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MINISTRY OF COMMERCE AND INDUSTRY
DEPARTMENT OF COMMERCE

NOTIFICATION No.38 (RE-2010) /2009-2014
DATED: 31st MARCH, 2011

S.O. (E) In exercise of powers conferred by Section 5 and Section 14 A of the Foreign Trade (Development & Regulation) Act, 1992 {FT(D&R) Act,1992} as amended in 2010, the Central Government hereby notifies the list of specified goods, services and technologies, i.e. Special Chemicals, Organisms, Materials, Equipment and Technologies (SCOMET) as per Annexure to this notification. Export of SCOMET items included in the Annexure shall be regulated as per conditions enumerated in the Annexure. Provisions of Chapter IV A of the FT(D&R) Act,1992 as amended in 2010 shall apply to the goods, services and technologies specified in the Annexure.

2. Annexure to this notification will replace the existing 'Appendix 3' to Schedule-2 of ITC (HS) Classifications of Export and Import Items, 2009-14.

3. Purpose of the notification: The FT(D&R) Act,1992 was amended in 2010. By this amendment, a new Chapter IV A has been introduced in the FT(D&R) Act,1992. It deals with controls on export of specified goods, services and technologies and empowers the Central Government to notify list of such goods, services and technologies. This notification lists the goods, services and technologies to which provisions of Chapter IV A of the FT (D&R) Act, 1992 as amended in 2010 shall apply. 'Appendix 3' to Schedule 2 of ITC (HS) Classifications of Export and Import Items, popularly known as SCOMET List, would accordingly be replaced by this list.

(Anup K. Pujari)
Director General of Foreign Trade
dgft@nic.in
Phone : 23063436, 23062777

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Annexure to Notification No. 38 Dated 31st March, 2011

APPENDIX-3

Special Chemicals, Organisms, Materials, Equipment and Technologies (SCOMET) export of which is regulated

Export of Special Chemicals, Organisms, Materials, Equipment and Technologies (SCOMET) listed below shall be permitted only against an export licence issued in this behalf unless export is prohibited or is permitted without licence subject to fulfillment of conditions, if any, as indicated under/against any specific category or item.

Provisions of Chapter IV A of the FT(D&R) Act,1992 as amended in 2010 shall apply to the goods, services and technologies specified in the list below.

It is mandatory for all companies and their subsidiaries registered in India and all other business entities operating in India and involved in the manufacture, processing and use of Special Chemicals, Organisms, Materials, Equipment and Technologies (SCOMET) listed below to obtain permission of the Central Government before entering into any arrangement or understanding that involves an obligation to facilitate or undertake site visits, on-site verification or access to records/ documentation, by foreign Governments or foreign third parties, either acting directly or through an Indian party or parties. Requests for such permissions shall be considered in the manner in which requests for export/import licence are considered.

Provided that where obligations involving site visits, on-site verification or access to records/ documentation by foreign governments or foreign third parties are to be undertaken pursuant to a bilateral agreement or a multilateral treaty to which is a party, the provisions of the relevant agreement or treaty shall apply.

Exporters are advised to refer to the relevant guidelines relating to the export of SCOMET items in the Handbook of Procedures (Vol.I), as issued from time to time.

Glossary: Expressions used in the SCOMET List have the following meanings:

"**Accuracy"** usually measured in terms of inaccuracy, means the maximum deviation, positive or negative, of an indicated value from an accepted standard or true value.

"**Active flight control systems"** are systems that function to prevent undesirable "aircraft" and missile motions or structural loads by autonomously processing outputs from multiple sensors and then providing necessary preventive commands to effect automatic control.

"**Aircraft"**: A fixed wing, swivel wing, rotary wing (helicopter), tilt rotor or tilt-wing airborne vehicle.

"**Angular position deviation"** means the maximum difference between angular position and the actual, very accurately measured angular position after the work piece mount of the table has been turned out of its initial position.

"**Composite"** means a "matrix" and an additional phase or additional phases consisting of particles, whiskers, fibres or any combination thereof, present for a specific purpose or purposes.

"**Composite theoretical performance" ("CTP")** is a measure of computational performance given in millions of theoretical operations per second (Mtops), calculated using the aggregation of computing elements (CE).

"**Contouring control"** means two or more "numerically controlled" motions operating in accordance with instructions that specify the next required position and the required feed rates to that position. These feed rates are varied in relation to each other so that a desired contour is generated.

