

THE SCHEDULE OF THE STRATEGIC GOODS (CONTROL) ORDER 2009

PART II

DUAL-USE GOODS THE EXPORT, TRANSHIPMENT OR BRINGING IN
TRANSIT OF WHICH, AND TECHNOLOGY THE EXPORT OR
TRANSMISSION OF WHICH, REQUIRE A PERMIT

Division 2 – List of Dual-Use Goods

<i>Product Code</i>	<i>Item Description</i>
CATEGORY 1 – MATERIALS, CHEMICALS, “MICROORGANISMS” & “TOXINS”	
1A	Systems, Equipment and Components
DL1A001	<p>Components made from fluorinated compounds, as follows:</p> <p>a. Seals, gaskets, sealants or fuel bladders, specially designed for “aircraft” or aerospace use, made from more than 50% by weight of any of the materials specified in Category Code 1C009.b. or 1C009.c.;</p> <p>b. Piezoelectric polymers and copolymers, made from vinylidene fluoride materials, specified in Category Code 1C009.a.:</p> <ol style="list-style-type: none"> 1. In sheet or film form; <u>and</u> 2. With a thickness exceeding 200 µm; <p>c. Seals, gaskets, valve seats, bladders or diaphragms, made from fluoroelastomers containing at least one vinyl ether group as a constitutional unit, specially designed for “aircraft”, aerospace or ‘missile’ use.</p> <p><i>Note</i></p> <p><i>In Category Code 1A001.c., ‘missile’ means complete rocket systems and unmanned aerial vehicle systems.;</i></p>
DL1A002	<p>“Composite” structures or laminates, having any of the following characteristics:</p> <p><u>N.B.</u></p> <p><i>See also Category Codes 1A202, 9A010 and 9A110.</i></p> <p>a. Consisting of an organic “matrix” and materials specified in Category Code 1C010.c., 1C010.d. or 1C010.e.; <u>or</u></p> <p>b. Consisting of a metal or carbon “matrix” and any of the following:</p> <ol style="list-style-type: none"> 1. Carbon “fibrous or filamentary materials” having all of the following:

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	<p>a. A “specific modulus” exceeding 10.15×10^6 m; <u>and</u> b. A “specific tensile strength” exceeding 17.7×10^4 m; <u>or</u> 2. Materials specified in Category Code 1C010.c.</p> <p><u>Note 1</u> <i>Category Code 1A002 does not include composite structures or laminates made from epoxy resin impregnated carbon “fibrous or filamentary materials” for the repair of “civil aircraft” structures or laminates, provided the size does not exceed 100 cm × 100 cm.</i></p> <p><u>Note 2</u> <i>Category Code 1A002 does not include finished or semi-finished items specially designed for purely civilian applications as follows:</i></p> <p>a. <i>Sporting goods;</i> b. <i>Automotive industry;</i> c. <i>Machine tool industry;</i> d. <i>Medical applications.</i></p>
DL1A003	<p>Manufactures of non-fluorinated polymeric substances, specified in Category Code 1C008.a.3., in film, sheet, tape or ribbon form having any of the following characteristics:</p> <p>a. A thickness exceeding 0.254 mm; <u>or</u> b. Coated or laminated with carbon, graphite, metals or magnetic substances.</p> <p><u>Note</u> <i>Category Code 1A003 does not include manufactures when coated or laminated with copper and designed for the production of electronic printed circuit boards.</i></p>
DL1A004	<p>Protective and detection equipment and components, other than those specified in Division 2 of Part I of this Schedule, as follows:</p> <p><u>N.B.</u> <i>See also Category Codes 2B351 and 2B352.</i></p> <p>a. Gas masks, filter canisters and decontamination equipment therefor, designed or modified for defence against any of the following, and specially designed components therefor:</p> <ol style="list-style-type: none"> 1. Biological agents “adapted for use in war”; 2. Radioactive materials “adapted for use in war”; 3. Chemical warfare (CW) agents; <u>or</u> 4. “Riot control agents”, including:

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	<ul style="list-style-type: none"> a. α-Bromobenzeneacetonitrile, (Bromobenzyl cyanide) (CA) (5798-79-8); b. [(2-chlorophenyl) methylene] propanedinitrile, (o-Chlorobenzylidenemalononitrile) (CS) (2698-41-1); c. 2-Chloro-1-phenylethanone, Phenylacetyl chloride (ω-chloroacetophenone) (CN) (532-27-4); d. Dibenz-(b,f)-1,4-oxazaphine (CR) (257-07-8); e. 10-Chloro-5,10-dihydrophenarsazine, (Phenarsazine chloride), (Adamsite), (DM) (578-94-9); f. N-Nonanoylmorpholine, (MPA) (5299-64-9);
	<ul style="list-style-type: none"> b. Protective suits, gloves and shoes, specially designed or modified for defence against any of the following: <ul style="list-style-type: none"> 1. Biological agents “adapted for use in war”; 2. Radioactive materials “adapted for use in war”; <u>or</u> 3. Chemical warfare (CW) agents;
	<ul style="list-style-type: none"> c. Nuclear, biological and chemical (NBC) detection systems, specially designed or modified for detection or identification of any of the following, and specially designed components therefor: <ul style="list-style-type: none"> 1. Biological agents “adapted for use in war”; 2. Radioactive materials “adapted for use in war”; <u>or</u> 3. Chemical warfare (CW) agents.
	<p><u>Note</u></p> <p><i>Category Code 1A004 does not include:</i></p> <ul style="list-style-type: none"> a. <i>Personal radiation monitoring dosimeters;</i> b. <i>Equipment limited by design or function to protect against hazards specific to civil industries, such as mining, quarrying, agriculture, pharmaceuticals, medical, veterinary, environmental, waste management, or to the food industry.</i>
	<p><u>Technical Notes</u></p> <ul style="list-style-type: none"> 1. <i>Category Code 1A004 includes equipment and components that have been identified, successfully tested to national standards or otherwise proven effective, for the detection of or defence against radioactive materials “adapted for use in war”, biological agents “adapted for use in war”, chemical warfare agents, ‘simulants’ or “riot control agents”, even if such equipment or components are used in civil industries such as mining, quarrying, agriculture, pharmaceuticals, medical, veterinary, environmental, waste management, or the food industry.</i>

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	2. 'Simulant' is a substance or material that is used in place of toxic agent (chemical or biological) in training, research, testing or evaluation.
DL1A005	<p>Body armour, and specially designed components therefor, other than those manufactured to military standards or specifications or to their equivalents in performance.</p> <p><u>N.B.</u></p> <p><i>See also Division 2 of Part 1 of this Schedule.</i></p> <p><u>N.B.</u></p> <p><i>For "fibrous or filamentary materials" used in the manufacture of body armour, see Category Code 1C010.</i></p> <p><u>Note 1</u></p> <p><i>Category Code 1A005 does not include body armour or protective garments when accompanying their user for the user's own personal protection.</i></p> <p><u>Note 2</u></p> <p><i>Category Code 1A005 does not include body armour designed to provide frontal protection only from both fragment and blast from non-military explosive devices.</i></p>
DL1A006	<p>Equipment, specially designed or modified for the disposal of improvised explosive devices, as follows, and specially designed components and accessories therefor:</p> <p><u>N.B.</u></p> <p><i>See also Division 2 of Part 1 of this Schedule.</i></p> <p>a. Remotely operated vehicles;</p> <p>b. 'Disruptors'.</p> <p><u>Technical Note</u></p> <p><i>'Disruptors' are devices specially designed for the purpose of preventing the operation of an explosive device by projecting a liquid, solid or frangible projectile.</i></p> <p><u>Note</u></p> <p><i>Category Code 1A006 does not include equipment when accompanying its operator.</i></p>
DL1A007	<p>Equipment and devices, specially designed to initiate charges and devices containing energetic materials, by electrical means, as follows:</p> <p><u>N.B.</u></p> <p><i>See also Division 2 of Part 1 of this Schedule, and Category Codes 3A229</i></p>

