity Name

Ephedra juice

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
14	1211500011	kg

Commodity Name

Ephedra powder for medicinal purposes

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
15	1211500021	kg

Commodity Name

Ephedra powder for spices

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
16	1211500091	kg

Commodity Name

Other uses of ephedra grass powder

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
17	3004410010 3004420010	kg

Commodity Name

Single preparations of ephedrine salts [referring to ephedrine (pseudoephedrine) hydrochloride tablets, ephedrine hydrochloride injections, and ephedrine sulfate tablets]

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
18	2932930000	kg

Commodity Name

Piperonal (heliotropin, 3,4-methylenedioxybenzaldehyde, myristicin aldehyde)

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
19	2932940000	kg

Commodity Name

Safrole (4-allyl-1,2-methylenedioxybenzene)

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
20	2932910000	kg

Commodity Name

Isoasarone (4-propenyl-1,2-methylenedioxybenzene)

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
21	2939610010	kg

Commodity Name

Ergometrine

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
22	2939620010	kg

Commodity Name

Ergotamine

Description

Can be used to make drugs

Original Chinese source p. 162

No.	HS Code(s)	Unit
23	2939630010	kg

Commodity Name

Lysergic acid

Description

Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
24	2914310000	kg

Commodity Name

1-phenyl-2-propanone (phenylacetone)

Description

Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
25	2924230010	kg

Commodity Name

N-Acetyl-o-aminobenzoic acid (N-acetyl-o-aminobenzoic acid, 2-acetylaminobenzoic acid)

Description

Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
26	2932920000	kg

Commodity Name
3,4-methylenedioxyphenyl-2-propanone

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
27	2841610000	kg

Commodity Name
potassium permanganate

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
28	2915240000	kg

Commodity Name
Acetic anhydride (acetic anhydride)

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
29	3301299910	kg

Commodity Name
sassafras oil

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
30	2916340010	kg

Commodity Name
Phenylacetic acid

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
31	2806100000	kg

Commodity Name
Hydrochloric acid (hydrogen chloride)

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
32	2807000010	kg

Commodity Name
sulfuric acid

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
33	2902300000	kg

Commodity Name
Toluene

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
34	2909110000	kg

Commodity Name
Ether

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
35	2914110000	kg

Commodity Name
acetone

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
36	2914120000	kg

Commodity Name
Methyl ethyl ketone (butanone)

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
37	2922431000	kg

Commodity Name
Anthranilic acid (Anthranilic acid)

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
38	2933321000	kg

Commodity Name
Piperidine (hexahydropyridine)

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
39	2903130000	kg

Commodity Name
Chloroform (chloroform)

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
40	2925290020	kg

Commodity Name
Hydroxyimine and its salts

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
41	2914790020	kg

Commodity Name
o-Chlorophenylcyclopentanone

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
42	2914790020	kg

Commodity Name
1-Phenyl-2-bromo-1-propanone (also known as bromobenzylacetone, 2-bromopropiophenone, α-bromopropiophenone, etc.)

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
43	2926909071	kg

Commodity Name
3-Oxo-2-phenylbutyronitrile (also known as α-cyanoacetophenone, α-phenylacetylacetonitrile, 2-phenylacetylacetonitrile, etc.)

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
44	2933370000	kg

Commodity Name
N-phenylethyl-4-piperidone

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
45	2933360000	kg

Commodity Name
4-anilino-N-phenylethylpiperidine

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
46	2801302000	kg

Commodity Name
Bromine

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
47	2914399015	kg

Commodity Name
1-phenyl-1-propanone

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
48	2939490040	kg

Commodity Name
Chlorephedrine

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
49	2918300021	kg

Commodity Name
3-Oxo-2-phenylbutyric acid methyl ester (also known as α-acetylphenylacetic acid methyl ester, α-phenylacetylacetic acid methyl ester)

Description
Can be used to make drugs

Original Chinese source p. 163

No.	HS Code(s)	Unit
50	2924299061	kg

Commodity Name

3-Oxo-2-phenylbutyramide (also known as α-acetylphenylacetamide, α-acetoacetophenone)

Description

Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
51	2932999093	kg

Commodity Name

2-Methyl-3-[3,4-(methylenedioxy)phenyl]glycidic acid (also known as 3,4-methylenedioxyphenyl-2-propionyl glycidic acid)