“**CTP”** is equivalent to “composite theoretical performance

“**Designed or modified”** describes equipment, parts or components which, as a result of “development,” or modification, have become endowed with specified properties that make them fit for a particular application.

“**Development”**: Activity related to all phases prior to “production” such as design, design research, design analysis, design concepts, assembly and testing of prototypes, pilot production schemes, design data, process of transforming design data into a product, configuration design, integration design, layouts.

“**Digital computer”** means equipment which can, in the form of one or more discrete variables, perform all of the following:

a. Accept data;

b. Store data or instructions in fixed or alterable (writable) storage devices;

c. Process data by means of a stored sequence of instructions which is modifiable; and

d. Provide output of data.

N.B.: Modifications of a stored sequence of instructions include replacement of fixed storage devices, but not a physical change in wiring or interconnections.

“**Explosives”**: Solid, liquid or gaseous substances or mixtures of substances which, in their application as primary, booster, or main charges in warheads, demolition and other applications, are required to detonate.

“**Fibrous or filamentary materials”** include:

a. Continuous “monofilaments”;

b. Continuous “yarns” and “rovings”;

c. “Tapes”, fabrics, random mats and braids;

d. Chopped fibres, staple fibres and coherent fibre blankets;

e. Whiskers, either monocrystalline or polycrystalline, of any length;

f. Aromatic polyamide pulp.

“**Hybrid computer”** means equipment which can perform all of the following:

a. Accept data;

b. Process data, in both analogue and digital representations; and

c. Provide output of data.

“**Image enhancement”** means the processing of externally derived information-bearing

images by algorithms such as time compression, filtering, extraction, selection, correlation, convolution or transformations between domains (e.g., fast Fourier transform or Walsh transform). This does not include algorithms using only linear or rotational transformation of a single image, such as translation, feature extraction, registration or false coloration.

“**Information security”** is all the means and functions ensuring the accessibility, confidentiality or integrity of information or communications, excluding the means and functions intended to safeguard against malfunctions. This includes cryptography, ‘cryptanalysis’, protection against compromising emanations and computer security.

N.B.: ‘Cryptanalysis’: analysis of a cryptographic system or its inputs and outputs to derive confidential variables or sensitive data, including clear text.

“**Insulation”** is applied to the components of a rocket motor, i.e. the case, nozzle, inlets, case closures, and includes cured or semi-cured compounded rubber sheet stock containing an insulating or refractory material. It may also be incorporated as stress relief boots or flaps.

“**Interior lining”** is suited for the bond interface between the solid propellant and the case or insulating liner. Usually a liquid polymer based dispersion of refractory or insulating materials, e.g. carbon filled hydroxyl terminated polybutadiene (HTPB) or other polymer with added curing agents sprayed or screeded over a case interior.

“**Isolated live cultures”** includes live cultures in dormant form and in dried preparations.

“**Isostatic presses”** mean equipment capable of pressurising a closed cavity through various media (gas, liquid, solid particles, etc.) to create equal pressure in all directions within the cavity upon a workpiece or material.

“**Laser”**: An assembly of components which produce both spatially and temporally coherent light that is amplified by stimulated emission of radiation.

“**Linearity”** (usually measured in terms of non-linearity) means the maximum deviation of the actual characteristic (average of upscale and downscale readings), positive or negative, from a straight line so positioned as to equalise and minimise the maximum deviations.

“**Matrix”** means a substantially continuous phase that fills the space between particles, whiskers or fibres.

“**Measurement uncertainty”** is the characteristic parameter which specifies in what range around the output value the correct value of the measurable variable lies with a confidence level of 95 %. It

includes the uncorrected systematic deviations, the uncorrected backlash and the random deviations.

"**Microcircuit"**: A device in which a number of passive and/or active elements are considered as indivisibly associated on or within a continuous structure to perform the function of a circuit.

"**Microprogrammes"**: A sequence of elementary instructions maintained in a special storage, the execution of which is initiated by the introduction of its reference instruction register.

"**Missiles"** means complete rocket systems and unmanned aerial vehicle systems.

"**Modified"** in the context of "software" describes "software" which has been intentionally changed such that it has properties that make it fit for specified purposes or applications. Its properties may also make it suitable for purposes or applications other than those for which it was "modified."

"**Monofilament"** or filament is the smallest increment of fibre, usually several micrometres in diameter.