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	<p><i>and 3A232.</i></p> <p>a. Explosive detonator firing sets designed to drive explosive detonators specified in Category Code 1A007.b.;</p> <p>b. Electrically driven explosive detonators, as follows:</p> <ol style="list-style-type: none"> 1. Exploding bridge (EB); 2. Exploding bridge wire (EBW); 3. Slapper; 4. Exploding foil initiators (EFI). <p><u><i>Technical Notes</i></u></p> <ol style="list-style-type: none"> 1. <i>The word initiator or igniter is sometimes used in place of the word detonator.</i> 2. <i>For the purpose of Category Code 1A007.b. the detonators of concern all utilise a small electrical conductor (bridge, bridge wire, or foil) that explosively vaporises when a fast, high-current electrical pulse is passed through it. In non slapper types, the exploding conductor starts a chemical detonation in a contacting high explosive material such as PETN (pentaerythritoltetranitrate). In slapper detonators, the explosive vaporization of the electrical conductor drives a flyer or slapper across a gap, and the impact of the slapper on an explosive starts a chemical detonation. The slapper in some designs is driven by magnetic force. The term exploding foil detonator may refer to either an EB or a slapper-type detonator.</i>
DL1A102	Resaturated pyrolised carbon-carbon components designed for space launch vehicles specified in Category Code 9A004 or sounding rockets specified in Category Code 9A104.
DL1A202	<p>Composite structures, other than those specified in Category Code 1A002, in the form of tubes and having both of the following characteristics:</p> <p><u>N.B.</u></p> <p><i>See also Category Codes 9A010 and 9A110.</i></p> <ol style="list-style-type: none"> a. An inside diameter of between 75 mm and 400 mm; <u>and</u> b. Made with any of the “fibrous or filamentary materials” specified in Category Code 1C010.a. or 1C010.b. or 1C210.a. or with carbon prepreg materials specified in Category Code 1C210.c.
DL1A225	Platinised catalysts specially designed or prepared for promoting the hydrogen isotope exchange reaction between hydrogen and water for the

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	recovery of tritium from heavy water or for the production of heavy water.
DL1A226	Specialised packings which may be used in separating heavy water from ordinary water, having both of the following characteristics: a. Made of phosphor bronze mesh chemically treated to improve wettability; <u>and</u> b. Designed to be used in vacuum distillation towers.
DL1A227	High-density (lead glass or other) radiation shielding windows, having all of the following characteristics, and specially designed frames therefor: a. A 'cold area' greater than 0.09 m ² ; b. A density greater than 3 g/cm ³ ; <u>and</u> c. A thickness of 100 mm or greater. <u>Technical Note</u> <i>In Category Code 1A227, the term 'cold area' means the viewing area of the window exposed to the lowest level of radiation in the design application.</i>
1B	Test, Inspection and Production Equipment
DL1B001	Equipment for the production of fibres, prepregs, preforms or "composites", specified in Category Code 1A002 or 1C010, as follows, and specially designed components and accessories therefor: <u>N.B.</u> <i>See also Category Codes 1B101 and 1B201.</i>
	a. Filament winding machines of which the motions for positioning, wrapping and winding fibres are coordinated and programmed in three or more axes, specially designed for the manufacture of "composite" structures or laminates from "fibrous or filamentary materials";
	b. Tape-laying or tow-placement machines, of which the motions for positioning and laying tape, tows or sheets are coordinated and programmed in two or more axes, specially designed for the manufacture of "composite" airframe or 'missile' structures; <u>Note</u> <i>In Category Code 1B001.b., 'missile' means complete rocket systems and unmanned aerial vehicle systems.</i>
	c. Multidirectional, multidimensional weaving machines or interlacing machines, including adapters and modification kits, for weaving, interlacing or braiding fibres, to manufacture "composite" structures; <u>Technical Note</u>

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	<p data-bbox="419 306 1382 371"><i>For the purposes of Category Code 1B001.c., the technique of interlacing includes knitting.</i></p> <p data-bbox="419 396 483 427"><u>Note</u></p> <p data-bbox="419 450 1382 515"><i>Category Code 1B001.c. does not include textile machinery not modified for the above end-uses.</i></p> <p data-bbox="384 555 1382 620">d. Equipment specially designed or adapted for the production of reinforcement fibres, as follows:</p> <ol data-bbox="419 660 1382 1122" style="list-style-type: none"> <li data-bbox="419 660 1382 779">1. Equipment for converting polymeric fibres (e.g., polyacrylonitrile, rayon, pitch or polycarbosilane) into carbon fibres or silicon carbide fibres, including special equipment to strain the fibre during heating; <li data-bbox="419 801 1382 913">2. Equipment for the chemical vapour deposition of elements or compounds, on heated filamentary substrates, to manufacture silicon carbide fibres; <li data-bbox="419 947 1382 1025">3. Equipment for the wet-spinning of refractory ceramics (e.g., aluminium oxide); <li data-bbox="419 1055 1382 1122">4. Equipment for converting aluminium containing precursor fibres into alumina fibres by heat treatment; <p data-bbox="384 1160 1382 1225">e. Equipment for producing prepregs specified in Category Code 1C010.e. by the hot melt method;</p> <p data-bbox="384 1263 1382 1328">f. Non-destructive inspection equipment specially designed for “composite” materials, as follows:</p> <ol data-bbox="419 1368 1382 1619" style="list-style-type: none"> <li data-bbox="419 1368 1382 1422">1. X-ray tomography for three dimensional defect inspection; <li data-bbox="419 1444 1382 1619">2. Numerically controlled ultrasonic testing machines of which the motions for positioning transmitters or receivers or both, are simultaneously coordinated and programmed in four or more axes to follow the three dimensional contours of the component under inspection.
DL1B002	<p data-bbox="384 1659 1382 1765">Equipment for producing metal alloys, metal alloy powder or alloyed materials, specially designed to avoid contamination and specially designed for use in one of the processes specified in Category Code 1C002.c.2.</p> <p data-bbox="384 1787 448 1818"><u>N.B.</u></p> <p data-bbox="384 1841 794 1872"><i>See also Category Code 1B102.</i></p>
DL1B003	<p data-bbox="384 1906 1382 2011">Tools, dies, moulds or fixtures, for “superplastic forming” or “diffusion bonding” titanium, aluminium or their alloys, specially designed for the manufacture of any of the following:</p>

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	a. Airframe or aerospace structures; b. “Aircraft” or aerospace engines; <u>or</u> c. Specially designed components for those structures or engines.
DL1B101	<p>Equipment, other than that specified in Category Code 1B001, for the “production” of structural composites as follows, and specially designed components and accessories therefor:</p> <p><u>N.B.</u></p> <p><i>See also Category Code 1B201.</i></p> <p><u>Note</u></p> <p><i>Components and accessories specified in Category Code 1B101 include moulds, mandrels, dies, fixtures and tooling for the preform pressing, curing, casting, sintering or bonding of composite structures, laminates and manufactures thereof.</i></p> <p>a. Filament winding machines of which the motions for positioning, wrapping and winding fibres can be coordinated and programmed in three or more axes, designed to fabricate composite structures or laminates from fibrous or filamentary materials, and coordinating and programming controls;</p> <p>b. Tape-laying machines of which the motions for positioning and laying tape and sheets can be coordinated and programmed in two or more axes, designed for the manufacture of composite airframe and “missile” structures;</p> <p>c. Equipment designed or modified for the “production” of “fibrous or filamentary materials”, as follows:</p> <ol style="list-style-type: none"> 1. Equipment for converting polymeric fibres (e.g., polyacrylonitrile, rayon or polycarbosilane) including special provision to strain the fibre during heating; 2. Equipment for the vapour deposition of elements or compounds on heated filament substrates; 3. Equipment for the wet-spinning of refractory ceramics (e.g., aluminium oxide); <p>d. Equipment designed or modified for special fibre surface treatment or for producing prepregs and preforms specified in Category Code 9C110.</p> <p><u>Note</u></p> <p><i>Category Code 1B101.d. includes rollers, tension stretchers, coating equipment, cutting equipment and clicker dies.</i></p>

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DL1B102	<p>Metal powder “production equipment”, other than that specified in Category Code 1B002, and components, as follows:</p> <p><u>N.B.</u></p> <p><i>See also Category Code 1B115.b.</i></p> <p>a. Metal powder “production equipment” usable for the “production”, in a controlled environment, of spherical or atomised materials specified in Category Code 1C011.a., 1C011.b., 1C111.a.1., 1C111.a.2. or in Division 2 of Part I of this Schedule;</p> <p>b. Specially designed components for “production equipment” specified in Category Code 1B002 or 1B102.a.</p> <p><u>Note</u></p> <p><i>Category Code 1B102 includes:</i></p> <p>a. <i>Plasma generators (high frequency arc-jet) usable for obtaining sputtered or spherical metallic powders with organisation of the process in an argon-water environment;</i></p> <p>b. <i>Electroburst equipment usable for obtaining sputtered or spherical metallic powders with organisation of the process in an argon-water environment;</i></p> <p>c. <i>Equipment usable for the “production” of spherical aluminium powders by powdering a melt in an inert medium (e.g., nitrogen).</i></p>
DL1B115	<p>Equipment, other than that specified in Category Code 1B002 or 1B102, for the production of propellant and propellant constituents, as follows, and specially designed components therefor:</p> <p>a. “Production equipment” for the “production”, handling or acceptance testing of liquid propellants or propellant constituents specified in Category Code 1C011.a., 1C011.b., 1C111 or in Division 2 of Part I of this Schedule;</p> <p>b. “Production equipment” for the “production”, handling, mixing, curing, casting, pressing, machining, extruding or acceptance testing of solid propellants or propellant constituents specified in Category Code 1C011.a., 1C011.b., 1C111 or in Division 2 of Part I of this Schedule.</p> <p><u>Note</u></p> <p><i>Category Code 1B115.b. does not include batch mixers, continuous mixers or fluid energy mills. For batch mixers, continuous mixers and fluid energy mills see Category Codes 1B117, 1B118 and 1B119.</i></p> <p><u>Note 1</u></p>