Description

Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
52	2932999093	kg

Commodity Name

2-Methyl-3-[3,4-(methylenedioxy)phenyl]glycidic acid methyl ester (also known as 3,4-methylenedioxyphenyl-2-propyl glycidate)

Description

Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
53	2926909071	kg

Commodity Name

Phenyl acetonitrile

Description

Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
54	2932209031	kg

Commodity Name

γ-butyrolactone

Description

Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
55	2933399073	kg

Commodity Name

4-(N-phenylamino)piperidine

Description

Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
56	2933399073	kg

Commodity Name

1-tert-Butoxycarbonyl-4-(N-phenylamino)piperidine

Description

Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
57	2933399073	kg

Commodity Name

N-phenyl-N-(4-piperidyl)propionamide

Description

Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
58	2907299020	L/kg

Commodity Name

cannabidiol

Description

Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
59	2918990042	kg

Commodity Name

2-Methyl-3-phenylglycidic acid and its esters

Description

Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
60	2918300021	kg

Commodity Name

3-Oxo-2-phenylbutyric acid and its esters

Description

Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
61	2932999093	kg

Commodity Name

2-Methyl-3-[3,4-(methylenedioxy)phenyl]glycidic acid ester compound

Description

Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
62	2933399073	kg

Commodity Name
4-piperidone

Description
Can be used to make drugs

Original Chinese source p. 164

No.	HS Code(s)	Unit
63	2933399073	kg

Commodity Name
1-tert-butoxycarbonyl-4-piperidone

Description
Can be used to make drugs

(two)

Original Chinese source p. 165

No.	HS Code(s)	Unit
1	2933399075	kg

Commodity Name
1-ethoxycarbonyl-4-piperidone

Description
Can be used to make drugs

Original Chinese source p. 165

No.	HS Code(s)	Unit
2	2933399075	kg

Commodity Name
1-Benzyloxycarbonyl-4-piperidone

Description
Can be used to make drugs

Original Chinese source p. 165

No.	HS Code(s)	Unit
3	2934999015	g

Commodity Name
1,4-Dioxa-8-azaspiro[4.5]decane

Description
Can be used to make drugs

Original Chinese source p. 165

No.	HS Code(s)	Unit
4	2933399075	kg

Commodity Name
1-acetyl-4-piperidone

Description
Can be used to make drugs

Original Chinese source p. 165

No.	HS Code(s)	Unit
5	2933399076	L/kg

Commodity Name

1-tert-Butoxycarbonyl-4-(4-fluorophenylamino)piperidine

Description

Can be used to make drugs

Original Chinese source p. 165

No.	HS Code(s)	Unit
6	2933399076	kg

Commodity Name

1-tert-Butoxycarbonyl-4-(3-fluorophenylamino)piperidine

Description

Can be used to make drugs

Original Chinese source p. 165

No.	HS Code(s)	Unit
7	2933399076	kg

Commodity Name

1-tert-Butoxycarbonyl-4-(2-chlorophenylamino)piperidine

Description

Can be used to make drugs

Original Chinese source p. 165

No.	HS Code(s)	Unit
8	2933399077	kg

Commodity Name

4-(4-Fluorophenylamino)piperidine

Description

Can be used to make drugs

Original Chinese source p. 165

No.	HS Code(s)	Unit
9	2933399077	kg

Commodity Name

1-ethoxycarbonyl-4-(N-phenylamino)piperidine

Description

Can be used to make drugs

Original Chinese source p. 165

No.	HS Code(s)	Unit
10	2933399077	kg

Commodity Name

1-Ethoxycarbonyl-4-(4-fluorophenylamino)piperidine

Description

Can be used to make drugs

Original Chinese source p. 165

No.	HS Code(s)	Unit
11	2933399077	kg

Commodity Name

N-tert-butoxycarbonyl-4-hydroxypiperidine

Description

Can be used to make drugs

Original Chinese source p. 165

No.	HS Code(s)	Unit
12	2933399078	kg

Commodity Name

Amide derivatives, carbamate derivatives, halogenated derivatives of 4-(N-phenylamino)piperidine, or derivatives in combination of the above derivation methods, as well as salts of all the aforementioned substances

Description

Can be used to make drugs

Original Chinese source p. 165

No.	HS Code(s)	Unit
13	2933399078	kg

Commodity Name

Derivatives of 4-piperidone in the form of ketal derivatives, amide derivatives, carbamate derivatives, or combinations of the above derivatization methods, as well as salts of all the aforementioned substances

Description

Can be used to make drugs

The salts that may exist in the 13 substances listed above are also included in the control.

