FAQs on amendments in SCOMET related policy

(Notified vide Notification no. 5 and Public Notice no. 4 dated 24.04.2017)

1. ***What is the purpose of Notification No. 5 dated 24th April 2017 issued by DGFT?***

DGFT has amended SCOMET from time to time in order to implement India's international commitments and obligations in the field of non-proliferation while simultaneously ensuring that trade facilitation is accorded the highest priority.

This notification to update SCOMET is part of India's continuing obligations as a member of the Missile Technology Control Regime (MTCR) and as an adherent to the Nuclear Suppliers Group (NSG) Guidelines. Importantly, a significant number of changes to SCOMET have been carried out to harmonise with the guidelines and control lists of the Wassenaar Arrangement and the Australia Group, two multilateral export control regimes that India wishes to join.

2. ***How will industry benefit by the adoption of these additional regulations?***

Government and industry have a responsibility to exercise due diligence to ensure that Indian exports do not fall into the hands of proliferators, terrorist groups and non-state actors. Any export that inadvertently lands up in the wrong hands may have implications for our national security and affect Brand India. These regulations are an important step to address such concerns.

Further, global supply chains are increasingly interconnected. India's trading partners would like to be assured that India's regulations are in line with the highest standards. Adoption of these regulations is expected to act as an enabler for a greater role for Indian industry in global supply chains; facilitate access to high technology and production/export of strategic items.

3. ***When do these changes come into effect?***

The changes come into effect on 1 May 2017. Please note that the entire SCOMET list has been re-issued and all previous notifications in this regard stand rescinded.

4. ***What about export orders in the pipeline?***

Any exports made on or after 1 May 2017 will be subject to the new regulations. If your export item falls under the revised SCOMET list, please seek an authorization from the concerned licensing authority.

5. How do I know whether my item now falls in the ambit of the amended SCOMET?

(1) Trade and industry members are requested to study the Notification No. 5 dated 24th April 2017 carefully and in particular the following:

- Categories 1D, 3D, 6 and 8 of SCOMET and the exemptions and exclusions set out for relevant items;
- Commodity Identification Note of SCOMET (*for arriving at the proper classification and licensing jurisdiction*)
- SCOMET Glossary (*for the definitions of terms*)

(2) Industry associations such as FICCI, CII and ASSOCHAM were made aware of the Implications of the changes to Category 6 and 8. These associations as well as others are being requested to inform their members about the changes to the regulations.

(3) FICCI/MEA/DGFT/DDP jointly held a National Workshop For Industry Awareness on Wassenaar Arrangement on March 15,2017 in New Delhi. DGFT in coordination with the relevant Government Departments plans to conduct industry outreach awareness events in the coming months to update the stakeholders.

6. What are the specific facilitation measures that have been announced?

(1) The time for processing SCOMET applications is being brought down further from 45 days to 30 days. (Please refer to para 2.82 of the Handbook of Procedures, as amended)

(2) For chemicals covered in the new Category 1D, prior authorisation will not be required if the export is to the forty-one notified countries. (Please refer to Category 1D of SCOMET)

7. What are the changes brought in the SCOMET list vide Notification no. 5 dated 24.4.2017?

SCOMET Categories in which amendments have been made are as follows:-

a) SCOMET Category 6 titled 'Munitions List' that was hitherto 'Reserved' has been populated. The Military Stores list notified vide Notification No. 115(RE-2013/2009-2014 dated 13th March 2015 stands rescinded.

b) A new SCOMET Category 8 titled 'Special Materials and Related Equipment, Material Processing, Electronics, Computers, Telecommunications, Information Security, Sensors and Lasers, Navigation and Avionics, Marine, Aerospace and Propulsion' has been added.

c) In SCOMET Category 1B and 1C, amendments have been made. SCOMET Category 1D titled 'Other Chemicals' has been added.
d) SCOMET Category 2 has been substituted with amended and new entries.
e) SCOMET Categories 3D001 to 3D005 have been substituted with entries 3D001 to 3D015.
f) Categories 3A201, 3A303, 3A309, 4A003, 4A007, 4A017, 4B006, 5A102, 5A205 have been substituted with amended and new entries.
g) SCOMET Category 7C has been deleted.

8. Where can I find a consolidated list of changes brought in the SCOMET list vide Notification no. 5 dated 24.4.2017?

You can download the "FAQs and Amendments" document related to Notification no. 5 dated 24.4.2017. It lists in detail all the changes that have been brought vide the said notification.

9. Do I need to refer to old DGFT notifications regarding the SCOMET list?

No. All the earlier notifications related to the SCOMET list have been superceded by Notification no. 5 dated 24.4.2017. The revised Appendix 3 containing the SCOMET list has been re-issued.

10. What is the new category 8 of SCOMET?

The new Category 8 of SCOMET is titled 'Special Materials And Related Equipment, Material Processing, Electronics, Computers, Telecommunications, Information Security, Sensors And Lasers, Navigation And Avionics, Marine, Aerospace And Propulsion'. It has been populated with Wassenaar Arrangement (WA) Dual use list items to harmonize India's export control list with the WA.

11. What are the specific changes with regard to defence exports?

(1) The list of Military Stores (Notification No. 115(RE-2013/2009-2014 dated 13th March 2015) has been rescinded. Please refer now to Category 6 of SCOMET (Munitions List) for the items that would now be under export regulations with effect from 1 May 2017.

(2) Department of Defence Production (DDP) would continue to be the licensing authority for Category 6 items, subject to some exceptions.

(3) DDP would be issuing a revised Standard Operating Procedure to clarify the implications

12. What are the specific changes with regard to chemicals?

(1) Export of chemicals specified in Category 1C to a country that is not a State Party to the Chemical Weapons Convention would now require a Government signed End-Use Certificate. This requirement is in keeping with India's commitments under the said Convention.