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	<p><i>For equipment specially designed for the production of military goods, see Division 2 of Part I of this Schedule.</i></p> <p><u>Note 2</u></p> <p><i>Category Code 1B115 does not include equipment for the ‘production’, handling and acceptance testing of boron carbide.</i></p>
DL1B116	Specially designed nozzles for producing pyrolitically derived materials formed on a mould, mandrel or other substrate from precursor gases which decompose in the 1,573 K (1,300°C) to 3,173 K (2,900°C) temperature range at pressures of 130 Pa to 20 kPa.
DL1B117	<p>Batch mixers with provision for mixing under vacuum in the range of zero to 13.326 kPa and with a temperature control capability of the mixing chamber and having all of the following, and specially designed components therefor:</p> <p>a. A total volumetric capacity of 110 litres or more; <u>and</u></p> <p>b. At least one mixing/kneading shaft mounted off centre.</p>
DL1B118	<p>Continuous mixers with provision for mixing under vacuum in the range of zero to 13.326 kPa and with a temperature control capability of the mixing chamber having any of the following, and specially designed components therefor:</p> <p>a. Two or more mixing/kneading shafts; <u>or</u></p> <p>b. A single rotating shaft which oscillates and having kneading teeth/pins on the shaft as well as inside the casing of the mixing chamber.</p>
DL1B119	Fluid energy mills usable for grinding or milling substances specified in Category Code 1C011.a., 1C011.b., 1C111 or in Division 2 of Part I of this Schedule, and specially designed components therefor.
DL1B201	<p>Filament winding machines, other than those specified in Category Code 1B001 or 1B101, and related equipment, as follows:</p> <p>a. Filament winding machines having all of the following characteristics:</p> <ol style="list-style-type: none"> 1. Having motions for positioning, wrapping, and winding fibres coordinated and programmed in two or more axes; 2. Specially designed to fabricate composite structures or laminates from “fibrous or filamentary materials”; <u>and</u> 3. Capable of winding cylindrical rotors of diameter between 75 mm and 400 mm and lengths of 600 mm or greater; <p>b. Coordinating and programming controls for the filament winding machines specified in Category Code 1B201.a.;</p> <p>c. Precision mandrels for the filament winding machines specified in</p>

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	Category Code 1B201.a.
DL1B225	Electrolytic cells for fluorine production with an output capacity greater than 250 g of fluorine per hour.
DL1B226	<p>Electromagnetic isotope separators designed for, or equipped with, single or multiple ion sources capable of providing a total ion beam current of 50 mA or greater.</p> <p><u>Note</u></p> <p><i>Category Code 1B226 includes separators:</i></p> <p><i>a. Capable of enriching stable isotopes;</i></p> <p><i>b. With the ion sources and collectors both in the magnetic field and those configurations in which they are external to the field.</i></p>
DL1B227	Ammonia synthesis converters or ammonia synthesis units, in which the synthesis gas (nitrogen and hydrogen) is withdrawn from an ammonia or hydrogen high-pressure exchange column and the synthesised ammonia is returned to said column.
DL1B228	<p>Hydrogen-cryogenic distillation columns having all of the following characteristics:</p> <p>a. Designed for operation with internal temperatures of 35 K (–238°C) or less;</p> <p>b. Designed for operation at an internal pressure of 0.5 MPa to 5 MPa;</p> <p>c. Constructed of either:</p> <ol style="list-style-type: none"> 1. Stainless steel of the 300 series with low sulphur content and with an austenitic ASTM (or equivalent standard) grain size number of 5 or greater; <u>or</u> 2. Equivalent materials which are both cryogenic and H₂-compatible; <u>and</u> <p>d. With internal diameters of 1 m or greater and effective lengths of 5 m or greater.</p>
DL1B229	<p>Water-hydrogen sulphide exchange tray columns and ‘internal contactors’, as follows:</p> <p><u>N.B.</u></p> <p><i>For columns which are specially designed or prepared for the production of heavy water see Category Code 0B004.</i></p> <p>a. Water-hydrogen sulphide exchange tray columns, having all of the following characteristics:</p> <ol style="list-style-type: none"> 1. Can operate at pressures of 2 MPa or greater; 2. Constructed of carbon steel having an austenitic ASTM (or equivalent

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	<p>standard) grain size number of 5 or greater; <u>and</u></p> <p>3. With a diameter of 1.8 m or greater;</p> <p>b. 'Internal contactors' for the water-hydrogen sulphide exchange tray columns specified in Category Code 1B229.a.</p> <p><u>Technical Note</u></p> <p><i>'Internal contactors' of the columns are segmented trays which have an effective assembled diameter of 1.8 m or greater, are designed to facilitate countercurrent contacting and are constructed of stainless steels with a carbon content of 0.03% or less. These may be sieve trays, valve trays, bubble cap trays, or turbogrid trays.</i></p>
DL1B230	<p>Pumps capable of circulating solutions of concentrated or dilute potassium amide catalyst in liquid ammonia (KNH₂/NH₃), having all of the following characteristics:</p> <p>a. Airtight (i.e., hermetically sealed);</p> <p>b. A capacity greater than 8.5 m³/h; <u>and</u></p> <p>c. Either of the following characteristics:</p> <ol style="list-style-type: none"> 1. For concentrated potassium amide solutions (1% or greater), an operating pressure of 1.5 MPa to 60 MPa; <u>or</u> 2. For dilute potassium amide solutions (less than 1%), an operating pressure of 20 MPa to 60 MPa.
DL1B231	<p>Tritium facilities or plants, and equipment therefor, as follows:</p> <p>a. Facilities or plants for the production, recovery, extraction, concentration, or handling of tritium;</p> <p>b. Equipment for tritium facilities or plants, as follows:</p> <ol style="list-style-type: none"> 1. Hydrogen or helium refrigeration units capable of cooling to 23 K (–250°C) or less, with heat removal capacity greater than 150 W; 2. Hydrogen isotope storage or purification systems using metal hydrides as the storage or purification medium.
DL1B232	<p>Turboexpanders or turboexpander-compressor sets having both of the following characteristics:</p> <p>a. Designed for operation with an outlet temperature of 35 K (–238°C) or less; <u>and</u></p> <p>b. Designed for a throughput of hydrogen gas of 1,000 kg/h or greater.</p>
DL1B233	Lithium isotope separation facilities or plants, and equipment therefor, as

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	<p>follows:</p> <p>a. Facilities or plants for the separation of lithium isotopes;</p> <p>b. Equipment for the separation of lithium isotopes, as follows:</p> <ol style="list-style-type: none"> 1. Packed liquid-liquid exchange columns specially designed for lithium amalgams; 2. Mercury or lithium amalgam pumps; 3. Lithium amalgam electrolysis cells; 4. Evaporators for concentrated lithium hydroxide solution.
1C	Materials
	<p><u>Technical Note</u></p> <p><i>Unless provision to the contrary is made, the words ‘metals’ and ‘alloys’ in Category Codes 1C001 to 1C012 cover crude and semi-fabricated forms, as follows:</i></p> <p><i>“Crude forms”, in relation to materials, means anodes, balls, bars (including notched bars and wire bars), billets, blocks, blooms, brickets, cakes, cathodes, crystals, cubes, dice, grains, granules, ingots, lumps, pellets, pigs, powder, rondelles, shot, slabs, slugs, sponge, sticks;</i></p> <p><i>“Semi-fabricated forms”, in relation to materials, means any of the following:</i></p> <ol style="list-style-type: none"> <i>a. Wrought or worked materials fabricated by rolling, drawing, extruding, forging, impact extruding, pressing, graining, atomising, and grinding, i.e.: angles, channels, circles, discs, dust, flakes, foils and leaf, forging, plate, powder, pressings and stampings, ribbons, rings, rods (including bare welding rods, wire rods, and rolled wire), sections, shapes, sheets, strip, pipe and tubes (including tube rounds, squares, and hollows), drawn or extruded wire;</i> <i>b. Cast material produced by casting in sand, die, metal, plaster or other types of moulds, including high pressure castings, sintered forms, and forms made by powder metallurgy,</i> <p><i>whether or not coated, plated, drilled or punched.</i></p> <p><i>Category 1C includes non-listed forms of those materials which are purportedly finished products but are in reality “crude forms” or “semi-fabricated forms”.</i></p>
DL1C001	Materials specially designed for use as absorbers of electromagnetic waves, or intrinsically conductive polymers, as follows:

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	<p><u>N.B.</u> <i>See also Category Code 1C101.</i></p> <p>a. Materials for absorbing frequencies exceeding 2×10^8 Hz but less than 3×10^{12} Hz;</p> <p><u>Note 1</u> <i>Category Code 1C001.a. does not include:</i></p> <p>a. <i>Hair type absorbers, constructed of natural or synthetic fibres, with non-magnetic loading to provide absorption;</i></p> <p>b. <i>Absorbers having no magnetic loss and whose incident surface is non-planar in shape, including pyramids, cones, wedges and convoluted surfaces;</i></p> <p>c. <i>Planar absorbers, having all of the following characteristics:</i></p> <p>1. <i>Made from any of the following:</i></p> <p>a. <i>Plastic foam materials (flexible or non-flexible) with carbon-loading, or organic materials, including binders, providing more than 5% echo compared with metal over a bandwidth exceeding $\pm 15\%$ of the centre frequency of the incident energy, and not capable of withstanding temperatures exceeding 450 K (177°C);</i> <u>or</u></p> <p>b. <i>Ceramic materials providing more than 20% echo compared with metal over a bandwidth exceeding $\pm 15\%$ of the centre frequency of the incident energy, and not capable of withstanding temperatures exceeding 800 K (527°C);</i></p> <p><u>Technical Note</u> <i>Absorption test samples for Category Code 1C001.a.</i> <i>Note: 1.c.1 should be a square at least 5 wavelengths of the centre frequency on a side and positioned in the far field of the radiating element.</i></p> <p>2. <i>Tensile strength less than 7×10^6 N/m²; and</i></p> <p>3. <i>Compressive strength less than 14×10^6 N/m²;</i></p> <p>d. <i>Planar absorbers made of sintered ferrite, having all of the following characteristics:</i></p> <p>1. <i>A specific gravity exceeding 4.4; and</i></p> <p>2. <i>A maximum operating temperature of 548 K (275°C).</i></p> <p><u>Note 2</u> <i>Nothing in Note 1 to Category Code 1C001.a. releases magnetic materials to provide absorption when contained in paint.</i></p>

<i>Product Code</i>	<i>Item Description</i>
	<p>b. Materials for absorbing frequencies exceeding 1.5×10^{14} Hz but less than 3.7×10^{14} Hz and not transparent to visible light;</p> <p>c. Intrinsically conductive polymeric materials with a ‘bulk electrical conductivity’ exceeding 10,000 S/m (Siemens per metre) or a ‘sheet (surface) resistivity’ of less than 100 ohms/square, based on any of the following polymers:</p> <ol style="list-style-type: none"> 1. Polyaniline; 2. Polypyrrole; 3. Polythiophene; 4. Poly phenylene-vinylene; <u>or</u> 5. Poly thienylene-vinylene. <p><u>Technical Note</u></p> <p><i>‘Bulk electrical conductivity’ and ‘sheet (surface) resistivity’ should be determined using ASTM D-257 or national equivalents.</i></p>
1C002	<p>Metal alloys, metal alloy powder and alloyed materials, as follows:</p> <p><u>N.B.</u></p> <p><i>See also Category Code 1C202.</i></p> <p><u>Note</u></p> <p><i>Category Code 1C002 does not include metal alloys, metal alloy powder and alloyed materials for coating substrates.</i></p> <p><u>Technical Notes</u></p> <ol style="list-style-type: none"> 1. <i>The metal alloys in Category Code 1C002 are those containing a higher percentage by weight of the stated metal than of any other element.</i> 2. <i>‘Stress-rupture life’ is measured in accordance with ASTM standard E-139 or national equivalents.</i> 3. <i>‘Low cycle fatigue life’ is measured in accordance with ASTM standard E-606 ‘Recommended Practice for Constant-Amplitude Low-Cycle Fatigue Testing’ or national equivalents. Testing should be axial with an average stress ratio equal to 1 and a stress-concentration factor (K_t) equal to 1. The average stress is defined as maximum stress minus minimum stress divided by maximum stress.</i> <p>a. Aluminides, as follows:</p> <ol style="list-style-type: none"> 1. Nickel aluminides containing a minimum of 15% by weight aluminium, a maximum of 38% by weight aluminium and at least one additional alloying element; 2. Titanium aluminides containing 10% by weight or more aluminium and

<i>Product Code</i>	<i>Item Description</i>
	at least one additional alloying element;
	b. Metal alloys, as follows, made from material specified in Category Code 1C002.c.:
	<p>1. Nickel alloys having any of the following:</p> <p>a. A ‘stress-rupture life’ of 10,000 hours or longer at 923 K (650°C) at a stress of 676 MPa; <u>or</u></p> <p>b. A ‘low cycle fatigue life’ of 10,000 cycles or more at 823 K (550°C) at a maximum stress of 1,095 MPa;</p>
	<p>2. Niobium alloys having any of the following:</p> <p>a. A ‘stress-rupture life’ of 10,000 hours or longer at 1,073 K (800°C) at a stress of 400 MPa; <u>or</u></p> <p>b. A ‘low cycle fatigue life’ of 10,000 cycles or more at 973 K (700°C) at a maximum stress of 700 MPa;</p>
	<p>3. Titanium alloys having any of the following:</p> <p>a. A ‘stress-rupture life’ of 10,000 hours or longer at 723 K (450°C) at a stress of 200 MPa; <u>or</u></p> <p>b. A ‘low cycle fatigue life’ of 10,000 cycles or more at 723 K (450°C) at a maximum stress of 400 MPa;</p>
	<p>4. Aluminium alloys having any of the following:</p> <p>a. A tensile strength of 240 MPa or more at 473 K (200°C); <u>or</u></p> <p>b. A tensile strength of 415 MPa or more at 298 K (25°C);</p>
	<p>5. Magnesium alloys having all of the following:</p> <p>a. A tensile strength of 345 MPa or more; <u>and</u></p> <p>b. A corrosion rate of less than 1 mm/year in 3% sodium chloride aqueous solution measured in accordance with ASTM standard G-31 or national equivalents;</p>
	<p>c. Metal alloy powder or particulate material, having all of the following:</p> <p>1. Made from any of the following composition systems:</p> <p><i>Technical Note</i></p> <p><i>X in the following equals one or more alloying elements.</i></p> <p>a. Nickel alloys (Ni-Al-X, Ni-X-Al) qualified for turbine engine parts or components, i.e. with less than 3 non-metallic particles (introduced during the manufacturing process) larger than 100 µm in 10⁹ alloy particles;</p>

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	<p>b. Niobium alloys (Nb-Al-X or Nb-X-Al, Nb-Si-X or Nb-X-Si, Nb-Ti-X or Nb-X-Ti);</p> <p>c. Titanium alloys (Ti-Al-X or Ti-X-Al);</p> <p>d. Aluminium alloys (Al-Mg-X or Al-X-Mg, Al-Zn-X or Al-X-Zn, Al-Fe-X or Al-X-Fe); <u>or</u></p> <p>e. Magnesium alloys (Mg-Al-X or Mg-X-Al);</p> <p>2. Made in a controlled environment by any of the following processes:</p> <p>a. "Vacuum atomisation";</p> <p>b. "Gas atomisation";</p> <p>c. "Rotary atomisation";</p> <p>d. "Splat quenching";</p> <p>e. "Melt spinning" and "comminution";</p> <p>f. "Melt extraction" and "comminution"; <u>or</u></p> <p>g. "Mechanical alloying"; <u>and</u></p> <p>3. Capable of forming materials specified in Category Code 1C002.a. or 1C002.b.;</p> <hr/> <p>d. Alloyed materials having all of the following:</p> <p>1. Made from any of the composition systems specified in Category Code 1C002.c.1.;</p> <p>2. In the form of uncomminuted flakes, ribbons or thin rods; <u>and</u></p> <p>3. Produced in a controlled environment by any of the following:</p> <p>a. "Splat quenching";</p> <p>b. "Melt spinning"; <u>or</u></p> <p>c. "Melt extraction".</p>
DL1C003	<p>Magnetic metals, of all types and of whatever form, having any of the following:</p> <p>a. Initial relative permeability of 120,000 or more and a thickness of 0.05 mm or less;</p> <p><i><u>Technical Note</u></i></p> <p><i>Measurement of initial permeability is that performed on fully annealed materials.</i></p> <p>b. Magnetostrictive alloys, having any of the following:</p> <p>1. A saturation magnetostriction of more than 5×10^{-4}; <u>or</u></p> <p>2. A magnetomechanical coupling factor (k) of more than 0.8; <u>or</u></p>