"**Monolithic integrated circuit"** means a combination of passive or active 'circuit elements' or both which:

a. Are formed by means of diffusion processes, implantation processes or deposition processes in or on a single semiconducting piece of material, a so-called 'chip';

b. Can be considered as indivisibly associated; and

c. Perform the function(s) of a circuit.

N.B.: 'Circuit element' is a single active or passive functional part of an electronic circuit, such as one diode, one transistor, one resistor, one capacitor, etc.

"**Neural computer"** means a computational device designed or modified to mimic the behaviour of a neuron or a collection of neurons, i.e., a computational device which is distinguished by its hardware capability to modulate the weights and numbers of the interconnections of a multiplicity of computational components based on previous data.

"**Numerical control"** means the automatic control of a process performed by a device that makes use of numeric data usually introduced as the operation is in progress.

"**Optical integrated circuit"** means a "monolithic integrated circuit" or a hybrid integrated circuit, containing one or more parts designed to function as a photo sensor or photo emitter or to perform (an) optical or (an) electro-optical function(s).

“**Precursors”**: Speciality chemicals used in the manufacture of explosives.

“**Pressure transducers”** are devices that convert pressure measurements into an electrical signal.

“**Production”** means all production stages (e.g., product engineering, manufacture, integration, assembly (mounting), inspection, testing, quality assurance);

“**Production equipment”**: Tooling, templates, jigs, mandrels, moulds, dies, fixtures, alignment mechanisms, test equipment, other machinery and components therefor, limited to those specially designed or modified for “development” or for one or more phases of “production”.

“**Production facilities”**: Equipment and specially designed “software” therefor integrated into installations for “development” or for one or more phases of “production”.

“**Programmes”**: A sequence of instructions to carry out a process in, or convertible into, a form executable by an electronic computer.

“**Propellants”**: Substances or mixtures that react chemically to produce large volumes of hot gases at controlled rates to perform mechanical work.

“**Public domain”** means a domain that has no restrictions upon dissemination of information within or from it; the existence of any legal rights to the intellectual property in that information does not remove the information from being in “public domain”.

“**Radiation hardened”**: Means that the component or equipment is designed or rated to withstand radiation levels which meet or exceed a total radiation dose of 5×10^3 Gy or 5×10^5 rads (Si).

“**Required”**: As applied to “technology”, refers to only that portion of “technology” which is peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics or functions. Such “required” “technology” may be shared by different products.

“**Resolution”** means the least increment of a measuring device; or on digital instruments, the least significant bit.

“**Roving”** is a bundle (typically 12-120) of approximately parallel ‘strands’.

N.B.: ‘’ is a bundle of “monofilaments” (typically over 200) arranged approximately parallel.

“**Settling time”** means the time required for the output to come within one-half bit of the final value when switching between any two levels of the converter.

“**Signal processing”** means the processing of externally derived information-bearing signals by algorithms such as time compression, filtering, extraction, selection, correlation, convolution or transformations between domains (e.g., fast Fourier transform or Walsh transform).

“**Software”**: A collection of one or more “programmes”, or “micro-programmes”, fixed in any tangible medium of expression. However, unless otherwise provided for against any item on the SCOMET List, the List does not control “software” which is either in the public domain or is generally available to the public by being :

a. Sold from stock at retail selling points without restriction, by means of:
    1. Over-the-counter transactions;
    2. Mail order transactions; or
    3. Telephone call transactions; and
b. Designed for installation by the user without further substantial support by the supplier.

“**Space qualified”**: Products designed, manufactured and tested to meet the special electrical, mechanical or environmental requirements for use in the launch and deployment of satellites or high altitude flight systems operating at altitudes of 100 km or higher.

“**Stability”** means the standard deviation (1 sigma) of the variation of a particular parameter from its calibrated value measured under stable temperature conditions. This can be expressed as a function of time.

“**Specially designed”** qualifies the description of equipment, parts, components or “software” which, as a result of “development”, have unique properties that distinguish them for certain predetermined purposes. For example, a piece of equipment that is “specially designed” will only be considered so if it has no other function or use. Thus a piece of manufacturing equipment that is “specially designed” to produce a certain type of component will only be considered such if it is not capable of producing other types of components.

“**Tape”** is a material constructed of interlaced or unidirectional “monofilaments”, ‘strands’, “rovings”, “tows”, or “yarns”, etc., usually preimpregnated with resin.

N.B.: ‘’ is a bundle of “monofilaments” (typically over 200) arranged approximately parallel.