(2) Twenty-five chemicals have been notified under a new Category 1D. However, export of these chemicals to the forty one countries that are members of the Australia Group would not require a prior authorisation.

(3) Notification no. 56(RE-2013)/2009-14 dated 12.12.2013 has been rescinded since the three chemicals covered in the notification are now included in Category 1D.

13. There appear to be many changes with regard to the IT sector. Is it true that the IT sector will be affected?

At first glance, it may appear that there are many new regulations for the IT sector. But if you go through the provisions carefully, it may be noted that:

(a) A General Technology Note, General Software Technology Note and General "Information Security" has been added to Appendix-3 of SCOMET List. This list is a useful guide on inclusions and exclusions.
(b) Software and Technology in the public domain is excluded from the purview of regulations.
(c) There are specific exemptions and exclusions set forth in Category 8 of SCOMET.

DGFT is planning specific industry outreach for the IT sector. All concerns of the IT sector would be addressed.

14. What is the new provision regarding maintenance of records?

Every SCOMET authorisation holder shall maintain the specified records in manual or electronic form for a period of 5 years. Please refer to para 2.73(c) of the Handbook of Procedures as amended vide Public Notice No. 4 dated 24th April 2017.

15. Why has Government introduced regulations for non-SCOMET items?

Para 2.72(b) of the Handbook of Procedures as amended vide Public Notice No. 4 dated 24th April 2017 provides that export can be regulated if the exporter has been notified in writing by DGFT or he knows or has reason to believe that an item not covered in the SCOMET list has a potential risk of use in or diversion to weapons of mass destruction or in their missile system or military end use (including by terrorists and non-state actors). In such a case, the process for authorising export would be similar to the one for SCOMET.

The basis for this provision exists in the FTDR Act 1992 and the WMD Act 2005. It is a widely accepted international best practice that is in line with Government's non-proliferation policy of ensuring that India's exports do not inadvertently land up in the wrong hands for illicit use.

16. Whom should I contact for any doubts or queries?

SCOMET Cell, DGFT
(contact details : **scomet-dgft@nic.in, s.gagandeep@nic.in**)

EPC Cell, Department of Defence Production
(contact details : **usepc@ddpmod.gov.in**)

Consolidated list of changes made in the SCOMET list

(Notified Vide Notification no: 5 dated 24.04.2017)

1. New Additions in SCOMET list

a. **SCOMET Category 6** titled 'Munitions List' that was hitherto 'Reserved' has been populated.
b. **A new SCOMET Category 8** titled 'Special Materials and Related Equipment, Material Processing, Electronics, Computers, Telecommunications, Information Security, Sensors and Lasers, Navigation and Avionics, Marine, Aerospace and Propulsion' has been added.
c. Glossary has been substituted and Acronyms have been added.

2. A Commodity Identification Note, General Notes, General Technology Note, General Software Note and General Information Security Note have been added.

3. Changes in Category 1

a) In SCOMET category 1C, SCOMET 5-digit alpha numeric classification from 1C001 to 1C017 has been inserted. A residual entry 1B037 named 'Others' has been inserted.

b) In SCOMET category 1C, SCOMET 5-digit alpha numeric classification from 1C001 to 1C017 has been inserted.

In the guidelines for category 1C, the condition for export of 1C chemicals to states not party to the Chemical Weapons Convention has been clarified as follows:-

> *Export of chemicals as specified below to states not party to the Chemical Weapons Convention shall continue to be restricted and will be allowed only against an export licence* ***and a Government signed End-Use-Certificate****, and in that case also exporters shall submit to the DGFT a copy of the bill of entry into the destination country within 30 days of* ***delivery.***

(c) After sub-category 1C, a new sub-category '1D' has been inserted with the description 'Other chemicals'.

1D Export of chemicals in this category is allowed to countries specified in Table 1 without an export licence subject to the condition that the exporter shall notify the Department of Chemicals & Petro-chemicals, Ministry of External Affairs (D&ISA) and the DGFT within 30 days of such export in the prescribed format (Aayat Niryat Form) along with the End-Use Certificate and submit to the DGFT a copy of the bill of entry into the destination country within 30 days of delivery.

Export of chemicals in this category to other countries shall be restricted and will be allowed only against an export licence, and in that case the exporter shall submit to the DGFT a copy of the bill of entry into the destination country within 30 days of delivery.

Sl.No.	SCOMET Entry	Chemical	CAS Number
1	1D001	2-Chloroethanol	107-07-3
2	1D002	3-Hydroxy-1-methylpiperidine	3554-74-3
3	1D003	3-Quinuclidone	3731-38-2
4	1D004	Ammonium bifluoride	1341-49-7
5	1D005	Diethylaminoethanol	100-37-8
6	1D006	Diisopropylamine	108-18-9
7	1D007	Dimethylamine	124-40-3
8	1D008	Dimethylamine hydrochloride	506-59-2
9	1D009	Hydrogen fluoride	7664-39-3
10	1D010	Methyl benzilate	76-89-1
11	1D011	O,O-Diethyl phosphorothioate	2465-65-8
12	1D012	O,O-Diethyl phosphorodithioate	298-06-6
13	1D013	Pinacolone	75-97-8
14	1D014	Phosphorus pentasulphide	1314-80-3
15	1D015	Potassium bifluoride	7789-23-3
16	1D016	Potassium cyanide	151-50-8
17	1D017	Potassium fluoride	7789-23-3
18	1D018	Sodium bifluoride	1333-83-

			1
19	1D019	Sodium cyanide	143-33-9
20	1D020	Sodium fluoride	7681-49-4
21	1D021	Sodium hexafluorosilicate	16893-85-9
22	1D022	Sodium sulphide	1313-82-2
23	1D023	Triethanolamine hydrochloride	637-39-8
24	1D024	Triisopropyl phosphite	116-17-6
25	1D025	Diethylamine	109-89-7

Table 1

Argentina, Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Republic of Korea, Latvia, Lithuania, Luxembourg, Malta, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, United States.