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	<p>c. Amorphous or ‘nanocrystalline’ alloy strips, having all of the following characteristics:</p> <ol style="list-style-type: none"> 1. A composition having a minimum of 75% by weight of iron, cobalt or nickel; 2. A saturation magnetic induction (B_s) of 1.6 T or more; <u>and</u> 3. Any of the following: <ol style="list-style-type: none"> a. A strip thickness of 0.02 mm or less; <u>or</u> b. An electrical resistivity of 2×10^{-4} ohm cm or more. <p><u>Technical Note</u></p> <p><i>‘Nanocrystalline’ materials in Category Code 1C003.c. are those materials having a crystal grain size of 50 nm or less, as determined by X-ray diffraction.</i></p>
DL1C004	<p>Uranium titanium alloys or tungsten alloys with a “matrix” based on iron, nickel or copper, having all of the following:</p> <ol style="list-style-type: none"> a. A density exceeding 17.5 g/cm³; b. An elastic limit exceeding 880 MPa; c. An ultimate tensile strength exceeding 1,270 MPa; <u>and</u> d. An elongation exceeding 8%.
DL1C005	<p>“Superconductive” “composite” conductors in lengths exceeding 100 m or with a mass exceeding 100 g, as follows:</p> <ol style="list-style-type: none"> a. “Superconductive” “composite” conductors containing one or more niobium-titanium ‘filaments’, having all of the following: <ol style="list-style-type: none"> 1. Embedded in a “matrix” other than a copper or copper-based mixed “matrix”; <u>and</u> 2. Having a cross-section area less than 0.28×10^{-4} mm² (6 μm in diameter for circular ‘filaments’); b. “Superconductive” “composite” conductors consisting of one or more “superconductive” ‘filaments’ other than niobium-titanium, having all of the following: <ol style="list-style-type: none"> 1. A “critical temperature” at zero magnetic induction exceeding 9.85 K (–263.31°C); <u>and</u> 2. Remaining in the “superconductive” state at a temperature of 4.2 K (–268.96°C) when exposed to a magnetic field oriented in any direction perpendicular to the longitudinal axis of conductor and corresponding to a magnetic induction of 12 T with critical current density exceeding 1,750 A/mm² on overall cross-section of the conductor;

<i>Product Code</i>	<i>Item Description</i>
	<p>c. “Superconductive” “composite” conductors consisting of one or more “superconductive” ‘filaments’ which remain “superconductive” above 115 K (–158.16°C).</p> <p><u>Technical Note</u> <i>For the purpose of Category Code 1C005 ‘filaments’ may be in wire, cylinder, film, tape or ribbon form.</i></p>
DL1C006	<p>Fluids and lubricating materials, as follows:</p> <p>a. Hydraulic fluids containing, as their principal ingredients, any of the following:</p> <p>1. Synthetic ‘silahydrocarbon oils’ having all of the following:</p> <p><u>Technical Note</u> <i>For the purpose of Category Code 1C006.a.1, ‘silahydrocarbon oils’ contain exclusively silicon, hydrogen and carbon.</i></p> <p>a. A ‘flash point’ exceeding 477 K (204°C); b. A ‘pour point’ at 239 K (-34°C) or less; c. A ‘viscosity index’ of 75 or more; <u>and</u> d. A thermal stability at 616 K (343°C); <u>or</u></p> <p>2. ‘Chlorofluorocarbons’ having all of the following:</p> <p><u>Technical Note</u> <i>For the purpose of Category Code 1C006.a.2., ‘chlorofluorocarbons’ contain exclusively carbon, fluorine and chlorine.</i></p> <p>a. No ‘flash point’; b. An ‘autogenous ignition temperature’ exceeding 977 K (704°C); c. A ‘pour point’ at 219 K (–54°C) or less; d. A ‘viscosity index’ of 80 or more; <u>and</u> e. A boiling point at 473 K (200°C) or higher;</p> <p>b. Lubricating materials containing, as their principal ingredients, any of the following:</p> <p>1. Phenylene or alkylphenylene ethers or thio-ethers, or their mixtures, containing more than two ether or thio-ether functions or mixtures thereof; <u>or</u> 2. Fluorinated silicone fluids with a kinematic viscosity of less than 5,000 mm²/s (5,000 centistokes) measured at 298 K (25°C);</p>

<i>Product Code</i>	<i>Item Description</i>
	<p>c. Damping or flotation fluids with a purity exceeding 99.8%, containing less than 25 particles of 200 μm or larger in size per 100 ml and made from at least 85% of any of the following:</p> <ol style="list-style-type: none"> 1. Dibromotetrafluoroethane; 2. Polychlorotrifluoroethylene (oily and waxy modifications only); <u>or</u> 3. Polybromotrifluoroethylene; <p>d. Fluorocarbon electronic cooling fluids, having all of the following:</p> <ol style="list-style-type: none"> 1. Containing 85% by weight or more of any of the following, or mixtures thereof: <ol style="list-style-type: none"> a. Monomeric forms of perfluoropolyalkylether-triazines or perfluoroaliphatic-ethers; b. Perfluoroalkylamines; c. Perfluorocycloalkanes; <u>or</u> d. Perfluoroalkanes; 2. Density at 298 K (25°C) of 1.5 g/ml or more; 3. In a liquid state at 273 K (0°C); <u>and</u> 4. Containing 60% or more by weight of fluorine. <p><u>Technical Note</u></p> <p><i>For the purpose of Category Code 1C006:</i></p> <ol style="list-style-type: none"> a. 'Flash point' is determined using the Cleveland Open Cup Method described in ASTM D-92 or national equivalents; b. 'Pour point' is determined using the method described in ASTM D-97 or national equivalents; c. 'Viscosity index' is determined using the method described in ASTM D-2270 or national equivalents; d. 'Thermal stability' is determined by the following test procedure or national equivalents: <p><i>Twenty ml of the fluid under test is placed in a 46 ml type 317 stainless steel chamber containing one each of 12.5 mm (nominal) diameter balls of M-10 tool steel, 52,100 steel and naval bronze (60% Cu, 39% Zn, 0.75% Sn);</i></p> <p><i>The chamber is purged with nitrogen, sealed at atmospheric pressure and the temperature raised to and maintained at 644 ± 6 K (371 ± 6°C) for six hours;</i></p> <p><i>The specimen will be considered thermally stable if, on completion of the above procedure, all of the following conditions are met:</i></p> <ol style="list-style-type: none"> a. <i>The loss in weight of each ball is less than 10 mg/mm² of ball</i>

<i>Product Code</i>	<i>Item Description</i>
	<p><i>surface;</i></p> <p><i>b. The change in original viscosity as determined at 311 K (38°C) is less than 25%; <u>and</u></i></p> <p><i>c. The total acid or base number is less than 0.40;</i></p> <p><i>e. ‘Autogenous ignition temperature’ is determined using the method described in ASTM E-659 or national equivalents.</i></p>
DL1C007	<p>Ceramic base materials, non-“composite” ceramic materials, ceramic-“matrix” “composite” materials and precursor materials, as follows:</p> <p><u>N.B.</u></p> <p><i>See also Category Code 1C107.</i></p> <p>a. Base materials of single or complex borides of titanium having total metallic impurities, excluding intentional additions, of less than 5,000 ppm, an average particle size equal to or less than 5 µm and no more than 10% of the particles larger than 10 µm;</p> <p>b. Non-“composite” ceramic materials in crude or semi-fabricated form, composed of borides of titanium with a density of 98% or more of the theoretical density;</p> <p><u>Note</u></p> <p><i>Category Code 1C007.b. does not include abrasives.</i></p> <p>c. Ceramic-ceramic “composite” materials with a glass or oxide-“matrix” and reinforced with fibres having all of the following:</p> <ol style="list-style-type: none"> 1. Made from any of the following materials: <ol style="list-style-type: none"> a. Si-N; b. Si-C; c. Si-Al-O-N; <u>or</u> d. Si-O-N; <u>and</u> 2. Having a “specific tensile strength” exceeding 12.7×10^3 m; <p>d. Ceramic-ceramic “composite” materials, with or without a continuous metallic phase, incorporating particles, whiskers or fibres, where carbides or nitrides of silicon, zirconium or boron form the “matrix”;</p> <p>e. Precursor materials (i.e., special purpose polymeric or metallo-organic materials) for producing any phase or phases of the materials specified in Category Code 1C007.c., as follows:</p> <ol style="list-style-type: none"> 1. Polydiorganosilanes (for producing silicon carbide);