“**Technology”** means, except as otherwise provided for against any item in the SCOMET List, information (including information embodied in “software”) other than information in the “public domain”, that is capable of being used in:

a. the development, production or use of any goods or software;
b. the development of, or the carrying out of, an industrial or commercial activity or the provision of a service of any kind.

Explanation: When technology is described wholly or partly by reference to the uses to which it (or the goods to which it relates) may be put, it shall include services which are provided or used, or which are capable of being used, in the development, production or use of such technology or goods.

"**Tow"** is a bundle of "monofilaments", usually approximately parallel.

"**Toxins"** means toxins in the form of deliberately isolated preparations or mixtures, no matter how produced, other than toxins present as contaminants of other materials such as pathological specimens, crops, foodstuffs or seed stocks of "microorganisms".

"**Unmanned Aerial Vehicle" ("UAV")** means any aircraft capable of initiating flight and sustaining controlled flight and navigation without any human presence on board.

"**Usable in," "usable for," "usable as" or "capable of"** qualifies the description of equipment, parts, components, materials, technology or "software" which are suitable for a particular purpose. There is no requirement that the equipment, parts, components, technology or "software" should have been configured, modified or specified for that particular purpose. (Contrast with "specially designed" – see above).

"**Use"** includes operation; installation (including on site installation); maintenance; repair; overhaul; refurbishing.

"**Vaccine"** is a medicinal product in a pharmaceutical formulation licensed by, or having marketing or clinical trial authorisation from, the regulatory authorities of either the country of manufacture or of use, which is intended to stimulate a protective immunological response in humans or animals in order to prevent disease in those to whom or to which it is administered.

"**Yarn"** is a bundle of twisted 'strands'.

N.B.: '' is a bundle of "monofilaments" (typically over 200) arranged approximately parallel.

Items on the SCOMET List are organized in the following categories.

Category 0	Nuclear materials, nuclear-related other materials, equipment and technology
0A	Prescribed Substances
0A1	Source Material
0A2	Special Fissionable Material
0A3	Other Materials
0B	Prescribed Equipment
0C	Technology

Category 1	Toxic chemical agents and other chemicals
1A	Prohibited chemicals
1B	Chemicals permitted only to States party to the Chemical Weapons Convention
1C	Chemicals permitted also to States not party to the Chemical Weapons Convention

Category 2	Micro-organisms, toxins
2A	Bacteria
2B	Fungi
2C	Parasites
2D	Viruses
2E	Rickettsials
2F	Toxins
2G	Plant pathogens
2H	Genetically Modified Organisms

Category 3	Materials, Materials Processing Equipment and related technologies
3A	Materials
3A1	Special materials
3A2	Structural materials
3A3	Rocket propellants and constituent chemicals
3A4	High explosives
3A5	Stealth materials
3B	Materials processing and production equipment, related technology and specially designed components and accessories therefor.

3C	[Reserved]
3D	Chemical and biomaterial manufacturing and handling equipment and facilities

Category 4	Nuclear-related other equipment and technology, not controlled under Category 0
4A	Equipment, assemblies, components including test and production equipment
4B	Equipment, assemblies, components including test and measurement equipment usable in development of nuclear explosive devices
4C	Technology

Category 5	Aerospace systems, equipment, including production and test equipment, related technology and specially designed components and accessories therefor.
5A	Rocket systems
5A1	Systems
5A2	Production and test equipment
5A3	Technology
5B	Unmanned aerial vehicles
5C	Avionics and navigation systems
5D	Manned-aircraft, aero-engines, related equipment and components
5E	Micro-light aircraft and powered ‘hang-gliders’

Category 6	[Reserved]

Category 7	Electronics, computers, and information technology including information security
7A	Electronics
7B	Electronic test equipment
7C	Computers
7D	Information technology including information security
7E	[Reserved]

Category 0 Nuclear materials, nuclear-related other materials, equipment and technology

Note: Export of these items is regulated under the Atomic Energy Act, 1962 and rules framed, and notifications/orders issued thereunder from time-to-time by the Department of Atomic Energy. The licensing authority for items in this category is the Department of Atomic Energy. An application for

licences to export prescribed equipment or/an prescribed substances shall be made in writing to the Joint Secretary, Department of Atomic Energy, Anushakti Bhavan, CSM Marg, Mumbai 400 001.