Technical note to Category 1: Chemicals are listed by name, Chemical Abstract Service (CAS) number and CWC Schedule (where applicable). Chemicals of the same structural formula (e.g., hydrates) are controlled regardless of name or CAS number. CAS numbers are shown to assist in identifying whether a particular chemical or mixture is controlled, irrespective of nomenclature. However, CAS numbers cannot be used as unique identifiers in all situations because some forms of the listed chemical have different CAS numbers, and mixtures containing a listed chemical may also have different CAS numbers. ”

4. For the entries in category 2, the following shall be substituted:-

“ 2A	Bacteria (including Rickettsials) , whether natural, enhanced or modified, either in the form of isolated live cultures or as material including living material which has been deliberately inoculated or contaminated with such cultures for the following:

2A001	Bacillus anthracis
2A002	Bordetella bronchoseptica
2A003	Brucella abortus
2A004	Brucella melitensis
2A005	Brucella suis
2A006	Chlamydia psittaci (formerly known as Chlamydophila psittaci)
2A007	Clostridium botulinum
2A008	Clostridium perfringes, epsilon toxin producing types Note: Limiting this control to epsilon toxin-producing strains of Clostridium perfringens therefore exempts from control the transfer of other Clostridium perfringens strains to be used as positive control cultures for food testing and quality control.
2A009	Corynebacterium diphtheria
2A010	Francisella tularensis
2A011	Klebsiella pneumonia
2A012	Legionella pneumophila
2A013	Leptospira interrogans - all serotypes reported in India
2A014	Mycobacterium bovis
2A015	Mycobacterium tuberculosis
2A016	Mycoplasma mycoides - var mycoides
2A017	Mycoplasma mycoides - var Capri
2A018	Neisseria meningitidis
2A019	Paseturella multicoda type B
2A020	Burkholderia mallei (Pseudomonas mallei)
2A021	Burkholderia pseudomallei (Pseudomonas pseudomallei)
2A022	Salmonella paratyphi
2A023	Shigella dysenteriae

2A024	Staphylococcus aureus
2A025	Streptococcus pneumoniae
2A026	(Reserved)
2A027	Vibrio cholerae
2A028	Yersinia pestis
2A029	Shiga toxin producing Escherichia coli (STEC) of serogroups O26, O45, O103, O104, O111, O121, O145, O157, and other shiga toxin producing serogroups Note: Shiga toxin producing Escherichia coli includes inter alia enterohaemorrhagic E. coli (EHEC), verotoxin/ verocytotoxin producing E. coli (VTEC)
2A030	Mycoplasma capricolum subspecies capripneumoniae ('strain F38')
2A031	Salmonella enterica subspecies enterica serovar Typhi (Salmonella typhi)
2A032	Clostridium argentinense (formerly known as Clostridium botulinum Type G), botulinum neurotoxin producing strains
2A033	Clostridium baratii, botulinum neurotoxin producing strains
2A034	Clostridium butyricum, botulinum neurotoxin producing strains
2A035	Coxiella burnetii
2A036	Mycoplasma mycoides subspecies mycoides SC (small colony)
2A037	Rickettsiae rickettsii
2A038	Rickettsia quintana
2A039	Rickettsia prowazekii

2B	Fungi, whether natural, enhanced or modified, either in the form of isolated live cultures or as material including living material which has been deliberately inoculated or contaminated with such cultures for the following:

2B001	Blastomyces dermatitidis
2B002	Coccidiodes immitis
2B003	Histoplasma capulatum
2B004	Nocardia asteroides
2B005	Paracoccidioides braziliensis
2B006	Coccidiodes posadasii
2B007	Pneumocystis carinii

2C	Parasites, whether natural, enhanced or modified, either in the form of isolated live cultures or as material including living material which has been deliberately inoculated or contaminated with such cultures for the following:
2C001	Entamoeba histolytica
2C002	Babesia microti
2C003	Babesia divergens
2C004	Balantidium coli
2C005	Cryptosporidium species
2C006	Leishmania species
2C007	Naegleria australiensis
2C008	Naegleria fowleri
2C009	Plasmodium falciparum
2C010	(Reserved)
2C011	Schistosoma mansoni
2C012	Schistosoma japonicum
2C013	Schistosoma haematobium
2C014	Toxoplasma gondii
2C015	Trichinella spiralis
2C016	Trypanosoma brucei

2D	Viruses, whether natural, enhanced or modified, either in the form of isolated live cultures or as material including living material which has been deliberately inoculated or contaminated with such cultures for the following:
2D001	African Horse Sickness virus
2D002	African Swine Fever virus
2D003	Avian influenza virus Note: This includes only those Avian influenza viruses of high pathogenicity as defined by the World Organization for Animal Health (OIE), the European Union (EU), or competent national regulatory bodies.
2D004	Blue tongue virus
2D005	Camel pox virus
2D006	Chikungunya virus
2D007	Crimean-Congo hemorrhagic fever virus
2D008	Dengue virus
2D009	Eastern equine encephalitis virus
2D010	Ebolavirus: all members of the Ebolavirus genus
2D011	Encephalomyocarditis virus (EMC)
2D012	Foot and Mouth Disease virus (all serotypes and subtypes)
2D013	Guanarito virus
2D014	Goatpox virus
2D015	Hantaan virus
2D016	Herpes virus simiae (monkey B virus)
2D017	Herpes ateles, Herpes saimiri
2D018	HIV- 1 & HIV-2 and other strains of SIV
2D019	Classical swine fever virus (Hog cholera virus)
2D020	Human T-cell Leukemia virus
2D021	Junin virus
2D022	Japanese encephalitis virus