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	<p>2. Polysilazanes (for producing silicon nitride);</p> <p>3. Polycarbosilazanes (for producing ceramics with silicon, carbon and nitrogen components);</p> <p>f. Ceramic-ceramic “composite” materials with an oxide or glass “matrix” reinforced with continuous fibres from any of the following systems:</p> <p>1. Al₂O₃; <u>or</u></p> <p>2. Si-C-N.</p> <p><u>Note</u></p> <p><i>Category Code 1C007.f. does not include “composites” containing fibres from these systems with a fibre tensile strength of less than 700 MPa at 1,273 K (1,000°C) or fibre tensile creep resistance of more than 1% creep strain at 100 MPa load and 1,273 K (1,000°C) for 100 hours.</i></p>
DL1C008	<p>Non-fluorinated polymeric substances, as follows:</p> <p>a. 1. Bismaleimides;</p> <p>2. Aromatic polyamide-imides;</p> <p>3. Aromatic polyimides;</p> <p>4. Aromatic polyetherimides having a glass transition temperature (T_g) exceeding 513 K (240°C);</p> <p><u>Note 1</u></p> <p><i>Category Code 1C008.a. includes the substances in liquid or solid form, including resin, powder, pellet, film, sheet, tape or ribbon;</i></p> <p><u>Note 2</u></p> <p><i>Category Code 1C008.a. does not include non-fusible compression moulding powders or moulded forms.</i></p> <p>b. Thermoplastic liquid crystal copolymers having a heat distortion temperature exceeding 523 K (250°C) measured according to ISO 75-2 (2004), method A or national equivalents, with a load of 1.80 N/mm² and composed of:</p> <p>1. Any of the following:</p> <p>a. Phenylene, biphenylene or naphthalene; <u>or</u></p> <p>b. Methyl, tertiary-butyl or phenyl substituted phenylene, biphenylene or naphthalene; <u>and</u></p> <p>2. Any of the following:</p> <p>a. Terephthalic acid;</p>

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	<p>b. 6-hydroxy-2 naphthoic acid; <u>or</u></p> <p>c. 4-hydroxybenzoic acid;</p>
	c. Not used;
	d. Polyarylene ketones;
	e. Polyarylene sulphides, where the arylene group is biphenylene, triphenylene or combinations thereof;
	f. Polybiphenylenethersulphone having a ‘glass transition temperature (T_g)’ exceeding 513 K (240°C).
	<p><u>Technical Note</u></p> <p><i>The ‘glass transition temperature (T_g)’ for Category Code 1C008 materials is determined using the method described in ISO 11357-2 (1999) or national equivalents.</i></p>
DL1C009	Unprocessed fluorinated compounds, as follows:
	a. Copolymers of vinylidene fluoride having 75% or more beta crystalline structure without stretching;
	b. Fluorinated polyimides containing 10% by weight or more of combined fluorine;
	c. Fluorinated phosphazene elastomers containing 30% by weight or more of combined fluorine.
DL1C010	<p>‘‘Fibrous or filamentary materials’’ which may be used in organic ‘‘matrix’’, metallic ‘‘matrix’’ or carbon ‘‘matrix’’ ‘‘composite’’ structures or laminates, as follows:</p> <p><u>N.B.</u></p> <p><i>See also Category Codes 1C210 and 9C110.</i></p>
	<p>a. Organic ‘‘fibrous or filamentary materials’’, having all of the following:</p> <ol style="list-style-type: none"> 1. A ‘‘specific modulus’’ exceeding 12.7×10^6 m; <u>and</u> 2. A ‘‘specific tensile strength’’ exceeding 23.5×10^4 m; <p><u>Note</u></p> <p><i>Category Code 1C010.a. does not include polyethylene.</i></p>
	<p>b. Carbon ‘‘fibrous or filamentary materials’’, having all of the following:</p> <ol style="list-style-type: none"> 1. A ‘‘specific modulus’’ exceeding 12.7×10^6 m; <u>and</u>

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	<p>2. A “specific tensile strength” exceeding 23.5×10^4 m;</p> <p><u>Note</u></p> <p><i>Category Code 1C010.b. does not include fabric made from “fibrous or filamentary materials” for the repair of “civil aircraft” structures or laminates, in which the size of individual sheets does not exceed 100 cm × 100 cm.</i></p> <p><u>Technical Note</u></p> <p><i>Properties for materials described in Category Code 1C010.b. is determined using SACMA recommended methods SRM 12 to 17, or national equivalent tow tests, such as Japanese Industrial Standard JIS-R-7601, Paragraph 6.6.2., and based on lot average.</i></p>
	<p>c. Inorganic “fibrous or filamentary materials”, having all of the following:</p> <ol style="list-style-type: none"> 1. A “specific modulus” exceeding 2.54×10^6 m; <u>and</u> 2. A melting, softening, decomposition or sublimation point exceeding 1,922 K (1,649°C) in an inert environment; <p><u>Note</u></p> <p><i>Category Code 1C010.c. does not include:</i></p> <ol style="list-style-type: none"> a. <i>Discontinuous, multiphase, polycrystalline alumina fibres in chopped fibre or random mat form, containing 3% by weight or more silica, with a “specific modulus” of less than 10×10^6 m;</i> b. <i>Molybdenum and molybdenum alloy fibres;</i> c. <i>Boron fibres;</i> d. <i>Discontinuous ceramic fibres with a melting, softening, decomposition or sublimation point lower than 2,043 K (1,770°C) in an inert environment.</i>
	<p>d. “Fibrous or filamentary materials” having any of the following:</p> <ol style="list-style-type: none"> 1. Composed of any of the following: <ol style="list-style-type: none"> a. Polyetherimides specified in Category Code 1C008.a.; <u>or</u> b. Materials specified in Category Codes 1C008.b. to 1C008.f.; <u>or</u> 2. Composed of materials specified in Category Code 1C010.d.1.a. or 1C010.d.1.b. and “commingled” with other fibres specified in Category Code 1C010.a., 1C010.b. or 1C010.c.;
	<p>e. Resin-impregnated or pitch-impregnated fibres (prepregs), metal or carbon-coated fibres (preforms) or “carbon fibre preforms”, as follows:</p> <ol style="list-style-type: none"> 1. Made from “fibrous or filamentary materials” specified in Category Code 1C010.a., 1C010.b. or 1C010.c.;

<i>Product Code</i>	<i>Item Description</i>
	<p>2. Made from organic or carbon “fibrous or filamentary materials” having all of the following:</p> <ul style="list-style-type: none"> a. A “specific tensile strength” exceeding 17.7×10^4 m; b. A “specific modulus” exceeding 10.15×10^6 m; c. Not specified in Category Code 1C010.a. or 1C010.b.; <u>and</u> d. When impregnated with materials specified in Category Code 1C008 or 1C009.b., having a ‘glass transition temperature (T_g)’ exceeding 383 K (110°C) or with phenolic or epoxy resins, having a ‘glass transition temperature (T_g)’ equal to or exceeding 418 K (145°C). <p><u>Notes</u></p> <p><i>Category Code 1C010.e. does not include:</i></p> <ul style="list-style-type: none"> a. Epoxy resin “matrix” impregnated carbon “fibrous or filamentary materials” (prepregs) for the repair of “civil aircraft” structures or laminates, in which the size of individual sheets of prepreg does not exceed 100 cm × 100 cm; b. Prepregs when impregnated with phenolic or epoxy resins having a ‘glass transition temperature (T_g)’ less than 433 K (160°C) and a cure temperature lower than the ‘glass transition temperature’. <p><u>Technical Note</u></p> <p><i>The ‘glass transition temperature (T_g)’ for Category Code 1C010.e. materials is determined using the method described in ASTM D 3418 using the dry method. The ‘glass transition temperature (T_g)’ for phenolic and epoxy resins is determined using the method described in ASTM D 4065 at a frequency of 1 Hz and a heating rate of 2 K (°C) per minute using the dry method.</i></p>
DL1C011	<p>Metals and compounds, as follows:</p> <p><u>N.B.</u></p> <p><i>See also Division 2 of Part I of this Schedule and Category Code 1C111.</i></p> <ul style="list-style-type: none"> a. Metals in particle sizes of less than 60 µm whether spherical, atomised, spheroidal, flaked or ground, manufactured from material consisting of 99% or more of zirconium, magnesium and alloys thereof; <p><u>Technical Note</u></p> <p><i>The natural content of hafnium in the zirconium (typically 2% to 7%) is counted with the zirconium.</i></p> <p><u>Note</u></p> <p><i>Category Code 1C011.a. includes metals or alloys listed therein whether</i></p>