* When exporting the above precursor chemicals to specific countries (regions) such as the United States, Mexico, and Canada, a "Dual-Use Item and Technology Export License" must be obtained.

(three)

Original Chinese source p. 166

No.	HS Code(s)	Unit
1	2827101000 2827109000	kg

Commodity Name

Ammonium chloride

Description

Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
2	2833270000	kg

Commodity Name

barium sulfate

Description

Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
3	2843900010	g

Commodity Name
Palladium chloride

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
4	2915291000	kg

Commodity Name
sodium acetate

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
5	2207100000 2207200010 2207200090	L/kg

Commodity Name
ethanol

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
6	2815110000 2815120000	kg

Commodity Name
sodium hydroxide

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
7	2836200000	kg

Commodity Name
Sodium carbonate (soda ash)

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
8	2836300000	kg

Commodity Name
Sodium bicarbonate (baking soda)

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
9	3802101000 3802109000	kg

Commodity Name
activated carbon

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
10	2915211100 2915211900 2915219030 2915219030 2915219090	kg

Commodity Name
Acetic acid

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
11	2915310000	kg

Commodity Name
Ethyl acetate

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
12	2905122000	kg

Commodity Name
Isopropyl alcohol

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
13	2801200000	kg

Commodity Name
iodine

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
14	2811199010	kg

Commodity Name
hydroiodic acid

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
15	2804709010	kg

Commodity Name
red phosphorus

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
16	2913000010	kg

Commodity Name
Trichloroacetaldehyde

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
17	2932999080	kg

Commodity Name
dihydrosafrole

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
18	2811199030	L

Commodity Name
hydrobromic acid

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
19	2902200000	L

Commodity Name
benzene

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
20	2915900016	L

Commodity Name
propionyl chloride

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
21	2918130010	kg

Commodity Name
Dibenzoyltartaric acid

Description
Can be used to make drugs

Original Chinese source p. 166

No.	HS Code(s)	Unit
22	2850009020	kg

Commodity Name
Potassium borohydride

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
23	2921110040	L

Commodity Name
Methylamine

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
24	2902199013	L

Commodity Name
Cyclopentene

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
25	2916399021 2903120000	L/kg

Commodity Name
o-Chlorobenzoyl chloride

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
26	2903120000	L

Commodity Name
Dichloromethane

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
27	2903150000	L

Commodity Name
Dichloroethane

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
28	2847000000	L

Commodity Name
hydrogen peroxide

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
29	2827510010	kg

Commodity Name
sodium bromide

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
30	2926909083	kg

Commodity Name
o-chlorobenzonitrile

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
31	2903890041	L

Commodity Name
Chlorinated cyclopentane

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
32	2916310010	L

Commodity Name
Ethyl benzoate

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
33	2902110000	L

Commodity Name
cyclohexane

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
34	2827320000	kg

Commodity Name
Aluminum trichloride

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
35	2902410000 2902420000 2902430000 2902440000	L

Commodity Name
xylene

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
36	2850009020	kg

Commodity Name
sodium borohydride

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
37	2918120000	kg

Commodity Name
tartaric acid

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
38	2903890041	L

Commodity Name
Bromocyclopentane

Description
Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
39	8104110000 8104300010 8104300090 8104901010	kg

Commodity Name

Magnesium (those items that belong to dual-use items for both military and civilian purposes are included in export control management)

Description

Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
40	2914790018	L/kg

Commodity Name

Bromo-ortho-ketone

Description

Can be used to make drugs

Original Chinese source p. 167

No.	HS Code(s)	Unit
41	2812170000	L

Commodity Name

Thionyl chloride (thionyl chloride)

Description

Can be used to make drugs

* The above-listed precursor chemicals require an 'Export License for Dual-Use Items and Technologies' when being exported to specific countries (regions) such as Myanmar, Laos, and Afghanistan.

Notes:

1. The scope of goods in the "Catalogue for the Administration of Import and Export Licenses for Dual-Use Items and Technologies" is based on the names and descriptions of the goods, and the customs commodity codes are for customs declaration reference only.

2. For goods that have obtained dual-use items and technology import and export licenses and involve the adjustment of customs commodity codes, they can be used within the validity period of the license until March 31, 2026.