2D023	Kyasanur Forest Disease virus
2D024	Korean hemorrhagic fever virus
2D025	Lymphocytic choriomeningitis virus (LCM)
2D026	Lassa virus
2D027	Marburgvirus: all members of the Marburgvirus genus
2D028	Murray valley encephalitis virus
2D029	Machupo virus
2D030	Mason-pfizer monkey virus
2D031	Monkey pox virus
2D032	Newcastle disease virus
2D033	Omsk hemorrhagic fever virus
2D034	Peste des petits ruminant virus
2D035	Teschen disease virus (Porcine entero virus type 1)
2D036	Powassan virus
2D037	Rabies virus and other members of the Lyssavirus genus
2D038	Respiratory syncitial virus
2D039	Rift Valley Fever virus
2D040	Rinderpest virus
2D041	Sabia virus
2D042	Sheeppox virus
2D043	Sin Nombre virus
2D044	Smallpox virus
2D045	St.Louis encephalitis virus
2D046	Swine vesicular disease virus
2D047	Tick-borne encephalitis virus (Far Eastern subtype)
2D048	(Reserved)
2D049	Variola virus

2D050	Venezuelan equine encephalitis virus
2D051	Vesicular stomatitis virus
2D052	Western equine encephalitis virus
2D053	Yellow fever virus
2D054	Andes virus
2D055	Chapare virus
2D056	Choclo virus
2D057	Dobrava-Belgrade virus
2D058	Suid herpesvirus 1 (Pseudorabies virus; Aujeszky's disease)
2D059	Hendra virus (Equine morbillivirus)
2D060	Laguna Negra virus
2D061	Louping ill virus
2D062	Lujo virus
2D063	Lumpy skin disease virus
2D064	(Reserved)
2D065	Nipah virus
2D066	Oropouche virus
2D067	(Reserved)
2D068	Rocio virus
2D069	Seoul virus
2D070	Severe acute respiratory syndrome-related coronavirus (SARS-related coronavirus)
2D071	Reconstructed 1918 influenza virus

2E	(Reserved)

2F	Toxins

2F001	Abrin
2F002	Aflatoxins
2F003	Anatoxins
2F004	Botulinum toxins Note: Excluding botulinum toxins in product form meeting all of the following criteria: a. are pharmaceutical formulations designed for testing and human administration in the treatment of medical conditions; b. are pre-packaged for distribution as clinical or medical products; and c. are authorised by a state authority to be marketed as clinical or medical products
2F005	Bungarotoxins
2F006	Clostridium perfringens alpha, beta 1, beta 2, epsilon and iota toxins
2F007	Corynebacterium diphtheriae toxins
2F008	Cyanginosins (Microcystins) (Microcystic aeuginosa)
2F009	Staphylococcus aureus enterotoxins, hemolysin alpha toxin, and toxic shock syndrome toxin (formerly known as Staphylococcus enterotoxin F)
2F010	Neurotoxin (Shigella dysenteriae)
2F011	(Reserved)
2F012	Shiga toxins (shiga-like toxins, verotoxins, and verocytotoxins)
2F013	(Reserved)
2F014	Trichothecene mycotoxins
2F015	Tetanus toxin (clostridium tetani)
2F016	Tetrodotoxin (Spheroides rufripes)
2F017	Verrucologen (M. verrucadia)
2F018	Cholera toxin

2F019	Conotoxins Note: Excluding conotoxins in product form meeting all of the following criteria: a. are pharmaceutical formulations designed for testing and human administration in the treatment of medical conditions; b. are pre-packaged for distribution as clinical or medical products; and c. are authorised by a state authority to be marketed as clinical or medical products
2F020	Diacetoxyscirpenol toxin
2F021	HT-2 mycotoxin
2F022	Modeccin toxin
2F023	T-2 mycotoxin
2F024	Verotoxin and shiga-like ribosome inactivating proteins
2F025	Viscum Album Lectin 1 (Viscumin)
2F026	Volkensin toxin

2G	Plant Pathogens
2G001	Bemisia tabaci
2G002	Colletotrichum kahawae (Colletotrichum coffeanum var. virulans)
2G003	Claviceps purpurea
2G004	Dothistroma pini (Scirrhia pini)
2G005	Erwinia amylovora
2G006	Frankliniella occidentalis
2G007	Microcyclus ulei (syn. Dothidella ulei)
2G008	Peronospora hyoscyami f. sp. tabacina
2G009	Phytophthora infestans
2G010	Puccinia graminis ssp. graminis var. graminis / Puccinia

	graminis ssp. graminis var. stakmanii (Puccinia graminis [syn. Puccinia graminis f. sp. tritici])
2G011	Puccinia erianthi
2G012	Puccinia striiformis f. sp. tritici (Puccinia glumarum)
2G013	Magnaporthe oryzae (Pyricularia oryzae)
2G014	Ralstonia solanacearum
2G015	Peronospora hyscyami de Bary
2G016	(Reserved)
2G017	Sugar cane Fiji disease virus
2G018	Sclerotinia sclerotiorum
2G019	Tilletia indica
2G020	Thrips palmi
2G021	Ustilago Maydis
2G022	Xanthomonas albilineans
2G023	Xanthomonas axonopodis pv. citri (Xanthomonas campestris pv. citri A) [Xanthomonas campestris pv. citri]
2G024	Xanthomonas oryzae pv. oryzae (Pseudomonas campestris pv. oryzae)
2G025	Clavibacter michiganensis subsp. sepedonicus (Corynebacterium michiganensis subsp. sepedonicum or Corynebacterium sepedonicum)
2G026	Cochliobolus miyabeanus (Helminthosporium oryzae)
2G027	Andean potato latent virus (Potato Andean latent tymovirus)
2G028	Potato spindle tuber viroid
2G029	Thecaphora solani
2G030	Synchytrium endobioticum
2G031	Sclerophthora rayssiae var. zeae
2G032	Peronosclerospora philippinensis (Peronosclerospora sacchari)