<i>Product Code</i>	<i>Item Description</i>
	<p><i>or not they are encapsulated in aluminium, magnesium, zirconium or beryllium.</i></p> <p>b. Boron or boron carbide of 85% purity or higher and a particle size of 60 µm or less;</p> <p><u>Note</u></p> <p><i>Category Code 1C011.b. includes metals or alloys listed therein whether or not they are encapsulated in aluminium, magnesium, zirconium or beryllium.</i></p> <p>c. Guanidine nitrate;</p> <p>d. Nitroguanidine (NQ) (556-88-7).</p>
DL1C012	<p>Materials as follows:</p> <p><u>Technical Note</u></p> <p><i>These materials are typically used for nuclear heat sources.</i></p> <p>a. Plutonium in any form with a plutonium isotopic assay of plutonium-238 of more than 50% by weight;</p> <p><u>Note</u></p> <p><i>Category Code 1C012.a. does not include:</i></p> <p><i>a. Shipments with a plutonium content of 1 g or less;</i></p> <p><i>b. Shipments of 3 “effective grammes” or less when contained in a sensing component in instruments.</i></p> <p>b. “Previously separated” neptunium-237 in any form.</p> <p><u>Note</u></p> <p><i>Category Code 1C012.b. does not include shipments with a neptunium-237 content of 1 g or less.</i></p>
DL1C101	<p>Materials and devices for reduced observables such as radar reflectivity, ultraviolet/infrared signatures and acoustic signatures, other than those specified in Category Code 1C001, usable in ‘missiles’, ‘missile’ subsystems or unmanned aerial vehicles specified in Category Code 9A012.</p> <p><u>Note 1</u></p> <p><i>Category Code 1C101 includes:</i></p> <p><i>a. Structural materials and coatings specially designed for reduced radar reflectivity;</i></p> <p><i>b. Coatings, including paints, specially designed for reduced or tailored reflectivity or emissivity in the microwave, infrared or ultraviolet</i></p>

<i>Product Code</i>	<i>Item Description</i>
	<p><i>regions of the electromagnetic spectrum.</i></p> <p><u>Note 2</u> <i>Category Code 1C101 does not include coatings when specially used for the thermal control of satellites.</i></p> <p><u>Technical Note</u> <i>In Category Code 1C101 ‘missile’ means complete rocket systems and unmanned aerial vehicle systems capable of a range exceeding 300 km.</i></p>
DL1C102	Resaturated pyrolised carbon-carbon materials designed for space launch vehicles specified in Category Code 9A004 or sounding rockets specified in Category Code 9A104.
DL1C107	<p>Graphite and ceramic materials, other than those specified in Category Code 1C007, as follows:</p> <p>a. Fine grain graphites with a bulk density of 1.72 g/cm³ or greater, measured at 288 K (15°C), and having a grain size of 100 µm or less, usable for rocket nozzles and re-entry vehicle nose tips, which can be machined to any of the following products:</p> <ol style="list-style-type: none"> 1. Cylinders having a diameter of 120 mm or greater and a length of 50 mm or greater; 2. Tubes having an inner diameter of 65 mm or greater and a wall thickness of 25 mm or greater and a length of 50 mm or greater; <u>or</u> 3. Blocks having a size of 120 mm × 120 mm × 50 mm or greater; <p><u>N.B.</u> <i>See also Category Code 0C004.</i></p> <p>b. Pyrolytic or fibrous reinforced graphites, usable for rocket nozzles and re-entry vehicle nose tips usable in “missiles”, space launch vehicles specified in Category Code 9A004 or sounding rockets specified in Category Code 9A104;</p> <p><u>N.B.</u> <i>See also Category Code 0C004.</i></p> <p>c. Ceramic composite materials (dielectric constant less than 6 at any frequency from 100 MHz to 100 GHz) for use in radomes usable in “missiles”, space launch vehicles specified in Category Code 9A004 or sounding rockets specified in Category Code 9A104;</p> <p>d. Bulk machinable silicon-carbide reinforced unfired ceramic, usable for nose tips usable in “missiles”, space launch vehicles specified in Category Code 9A004 or sounding rockets specified in Category Code</p>

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	<p>9A104;</p> <p>e. Reinforced silicon-carbide ceramic composites, usable for nose tips, re-entry vehicles and nozzle flaps usable in “missiles”, space launch vehicles specified in Category Code 9A004 or sounding rockets specified in Category Code 9A104.</p>
DL1C111	<p>Propellants and constituent chemicals for propellants, other than those specified in Category Code 1C011, as follows:</p> <p>a. Propulsive substances:</p> <p>1. Spherical aluminium powder, other than that specified in Division 2 of Part I of this Schedule, with particles of uniform diameter of less than 200 µm and an aluminium content of 97% by weight or more, if at least 10% of the total weight is made up of particles of less than 63 µm, according to ISO 2591:1988 or national equivalents;</p> <p><i>Technical Note</i></p> <p><i>A particle size of 63 µm (ISO R-565) corresponds to 250 mesh (Tyler) or 230 mesh (ASTM standard E-11).</i></p> <p>2. Metal fuels, other than that specified in Division 2 of Part I of this Schedule, in particle sizes of less than 60 µm, whether spherical, atomised, spheroidal, flaked or ground, consisting 97% by weight or more of any of the following:</p> <p>a. Zirconium;</p> <p>b. Beryllium;</p> <p>c. Magnesium; <u>or</u></p> <p>d. Alloys of the metals specified by a. to c. above;</p> <p><i>Technical Note</i></p> <p><i>The natural content of hafnium in the zirconium (typically 2% to 7%) is counted with the zirconium.</i></p> <p>3. Oxidiser substances usable in liquid propellant rocket engines as follows:</p> <p>a. Dinitrogen trioxide (10544-73-7);</p> <p>b. Nitrogen dioxide (10102-44-0)/dinitrogen tetroxide (10544-72-6);</p> <p>c. Dinitrogen pentoxide (10102-03-1);</p> <p>d. Mixed Oxides of Nitrogen (MON);</p> <p><i>Technical Note</i></p>

Product Code	Item Description
	<p><i>Mixed Oxides of Nitrogen (MON) are solutions of Nitric Oxide (NO) in Dinitrogen Tetroxide/Nitrogen Dioxide (N₂O₄/NO₂) that can be used in missile systems. There are a range of compositions that can be denoted as MON_i or MON_{ij}, where i and j are integers representing the percentage of Nitric Oxide in the mixture (e.g., MON₃ contains 3% Nitric Oxide, MON₂₅ 25% Nitric Oxide. An upper limit is MON₄₀, 40% by weight).</i></p>
	<p>e. See Inhibited Red Fuming Nitric Acid (IRFNA) in Division 2 of Part I of this Schedule;</p>
	<p>f. See Compounds composed of fluorine and one or more of other halogens, oxygen or nitrogen in Division 2 of Part I of this Schedule and Category Code 1C238;</p>
	<p>4. Hydrazine derivatives as follows: <u>N.B.</u> <i>See also Division 2 of Part I of this Schedule.</i></p>
	<p>a. Trimethylhydrazine;</p>
	<p>b. Tetramethylhydrazine;</p>
	<p>c. N,N diallylhydrazine;</p>
	<p>d. Allylhydrazine;</p>
	<p>e. Ethylene dihydrazine;</p>
	<p>f. Monomethylhydrazine dinitrate;</p>
	<p>g. Unsymmetrical dimethylhydrazine nitrate;</p>
	<p>h. Hydrazinium azide;</p>
	<p>i. Dimethylhydrazinium azide;</p>
	<p>j. Hydrazinium nitrate;</p>
	<p>k. Diimido oxalic acid dihydrazine;</p>
	<p>l. 2-hydroxyethylhydrazine nitrate (HEHN);</p>
	<p>m. See Hydrazinium perchlorate in Division 2 of Part I of this Schedule;</p>
	<p>n. Hydrazinium diperchlorate;</p>

<i>Product Code</i>	<i>Item Description</i>
	o. Methylhydrazine nitrate (MHN);
	p. Diethylhydrazine nitrate (DEHN);
	q. 3,6-dihydrazino tetrazine nitrate (1,4-dihydrazine nitrate) (DHTN);
	b. Polymeric substances:
	1. Carboxy-terminated polybutadiene (including carboxyl-terminated polybutadiene) (CTPB);
	2. Hydroxy-terminated polybutadiene (including hydroxyl-terminated polybutadiene) (HTPB), other than that specified in Division 2 of Part I of this Schedule;
	3. Polybutadiene-acrylic acid (PBAA);
	4. Polybutadiene-acrylic acid-acrylonitrile (PBAN);
	5. Polytetrahydrofuran polyethylene glycol (TPEG);
	<i>Technical Note</i> <i>Polytetrahydrofuran polyethylene glycol (TPEG) is a block copolymer of poly 1,4-Butanediol and polyethylene glycol (PEG).</i>
	c. Other propellant additives and agents:
	1. See Carboranes, decaboranes, pentaboranes and derivatives thereof in Division 2 of Part I of this Schedule;
	2. Triethylene glycol dinitrate (TEGDN) (111-22-8);
	3. 2-Nitrodiphenylamine (119-75-5);
	4. Trimethylolethane trinitrate (TMETN) (3032-55-1);
	5. Diethylene glycol dinitrate (DEGDN) (693-21-0);
	6. Ferrocene derivatives as follows:
	a. See Catocene in Division 2 of Part I of this Schedule;
	b. Ethyl ferrocene;
	c. Propyl ferrocene (1273-89-8);
	d. See n-butyl ferrocene in Division 2 of Part I of this Schedule;