0A Prescribed Substances

Note: Any radioactive material in Category 0A shall additionally attract the provisions of Radiation Protection Rules, 2004 made under the Atomic Energy Act, 1962 and the provisions of Section-16 of the Atomic Energy Act, 1962.

0A1 Source Material

0A101 Uranium containing the mixture of isotopes occurring in nature.

0A102 Uranium depleted in the isotope 235.

0A103 Thorium.

0A104 Any of the foregoing in the form of metal, alloy, chemical compound, or concentrate or any substance.

0A105 Any other material containing one or more of the foregoing.

Prescribed quantitative limits: as given below and in any period of 12 months:

a. Uranium (containing the mixture of isotopes in nature) exceeding 100 kilograms.

b. Depleted uranium (uranium depleted in the isotope 235 below that occurring in nature) exceeding 1000 kilograms.

c. Thorium exceeding 1000 kilograms.

0A2 Special Fissionable Material

0A201 Plutonium-239.

0A202 Uranium-233.

0A203 Uranium enriched in the isotopes 235 or 233.

0A204 Neptunium.

0A205 Any material containing one or more of the foregoing.

0A206 Such other fissionable material determined by the Central Government from time to time, but the term "special fissionable material" does not include source material.

Note: Any quantity of special fissionable material is prescribed substance.

0A3 Other Materials

'Other Materials' means non-nuclear materials for reactors, nuclear related dual-use materials indicated below and such materials as determined by the Central Government from time to time.

0A301 Deuterium, heavy water (deuterium oxide) and any other deuterium compound, in which the ratio of deuterium to hydrogen atoms exceeds 1:5000, in quantities exceeding 5 kilograms of deuterium in one consignment or 25 kilograms of deuterium in any period of 12 months.

0A302 Nuclear grade graphite / carbon, having a purity level better than 5 parts per million (ppm) boron equivalent and with a density greater than 1.5 gram/cc in quantities exceeding 30 metric tons in any period of 12 months.

0A303 Zirconium with hafnium content of less than 1 part to 500 parts of zirconium by weight (i.e. less than 2000 ppm) in the form of metal, its alloys, compounds, manufactures thereof, waste or scrap of any of the foregoing.

0A304 Beryllium, its compounds, alloys and its minerals / concentrates including Beryl but excluding:

a. beryllium windows used for x-ray machines and gamma ray detectors and

b. beryl in the form of emeralds or aquamarines.

0A305 Lithium enriched in the Lithium-6 (6Li) isotope to greater than its natural isotopic abundance (i.e. more than 7.5%) and the products or devices containing enriched lithium such as elemental lithium, alloys, compounds, mixtures containing lithium, manufactures thereof, waste or scrap of any of the foregoing.

0A306 Niobium and Tantalum, their metals, alloys and minerals including columbite and tantalite.

0A307 Titanium alloys having both of the following characteristics:

a. 'Capable of' an ultimate tensile strength of 900 MPa or more at 293 K (20 degrees C); and

b. In the form of tubes or cylindrical solid forms (including forgings) with an outside diameter of more than 75 mm.

Technical note: The phrase 'capable of' encompasses titanium alloys before or after heat treatment.

0A308 Tritium, tritium compounds or mixtures containing tritium in which the ratio of tritium to hydrogen atoms exceeds 1 part in 1000, except when utilized in such quantities and for such purposes as for organic labelled compounds, Gas Filled Light Sources and as Tritiated Water for radiotracer studies.

0A309 Hafnium: (CAS 7440-58-6)

Hafnium metal, alloys containing more than 60% hafnium by weight, hafnium compounds containing more than 60% hafnium by weight, manufactures thereof, and waste or scrap of any of the foregoing.

0A310 Radium-226:

Radium-226 (226Ra), radium-226 alloys, radium-226 compounds, mixtures containing radium-226, manufactures thereof, and products or devices containing any of the foregoing, except medical applicators and a product or device containing less than 0.37 GBq (10mCi) of Ra-226 in any form.

0A311 Boron (CAS 7740-42-8)

Boron enriched in the Boron-10 (10B) isotope to greater than its natural isotopic abundance as follows:

Elemental boron, compounds, mixtures containing boron, manufactures thereof, waste or scrap of any of the foregoing.

0A312 Helium-3

Helium-3 (3He), mixtures containing helium-3, and products or devices containing any

of the foregoing.

Note: A product or device containing less than 1gm of Helium-3 is excluded.