2H	Genetic Elements and Genetically-modified Organisms
2H001	a. Genetic elements that contain nucleic acid sequences associated with the pathogenicity or toxicity of any of the organisms or toxins listed in Category 2A, 2B, 2C, 2D, 2F and 2G b. Genetically-modified organisms that contain nucleic acid sequences associated with the pathogenicity or toxicity of any of the organisms or toxins listed in Category 2A, 2B, 2C, 2D, 2F and 2G., Technical note: (1) Genetically-modified organisms includes organisms in which the genetic material (nucleic acid sequences) has been altered in a way that does not occur naturally by mating and/or natural recombination, and encompasses those produced artificially in whole or in part. (2) Genetic elements include inter alia chromosomes, genomes, plasmids, transposons, and vectors whether genetically modified or unmodified, or chemically synthesized in whole or in part. (3) Nucleic acid sequences associated with the pathogenicity or toxicity of any of the organisms or toxins in the list means any sequence specific to the relevant listed organism or toxin: (i) that in itself or through its transcribed or translated products represents a significant hazard to human, animal or plant health; or (ii) that is known to enhance the ability of a listed organism, or any other organism into which it may be inserted or otherwise integrated, to cause serious harm to human, animal or plant health".

5. In category 3, for the entries 3D001 to 3D005, the following shall be substituted:-

" 3D001	**(1) Reaction Vessels, Reactors or Agitators** (i) Reaction vessels or reactors, with or without agitators, with total internal (geometric) volume greater than 0.1 m^3 (100 l) and less than 20 m^3 (20000 l), where all surfaces that come

	in direct contact with the chemical(s) being processed or contained are made from the following materials: a. nickel or alloys with more than 40% nickel by weight; b. alloys with more than 25% nickel and 20% chromium by weight; c. fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight); d. glass or glass-lined (including vitrified or enamelled coating); e. tantalum or tantalum alloys; f. titanium or titanium alloys; g. zirconium or zirconium alloys; or h. niobium (columbium) or niobium alloys. (ii) Agitators designed for use in the above-mentioned reaction vessels or reactors; and impellers, blades or shafts designed for such agitators where all surfaces of the agitator that come in direct contact with the chemical(s) being processed or contained are made from any of the following materials: a. nickel or alloys with more than 40% nickel by weight; b. alloys with more than 25% nickel and 20% chromium by weight; c. fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight); d. glass or glass-lined (including vitrified or enamelled coating); e. tantalum or tantalum alloys; f. titanium or titanium alloys; g. zirconium or zirconium alloys; or h. niobium (columbium) or niobium alloys. **(2) Storage Tanks, Containers or Receivers** Storage tanks, containers or receivers with a total internal (geometric) volume greater than 0.1 m^3 (100 l) where all surfaces that come in direct contact with the chemical(s) being processed or contained are made from the following materials:

	a. nickel or alloys with more than 40% nickel by weight; b. alloys with more than 25% nickel and 20% chromium by weight; c. fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight); d. glass or glass-lined (including vitrified or enamelled coating); e. tantalum or tantalum alloys; f. titanium or titanium alloys; g. zirconium or zirconium alloys; or h. niobium (columbium) or niobium alloys. **(3) Heat Exchangers or Condensers** Heat exchangers or condensers with a heat transfer surface area of greater than 0.15 m^2, and less than 20 m^2; and tubes, plates, coils or blocks (cores) designed for such heat exchangers or condensers, where all surfaces that come in direct contact with the chemical(s) being processed are made from the following materials: a. nickel or alloys with more than 40% nickel by weight; b. alloys with more than 25% nickel and 20% chromium by weight; c. fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight); d. glass or glass-lined (including vitrified or enamelled coating); e. graphite or carbon-graphite; f. tantalum or tantalum alloys; g. titanium or titanium alloys; h. zirconium or zirconium alloys; i. silicon carbide; j. titanium carbide; or k. niobium (columbium) or niobium alloys. Technical note: carbon-graphite is a composition consisting of amorphous carbon and graphite, in which the graphite content is

	eight percent or more by weight. **(4) Distillation or Absorption Columns** Distillation or absorption columns of internal diameter greater than 0.1 m; and liquid distributors, vapour distributors or liquid collectors designed for such distillation or absorption columns, where all surfaces that come in direct contact with the chemical(s) being processed are made from the following materials: a. nickel or alloys with more than 40% nickel by weight; b. alloys with more than 25% nickel and 20% chromium by weight; c. fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight); d. glass or glass-lined (including vitrified or enamelled coating); e. graphite or carbon-graphite; f. tantalum or tantalum alloys; g. titanium or titanium alloys; h. zirconium or zirconium alloys; or i. niobium (columbium) or niobium alloys. Technical note: carbon-graphite is a composition consisting of amorphous carbon and graphite, in which the graphite content is eight percent or more by weight. **(5) Filling Equipment** Remotely operated filling equipment in which all surfaces that come in direct contact with the chemical(s) being processed are made from the following materials: a. nickel or alloys with more than 40% nickel by weight; or b. alloys with more than 25% nickel and 20% chromium by weight. **(6) Valves** (i) Valves, having both of the following: a. A nominal size greater than 1.0 cm (3/8"), and b. All surfaces that come in direct contact with the chemical(s) being produced, processed, or contained are