0A313 Alpha–emitting radionuclides:

Alpha–emitting radionuclides having an alpha half-life of 10 days or greater but less than 200 years, in the following forms:

a. Elemental;
b. Compounds having a total alpha activity of 37 GBq per kg or greater;
c. Mixtures having a total alpha activity of 37 GBq per kg or greater;
d. Products or devices containing any of the foregoing.

Alpha emitters controlled by this item include:

Actinium-225	Actinium-227	Americium-242m
Californium-248	Californium-250	Californium-252
Californium-253	Californium-254	Curium-240
Curium-241	Curium-242	Curium-243
Curium244	Einsteinium-252	Einsteinium-253
Einsteinium254	Einsteinium-255	Fermium-257
Gadolinium-148	Mendelevium-258	Neptunium-235
Plutonium-236	Plutonium-237	Plutonium-238
Plutonium-241	Polonium-209	Polonium-210
Polonium-208	Radium-223	Thorium-228
Thorium-227	Uranium-230	Uranium-232

0B Prescribed Equipment

0B001 Nuclear Reactors; associated equipment, components, and systems specially designed, prepared, or adapted or used or intended to be used in such reactors:-

a. Complete nuclear reactors

b. Nuclear reactor vessels

c. Nuclear reactor fuel charging and discharging machines

d. Nuclear reactor control rods and equipment

e. Nuclear reactor pressure tubes

f. Zirconium tubes and assemblies of tubes in which hafnium to zirconium ratio is 1:500 or less

g. Primary coolant pumps

h. Nuclear reactor internals

i. Heat exchangers (steam generators) for use in the primary coolant circuit of a nuclear reactor

j. Neutron detection and measuring instruments for determining neutron flux levels within the core of a nuclear reactor.

0B002 Plants for processing, production, concentration, conversion or recovery of Prescribed Substances (such as uranium, plutonium, thorium, deuterium, heavy water, tritium, lithium); associated equipment, components and systems specially designed, prepared or adapted or used or intended to be used in such plants including but not limited to:

a. Plants for production or concentration of deuterium, heavy water-

1. Water -
2. Blowers and Compressors for hydrogen-sulphide gas circulation
3. Ammonia-Hydrogen Exchange Towers greater than or equal to 35 m in height with diameters of 1.5 m to 2.5 m
4. Tower Internals and Stage Pumps
5. Ammonia Crackers with operating pressures greater than or equal to 3 MPa
6. Infrared Absorption Analyzers capable of 'on-line' hydrogen/ deuterium ratio analysis
7. Catalytic Burners for conversion of enriched deuterium gas into heavy water
8. Complete heavy water upgrade systems or columns therefor

b. Plants for the conversion of uranium

c. Plants for the conversion of plutonium

d. Tritium facilities or plants, and equipment therefor

e. Lithium isotope separation facilities or plants, and equipment therefor

0B003 Plants for reprocessing of irradiated nuclear fuel and equipment, components and systems specially designed, prepared or adapted or used or intended to be used in such plants, including but not limited to:

a. Irradiated fuel element chopping machines designed for remote operation

b. Dissolvers capable of withstanding hot and highly corrosive liquid for dissolution of irradiated nuclear fuel and which can be remotely loaded and maintained

c. Solvent extractors and solvent extraction equipment resistant to the corrosive effect of nitric acid

d. Chemical holding or storage vessels resistant to the corrosive effect of nitric acid

e. Industrial equipment including assemblies and components as follows:

1. High density (lead glass or other) radiation shielding windows
2. Radiation hardened TV cameras, or lenses therefor
3. 'Robots' or 'end effectors' specially designed for handling high explosives; and control units therefor
4. Remote manipulators that can be used to provide remote actions in radiochemical separation operations or hot cells

0B004 Plants for treatment, handling, storage and transportation of radioactive wastes from nuclear reactors or from plants for processing Source Materials or Special Fissionable Materials or from nuclear reprocessing plants; irradiated nuclear fuel; Special Fissionable Materials, and equipment specially designed, prepared, adapted, or intended to be used therefor.

0B005 All systems, associated equipment, components for separation or enrichment of isotopes of uranium, plutonium, lithium or boron, other than analytical instruments, specially designed, prepared, adapted, used or intended to be used therefor as follows:

a. Gas centrifuges and assemblies and components specially designed or prepared for use in gas Centrifuges

b. Specially designed or prepared auxiliary systems, equipment and components for gas centrifuge enrichment plants

c. Specially designed or prepared assemblies and components for use in gaseous diffusion enrichment

d. Specially designed or prepared auxiliary systems, equipment and components for use in gaseous diffusion enrichment

e. Specially designed or prepared systems, equipment and components for use in aerodynamic enrichment plants

f. Specially designed or prepared systems, equipment and components for use in chemical exchange or ion exchange enrichment plants.

g. Specially designed or prepared systems, equipment and components for use in laser-based enrichment plants.

h. Specially designed or prepared systems, equipment and components for use in plasma separation enrichment plants.

i. Specially designed or prepared systems, equipment and components for use in electromagnetic enrichment plants.

0B006 Plants for the fabrication of nuclear reactor fuel elements, and equipment specially designed or prepared therefor including but not limited to:

a. fully automatic pellet inspection stations specially designed or prepared for checking final dimensions and surface defects of the fuel pellets;

b. automatic welding machines specially designed or prepared for welding end caps onto the fuel pins (or rods);

c. automatic test and inspection stations specially designed or prepared for checking the integrity of completed fuel pins (or rods).

Item ‘c’ typically includes equipment for: 1) x-ray examination of pin (or rod) end cap

welds, 2) helium leak detection from pressurized pins (or rods), and 3) gamma-ray scanning of the pins (or rods) to check for correct loading of the fuel pellets inside.

0B007 Plants or systems for production, handling, storage and transportation of Radioisotopes in quantities exceeding 100 Curies (3.7 X 10 12 Becquerel).

0B008 Neutron generators including neutron chain reacting assemblies and fusion assemblies of all kinds for producing fissile materials

0C Technology

Technology and software for the development, production or use of prescribed substances or prescribed equipment specified in 0A or 0B.

Category 1 Toxic chemical agents and other chemicals

1A Export of the following chemicals is prohibited:

(This corresponds to Schedule 1 to the Chemical Weapons Convention (CWC))

Note: Where reference is made below to groups of di-alkylated chemicals, followed by a list of alkyl groups in parentheses, all chemicals possible by all possible combinations and alkyl groups listed in parentheses are considered prohibited unless explicitly exempted.

(1). O-Alky (≤C10 , incl. cycloalkyl) alky1 (Me, Et,n-Pr or i-Pr) phosphonofluoridates

e.g. Sarin: O-Isopropy1 methylphosphonofluoridate

Soman: O-Pinacolyl methylphosphonofluoridate

(2). O-Alkyl, (≤C10, incl. cycloalkyl) N,N-dialky1 (Me, Et, n-Pr or i-Pr) phosphoramidocyanidates

e.g. Tabun: O-Ethyl N,N,-dimethyl phosphoramidocyanidate

(3). O-Alkyl (H or ≤ C10, incl. cycloalkyl) S-2-Dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonothiolates and corresponding alkylated or protonated salts

e.g. VX: O-Ethyl S-2 diisopropylaminoethyl methyl phosphonothiolate

(4). Sulphur mustards:

2-Chloroethylchloromethylsulphide

Mustard gas: Bis (2-chloroethyl) sulphide

Bis (2-chloroethylthio) methane

Sesquimustard:1,2-Bis (2-chloroethylthio) ethane

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

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

1,5-Bis (2-chloroethylthio)-n-Pentane

Bis (2-Chloroethylthiomethyl) ether

O-Mustard: Bis (2-Chloroethylthiomethyl) ether

(5). Lewisites:

Lewisite 1: 2-Chlorovinyldichloroarsine

Lewisite 2: Bis (2-Chlorovinyl) chloroarsine

Lewisite 3: Tris (2-Chlorovinyl) arsine

(6). Nitrogen mustards:

HN1: Bis (2-chloroethyl) ethylamine

HN2: Bis (2-chloroethyl) Chloroarsine

HN3: Tris (2-chloroethyl) amine

(7). Saxitoxin

(8). Ricin

(9). Alkyl (Me, Et, n-Pr or I-Pr) phosphonyldifluorides

e.g. DF: Methyl phosphonyldifluoride

(10).O-Alkyl (H or $\leq$ C10, incl. cycloalkyl) O-2 dialkyl (Me, Et, n-Pr or i-Pr)-aminoethylalkyl (Me, Et N-Pr or i-Pr) phosphonites and corresponding alkylated or protonated salts

e.g.QL: O-Ethyl O-2-diisopropylaminoethyl methyl phosphonite

(11).Chlorosarin: O-Isopropyl methylphosphonochloridate

(12).Chlorosoman: O-Pinacolyl methylphosphonochloridate

1B **Export of chemicals listed in 1B below is permitted only to States party to the Chemical Weapons Convention**

(This corresponds to Schedule 2 to the Chemicals Weapons Convention)

Note to exporter:

(a) A list of States Parties can be obtained from the Disarmament & International Security Affairs Division of the Ministry of External Affairs (Room No. 40G, South Block,) or at the official website of the Organization for the Prohibition of Chemical Weapons at www.opcw.org.