	made from the materials of construction in Technical Note 1 of this entry (ii) Valves, not already identified in 3D001(6)(i), having all of the following: a. A nominal size equal to or greater than 2.54 cm (1") and equal to or less than 10.16 cm (4") b. Casings (valve bodies) or preformed casing liners, c. A closure element designed to be interchangeable, and d. All surfaces of the casing (valve body) or preformed case liner that come in direct contact with the chemical(s) being produced, processed, or contained are made from the materials of construction in Technical Note 1 of this entry (iii) Components, as follows: a. Casings (valve bodies) designed for valves in paragraphs 6.a.or 6.b., in which all surfaces that come in direct contact with the chemical(s) being produced, processed, or contained are made from the materials of construction in Technical Note 1 of this entry; b. Preformed casing liners designed for valves in paragraphs 6.a.or 6.b., in which all surfaces that come in direct contact with the chemical(s) being produced, processed, or contained are made from the materials of construction in Technical Note 1 of this entry. Technical Note 1. Materials of construction for valves include any of the following: a. nickel or alloys with more than 40% nickel by weight; b. alloys with more than 25% nickel and 20% chromium by weight; c. fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight); d. glass or glass-lined (including vitrified or enamelled coating); e. tantalum or tantalum alloys; f. titanium or titanium alloys; g. zirconium or zirconium alloys;

	h. niobium (columbium) or niobium alloys; or i. ceramic materials as follows: 1. silicon carbide with a purity of 80% or more by weight; 2. aluminum oxide (alumina) with a purity of 99.9% or more by weight; 3. zirconium oxide (zirconia). Technical Note 2. The 'nominal size' is defined as the smaller of the inlet and outlet port diameters. **(7) Multi-Walled Piping** Multi-walled piping incorporating a leak detection port, in which all surfaces that come in direct contact with the chemical(s) being processed or contained are made from the following materials: a. nickel or alloys with more than 40% nickel by weight; b. alloys with more than 25% nickel and 20% chromium by weight; c. fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight); d. glass or glass-lined (including vitrified or enamelled coating); e. graphite or carbon-graphite; f. tantalum or tantalum alloys; g. titanium or titanium alloys; h. zirconium or zirconium alloys; or i. (columbium) or niobium alloys. Technical note: carbon-graphite is a composition consisting of amorphous carbon and graphite, in which the graphite-content is eight percent or more by weight. **(8) Pumps** Multiple-seal and seal-less pumps with manufacturer's specified maximum flow-rate greater than 0.6 m^3/h, or vacuum pumps with manufacturer's specified maximum flow-rate greater than 5 m^3/h (under standard temperature (273 K (0^o C)) and pressure (101.3 kPa) conditions), and casings (pump bodies), preformed casing liners, impellers, rotors or jet pump nozzles designed for such pumps, in which all surfaces that come into direct contact with the

	chemical(s) being processed are made from any of the following materials: a. nickel or alloys with more than 40% nickel by weight; b. alloys with more than 25% nickel and 20% chromium by weight; c. fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight); d. glass or glass-lined (including vitrified or enamelled coating); e. graphite or carbon-graphite; f. tantalum or tantalum alloys; g. titanium or titanium alloys; h. zirconium or zirconium alloys; i. ceramics; j. ferrosilicon (high silicon iron alloys); or k. niobium (columbium) or niobium alloys. Technical note 1: carbon-graphite is a composition consisting of amorphous carbon and graphite, in which the graphite content is eight percent or more by weight. Technical note 2: : The seals referred to in this control come into direct contact with the chemical(s) being processed (or are designed to), and provide a sealing function where a rotary or reciprocating drive shaft passes through a pump body. **(9) Incinerators** Incinerators designed to destroy CW agents, Category 1 chemicals or chemical munitions, having specially designed waste supply systems, special handling facilities, and an average combustion chamber temperature greater than 1000° C, in which all surfaces in the waste supply system that come into direct contact with the waste products are made from or lined with the following materials: a. nickel or alloys with more than 40% nickel by weight; b. alloys with more than 25% nickel and 20% chromium by weight; or ceramics. Notes to 3D001: Technical note: For the listed materials in 3D001, the term 'alloy'

	when not accompanied by a specific elemental concentration is understood as identifying those alloys where the identified metal is present in a higher percentage by weight than any other element. Note 1. The objective of these controls should not be defeated by the transfer of any non-controlled item containing one or more controlled components where the controlled component or components are the principal element of the item and can feasibly be removed or used for other purposes. N.B. In judging whether the controlled component or components are to be considered the principal element, the licensing authority should weigh the factors of quantity, value, and technological know-how involved and other special circumstances which might establish the controlled component or components as the principal element of the item being procured. Note 2. The objective of these controls should not be defeated by the transfer of a whole plant, on any scale, which has been designed to produce any CW agent or Category 1 chemical. Note 3. The materials used for gaskets, packing, seals, screws, washers or other materials performing a sealing function do not determine the status of control of the items listed below, provided that such components are designed to be interchangeable. Note 4: The controls in 3D001 do not apply to equipment which is specially designed for use in civil applications (for example food processing, pulp and paper processing, or water purification, etc) and is, by the nature of its design, inappropriate for use in storing, processing, producing or conducting and controlling the flow of chemical warfare agents or any of the Category 1 chemicals.
3D002	[Reserved]
3D003	Combustors or pyrolysers capable of a heat-zone ('burner') temperature greater than 1,273 K (1000 Degree Centigrade), and in which any surfaces that come into direct contact with material coming into the containing chamber are made from, or lined with, any of the following materials: a. Alloys with more than 25% nickel and 25% chromium by weight; (e.g., 'Hatelloy', 'Illium', 'Inconel', 'Incoloy') b. Nickel, or alloys with more than 40% nickel by weight; c. Titanium; or d. Ceramics.