(b) A general permission valid for a period of two years may be applied for export of chemicals in this category. This permission shall be subject to the condition that for each export consignment, exporters shall, within 30 days of exports, notify the details to the National Authority, Chemical Weapons Convention, Cabinet Secretariat ; Ministry of External Affairs (D&ISA); Department of Chemicals and Petrochemicals and the Directorate General of Foreign Trade and submit to DGFT, a copy of Bill of Entry into the destination State Party within 30 days of delivery.

Note: Where reference is made below to groups of dialkylated chemicals, followed by a list of alkyl groups in parentheses, all chemicals possible by all possible combinations and alkyl groups listed in parentheses are included unless explicitly exempted.

1. Amiton 0,0-Diethyl S-[2-(diethylamino) ethyl)] phosphorothiolate and corresponding alkylated or protonated salts

2. PFIB: 1,1,3,3,3,-Pentafluoro-2-(trifluoromethyl)1-propene

3. BZ: 3-Quinuclidinyl benzilate

4. Chemicals, except for those listed in Schedule 1, containing a phosphorus atom to which is bonded one methyl, ethyl or propyl (normal or iso) group but not further carbon atoms,

   e.g.Methylphosphonyl dichloride

Dimethyl methylphosphonate

Exemption:- Fonofos: O-Ethyl S-phenyl ethylphosphonothiolothionate

5. N, N-Dialkyl (ME, Et, n-Pr or i-Pr) phosphoramidic dihalides

6. Dialkyl (Me, Et, n-Pr or i-Pr) N, N-dialkyl (Me, Et, n-Pr or i-Pr)-phosphoramidates

7. Arsenic trichloride

8. 2,2-Diphenyl-2 hydroxyacetic acid

9. Quinuclidine-3-ol

10. N,H-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethyl-2 -chlorides and corresponding protonated salts

11. N, N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-ols and corresponding protonated salts

Exemptions: N,N-Dimethylaminoethanol and corresponding protonated salts

N,N-Diethylaminoethanol and corresponding protonated salts

12. N, N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-thiols and corresponding protonated salts

13. Thiodiglycol: Bis(2-hydroxyethyl) sulphide

14. Pinacolyl alcohol: 3,3-Dimethylbutane-2-ol

A List of commercially important Schedule-2 Chemicals of CWC is given below :

Sl. No.	Name of Chemical	Entry into Schedule	CAS (Chemical Abstract Service) Numbers	ITC(HS) codes
1.	2-Chloro N, N-Di-isopropyl ethylamine	2B10	4261-68-1	29211911

2.	Diethyl amino Ethanethiol	2B12	100-38-9	29221910
3.	O, O, Dimethyl Methyl Phosphonate	2B04	756-79-6	29209045
4.	2-Hydroxy N, N-Diisopropyl Ethylamine	2B11	96-80-0	29221111
5.	N, N-Diethyl Amino ethyl Chloride Hydrochloride	2B10	869-24-9	29221112
6.	Di-ethyl Amino ethanethiol Hydrochloride	2B12	1942-52-5	29221113
7.	Di-Methyl Amino ethyl chloride Hydrochloride	2B10	4584-46-7	29221114
8.	Di-Methyl Amino ethanethiol	2B12	108-02-1	29221115
9.	Di-Methyl Amino ethanethiol Hydrochloride	2B12	13242-44-9	29221116
10.	Phosphorothioic acid, S [2-(diethylamino) ethyl] O, O – diethyl ester	2A01	78-53-5	29201910
11.	1-Propene, 1,1, 3, 3, 3, - Pentafluoro – 2-(trifluoromethyl) (PFIB)	2A02	382-21-8	29033911
12.	Benzeneacetic acid, alphahydroxy – alpha-phenyl, 1 – azabicyclo [2.2.2.] oct-3-yl ester	2A03	6581-06-2	