3D004	Toxic gas monitoring systems and their dedicated detecting components as follows: detectors; sensor devices; replaceable sensor cartridges; and dedicated software therefor a. designed for continuous operation and usable for the detection of chemical warfare agents or Category 1 chemicals at concentrations of less than 0.3 mg/m^3; or b. designed for the detection of cholinesterase-inhibiting activity.
3D005	Containment facilities and related equipment as follows: (1) Complete containment facilities that meet the criteria for P3 or P4 (BL3, BL4, L3, L4) containment as specified in the WHO Laboratory Biosafety Manual (3rd edition, Geneva, 2004) (2) Equipment designed for fixed installation in containment facilities specified in 3D005a., as follows: (i) Double-door pass-through decontamination autoclaves; (ii) Breathing air suit decontamination showers; (iii) Mechanical-seal or inflatable-seal walkthrough doors.
3D006	Fermenters: (1) Fermenters capable of cultivation of micro-organisms or of live cells for the production of viruses or toxins, without the propagation of aerosols, having a capacity of 20 litres or greater. (2) Components designed for such fermenters, as follows: a. cultivation chambers designed to be sterilized or disinfected in situ; b. cultivation chamber holding devices; or c. process control units capable of simultaneously monitoring and controlling two or more fermentation system parameters (e.g. temperature, pH, nutrients, agitation, dissolved oxygen, air flow, foam control). Technical Note: Fermenters include bioreactors (including single-use (disposable) bioreactors), chemostats and continuous-flow systems.

3D007	Centrifugal separators capable of the continuous separation of pathogenic micro-organisms, without the propagation of aerosols, and having all the following characteristics: a. one or more sealing joints within the steam containment area; b. a flow rate greater than 100 litres per hour; c. components of polished stainless steel or titanium; d. capable of in-situ steam sterilisation in a closed state. Technical note: Centrifugal separators include decanters.
3D008	Cross (tangential) flow filtration equipment (1) Cross (tangential) flow filtration equipment capable of separation of micro-organisms, viruses, toxins or cell cultures having all the following characteristics: a. a total filtration area equal to or greater than 1 square metre; and b. having any of the following characteristics: i. capable of being sterilized or disinfected in-situ; or ii. using disposable or single-use filtration components. Note: This control excludes reverse osmosis and hemodialysis equipment. (2) Cross (tangential) flow filtration components (e.g. modules, elements, cassettes, cartridges, units or plates) with filtration area equal to or greater than 0.2 square metres for each component and designed for use in cross (tangential) flow filtration equipment as specified above. Technical note: In this control, 'sterilized' denotes the elimination of all viable microbes from the equipment through the use of either physical (e.g. steam) or chemical agents. 'Disinfected' denotes the destruction of potential microbial infectivity in the equipment through the use of chemical agents with a germicidal effect. 'Disinfection' and 'sterilization' are distinct from 'sanitization', the latter referring to cleaning procedures designed to lower the microbial content of equipment without necessarily achieving elimination of all microbial infectivity or viability.
3D009	Steam, gas or vapour sterilisable freeze-drying equipment with a

	condenser capacity of 10 kg of ice or greater in 24 hours and less than 1000 kg of ice in 24 hours.
3D010	Spray drying equipment capable of drying toxins or pathogenic microorganisms having all of the following characteristics: a. A water evaporation capacity of ≥ 0.4 kg/h and ≤ 400 kg/h; b. The ability to generate a typical mean product particle size of ≤10 micrometers with existing fittings or by minimal modification of the spray-dryer with atomization nozzles enabling generation of the required particle size; and c. Capable of being sterilized or disinfected in situ.
3D011	Protective and containment equipment as follows: a. Protective full or half suits, or hoods dependent upon a tethered external air supply and operating under positive pressure; Technical note: This does not control suits designed to be worn with self-contained breathing apparatus. b. Biocontainment chambers, isolators, or biological safety cabinets having all of the following characteristics, for normal operation: i. fully enclosed workspace where the operator is separated from the work by a physical barrier; ii. able to operate at negative pressure; iii. means to safely manipulate items in the workspace; iv. supply and exhaust air to and from the workspace is HEPA filtered. Note 1 - this control includes class III biosafety cabinets, as described in the latest edition of the WHO Laboratory Biosafety Manual or constructed in accordance with national standards, regulations or guidance. Note 2 - this control does not include isolators specially designed for barrier nursing or transportation of infected patients.
3D012	Aerosol inhalation equipment designed for aerosol challenge testing with micro-organisms, viruses or toxins as follows: a. Whole-body exposure chambers having a capacity of 1 cubic

	metre or greater. b. Nose-only exposure apparatus utilising directed aerosol flow and having capacity for exposure of 12 or more rodents, or 2 or more animals other than rodents; and, closed animal restraint tubes designed for use with such apparatus.
3D013	Spraying or fogging systems and components therefor, as follows: a. Complete spraying or fogging systems, specially designed or modified for fitting to aircraft, lighter than air vehicles or UAVs, capable of delivering, from a liquid suspension, an initial droplet volume medium diameter "VMD" of less than 50 microns at a flow rate of greater than two litres per minute. b. Spray booms or arrays of aerosol generating units, specially designed or modified for fitting to aircraft, lighter than air vehicles or UAVs, capable of delivering, from a liquid suspension, an initial droplet "VMD" of less than 50 microns at a flow rate of greater than two litres per minute. c. Aerosol generating units specially designed for fitting to systems that fulfil all the criteria specified in 3D011.a and 3D001.b Technical Notes (1) Aerosol generating units are devices specially designed or modified for fitting to aircraft such as nozzles, rotary drum atomisers and similar devices. (2) This entry does not control spraying or fogging systems and components as specified in 3D010 that are demonstrated not to be capable of delivering biological agents in the form of infectious aerosols. (3) Droplet size for spray equipment or nozzles specially designed for use on aircraft or UAVs should be measured using either of the following methods: (a) Doppler laser method (b) Forward laser diffraction method
3D014	(Reserved)
3D015	Technology related to the development, production or use of items in 3D.

6. In SCOMET 3A201, after the clause 'g' and the entry relating thereto the following shall be inserted:-

"h. Bulk machinable ceramic composite materials consisting of an 'Ultra High Temperature Ceramic (UHTC)' matrix with a melting point equal to or greater than 3000°C and reinforced with fibres or filaments, usable for missile components (such as nose-tips, re-entry vehicles, leading edges, jet vanes, control surfaces or rocket motor throat inserts) in the systems specified in 5A and 5B.

Note:

Item 3A201.h does not control 'Ultra High Temperature Ceramic (UHTC)' materials in non-composite form.

Technical Note:

'Ultra High Temperature Ceramics (UHTC)' includes:

1. *Titanium diboride (TiB2);*
2. *Zirconium diboride (ZrB2);*
3. *Niobium diboride (NbB2);*
4. *Hafnium diboride (HfB2);*
5. *Tantalum diboride (TaB2);*
6. *Titanium carbide (TiC);*
7. *Zirconium carbide (ZrC);*
8. *Niobium carbide (NbC);*
9. *Hafnium carbide (HfC);*
10. *Tantalum carbide (TaC)."*

7. For SCOMET 3A309.b.3 the following shall be substituted:-

"n-Propyl ferrocene (CAS 1273-92-3) / iso-propyl ferrocene (CAS 12126-81-7)"

8. In SCOMET 3A303, the entry "Hydroxyl Terminated Polybutadiene) (HTPB)" shall be substituted with "Hydroxy Terminated Polybutadiene (including Hydroxyl Terminated polybutadiene) (HTPB) (CAS 69102-90-5)"

9. In SCOMET 4A003.b.3,

the Note: shall be substituted with "Item 4A003.b.3 does not control measuring interferometer systems, without closed or open loop feedback, containing a laser to measure slide movement errors of machine tools,dimensional inspection machines, or similar equipment"

Technical Note: shall be substituted with *"In item 4A003.b.3, 'linear displacement' means the change of distance between the measuring probe and the measured object".*

10. In SCOMET 4A003.c the Note: shall be substituted with "Item 4A003.c does not control optical instruments, such as autocollimators, using collimated light (e.g., laser light) to detect angular displacement of a mirror".

11. In SCOMET 4A003.d:-

Notes: shall be substituted as under:-

1. "Item 4A003.d includes machine tools other than those specified by 4A002, that can be used as measuring machines if they meet or exceed the criteria specified for the measuring machine function.

2. Machines described in Item 4A003.d. are controlled if they exceed

the threshold specified anywhere within their operating range".

12. SCOMET 4A007 shall be substituted as follows:-

"Vacuum or other controlled atmosphere metallurgical melting and casting furnaces and related equipment, as follows:

a. Arc remelt furnaces, arc melt furnaces and arc melt and casting furnaces having both of the following characteristics:

1. Consumable electrode capacities between 1000 and 20000 cm3; and 2. Capable of operating with melting temperatures above 1973 K (1700 °C);

b. Electron beam melting furnaces, plasma atomisation furnaces and plasma melting furnaces having both of the following characteristics:

1. A power of 50 kW or greater; and

2. Capable of operating with melting temperatures above 1473 K (1200 °C);

c. Computer control and monitoring systems specially configured for any of the furnaces specified in Item 4A007.a. or 4A007.b.

d. Plasma torches specially designed for the furnaces specified in 4A007.b.having both of the following characteristics:

1. Operating at a power greater than 50kW; and

2. Capable of operating above 1473 K (1200°C);

e. Electron beam guns specially designed for the furnaces specified in 4A007.b.operating at a power greater than 50kW".

13. For SCOMET 4A017.c, the following shall be substituted:-

"Having either of the following characteristics:

1. A full scale of less than 13 kPa and an "accuracy" of better than 1% of full scale; or

2. A full scale of 13 kPa or greater and an “accuracy” of better than 130 Pa when measuring at 13 kPa”.

14. SCOMET 4B006 shall be substituted as follows:-

“Specialised instrumentation for hydrodynamic experiments, as follows:

a. Velocity interferometers for measuring velocities exceeding 1 km/s during time intervals of less than 10 μs;
b. Shock pressure gauges capable of measuring pressures greater than 10GPa, including gauges made with manganin, ytterbium, and polyvinylidene fluoride (PVDF) / polyvinyl difluoride(PVF2)”.

15. SCOMET 5A102.j shall be substituted as “Combustion chambers and nozzles for liquid
propellant rocket engines or gel propellant rocket motors”.

16. In SCOMET 5A205, the Note shall be substituted as follows:-

“Note 1: Item 5a205 includes machines which have only a single roller designed to deform metal plus two auxiliary rollers which support the mandrel, but do not participate directly in the deformation process.

Note 2: Item 5A 205 does not include machines that are not usable in the "production" of propulsion components and equipment (e.g. motor cases and interstages) for systems specified in 5A and 5B”.

17. In SCOMET 5A205, after Note 2, the following shall be inserted:-

“Technical Note:

Machines combining the function of spin-forming and flow-forming are, for the purpose of this item, regarded as flow-forming machines”.

18. SCOMET Category 7

SCOMET ‘7C Computers’ shall be deleted.