<i>Product Code</i>	<i>Item Description</i>
	<p>e. Pentyl ferrocene (1274-00-6);</p> <p>f. Dicyclopentyl ferrocene (20773-28-8);</p> <p>g. Dicyclohexyl ferrocene;</p> <p>h. Diethyl ferrocene;</p> <p>i. Dipropyl ferrocene;</p> <p>j. Dibutyl ferrocene (1274-08-4);</p> <p>k. Dihexyl ferrocene (93894-59-8);</p> <p>l. Acetyl ferrocenes;</p> <p>m. See Ferrocene carboxylic acids in Division 2 of Part I of this Schedule;</p> <p>n. See Butacene in Division 2 of Part I of this Schedule;</p> <p>o. Other ferrocene derivatives usable as rocket propellant burning rate modifiers, other than those specified in Division 2 of Part I of this Schedule.</p> <p><u>Note</u> <i>For propellants and constituent chemicals for propellants not specified in Category Code 1C111, see Division 2 of Part I of this Schedule.</i></p>
DL1C116	<p>Maraging steels having an ultimate tensile strength of 1,500 MPa or greater, measured at 293 K (20°C), in the form of sheet, plate or tubing with a wall or plate thickness equal to or less than 5 mm.</p> <p><u>N.B.</u> <i>See also Category Code 1C216.</i></p> <p><u>Technical Note</u> <i>Maraging steels are iron alloys generally characterised by high nickel, very low carbon content and the use of substitutional elements or precipitates to produce strengthening and age-hardening of the alloy.</i></p>
DL1C117	<p>Tungsten, molybdenum and alloys of these metals in the form of uniform spherical or atomised particles of 500 micrometre diameter or less with a purity of 97% or greater for fabrication of rocket motor components, usable in “missiles”, space launch vehicles specified in Category Code 9A004 or sounding rockets specified in Category Code 9A104 (i.e., heat shields, nozzle substrates, nozzle throats and thrust vector control surfaces).</p>

<i>Product Code</i>	<i>Item Description</i>
DL1C118	<p>Titanium-stabilised duplex stainless steel (Ti-DSS) having all of the following:</p> <p>a. Having all of the following characteristics:</p> <ol style="list-style-type: none"> 1. Containing 17.0–23.0% by weight chromium and 4.5–7.0% by weight nickel; 2. Having a titanium content of greater than 0.10% by weight; <u>and</u> 3. A ferritic-austenitic microstructure (also referred to as a two-phase microstructure) of which at least 10 percent is austenite by volume (according to ASTM E-1181-87 or national equivalents); <u>and</u> <p>b. Having any of the following forms:</p> <ol style="list-style-type: none"> 1. Ingots or bars having a size of 100 mm or more in each dimension; 2. Sheets having a width of 600 mm or more and a thickness of 3 mm or less; <u>or</u> 3. Tubes having an outer diameter of 600 mm or more and a wall thickness of 3 mm or less.
DL1C202	<p>Alloys, other than those specified in Category Code 1C002.b.3. or .b.4., as follows:</p> <p>a. Aluminium alloys having both of the following characteristics:</p> <ol style="list-style-type: none"> 1. ‘Capable of’ an ultimate tensile strength of 460 MPa or more at 293 K (20°C); <u>and</u> 2. In the form of tubes or cylindrical solid forms (including forgings) with an outside diameter of more than 75 mm; <p>b. Titanium alloys having both of the following characteristics:</p> <ol style="list-style-type: none"> 1. ‘Capable of’ an ultimate tensile strength of 900 MPa or more at 293 K (20°C); <u>and</u> 2. In the form of tubes or cylindrical solid forms (including forgings) with an outside diameter of more than 75 mm. <p><i><u>Technical Note</u></i></p> <p><i>The phrase alloys ‘capable of’ encompasses alloys before or after heat treatment.</i></p>
DL1C210	<p>‘Fibrous or filamentary materials’ or prepregs, other than those specified in Category Code 1C010.a., b. or e., as follows:</p> <p>a. Carbon or aramid ‘fibrous or filamentary materials’ having either of the following characteristics:</p> <ol style="list-style-type: none"> 1. A ‘specific modulus’ of 12.7×10^6 m or greater; <u>or</u>

<i>Product Code</i>	<i>Item Description</i>
	<p>2. A “specific tensile strength” of 235×10^3 m or greater;</p> <p><u>Note</u></p> <p><i>Category Code 1C210.a. does not include aramid ‘fibrous or filamentary materials’ having 0.25 percent or more by weight of an ester based fibre surface modifier;</i></p> <p>b. Glass ‘fibrous or filamentary materials’ having both of the following characteristics:</p> <p>1. A “specific modulus” of 3.18×10^6 m or greater; <u>and</u></p> <p>2. A “specific tensile strength” of 76.2×10^3 m or greater;</p> <p>c. Thermoset resin impregnated continuous “yarns”, “rovings”, “tows” or “tapes” with a width of 15 mm or less (prepregs), made from carbon or glass ‘fibrous or filamentary materials’ specified in Category Code 1C210.a. or b.</p> <p><u>Technical Note</u></p> <p><i>The resin forms the matrix of the composite.</i></p> <p><u>Note</u></p> <p><i>In Category Code 1C210, ‘fibrous or filamentary materials’ is restricted to continuous ‘monofilaments’, ‘yarns’, ‘rovings’, ‘tows’ or ‘tapes’.</i></p>
DL1C216	<p>Maraging steel, other than that specified in Category Code 1C116, ‘capable of’ an ultimate tensile strength of 2,050 MPa or more, at 293 K (20°C).</p> <p><u>Note</u></p> <p><i>Category Code 1C216 does not include forms in which all linear dimensions are 75 mm or less.</i></p> <p><u>Technical Note</u></p> <p><i>The phrase maraging steel ‘capable of’ encompasses maraging steel before or after heat treatment.</i></p>
DL1C225	<p>Boron enriched in the boron-10 (^{10}B) 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.</p> <p><u>Note</u></p> <p><i>In Category Code 1C225, mixtures containing boron include boron loaded materials.</i></p> <p><u>Technical Note</u></p> <p><i>The natural isotopic abundance of boron-10 is approximately 18.5 weight per cent (20 atom per cent).</i></p>

<i>Product Code</i>	<i>Item Description</i>
DL1C226	<p>Tungsten, tungsten carbide, and alloys containing more than 90% tungsten by weight, having both of the following characteristics:</p> <p>a. In forms with a hollow cylindrical symmetry (including cylinder segments) with an inside diameter between 100 mm and 300 mm; <u>and</u></p> <p>b. A mass greater than 20 kg.</p> <p><u>Note</u></p> <p><i>Category Code 1C226 does not include manufactures specially designed a weights or gamma-ray collimators.</i></p>
DL1C227	<p>Calcium having both of the following characteristics:</p> <p>a. Containing less than 1,000 parts per million by weight of metallic impurities other than magnesium; <u>and</u></p> <p>b. Containing less than 10 parts per million by weight of boron.</p>
DL1C228	<p>Magnesium having both of the following characteristics:</p> <p>a. Containing less than 200 parts per million by weight of metallic impurities other than calcium; <u>and</u></p> <p>b. Containing less than 10 parts per million by weight of boron.</p>
DL1C229	<p>Bismuth having both of the following characteristics:</p> <p>a. A purity of 99.99% or greater by weight; <u>and</u></p> <p>b. Containing less than 10 parts per million by weight of silver.</p>
DL1C230	<p>Beryllium metal, alloys containing more than 50% beryllium by weight, beryllium compounds, manufactures thereof, and waste or scrap of any of the foregoing.</p> <p><u>Note</u></p> <p><i>Category Code 1C230 does not include the following:</i></p> <p>a. Metal windows for X-ray machines, or for bore-hole logging devices;</p> <p>b. Oxide shapes in fabricated or semi-fabricated forms specially designed for electronic component parts or as substrates for electronic circuits;</p> <p>c. Beryl (silicate of beryllium and aluminium) in the form of emeralds or aquamarines.</p>
DL1C231	<p>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.</p>
DL1C232	<p>Helium-3 (^3He), mixtures containing helium-3, and products or devices containing any of the foregoing.</p>

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	<p><u>Note</u></p> <p>Category Code 1C232 does not include a product or device containing less than 1 g of helium-3.</p>
DL1C233	<p>Lithium enriched in the lithium-6 (⁶Li) isotope to greater than its natural isotopic abundance, and products or devices containing enriched lithium, as follows: elemental lithium, alloys, compounds, mixtures containing lithium, manufactures thereof, waste or scrap of any of the foregoing.</p> <p><u>Note</u></p> <p>Category Code 1C233 does not include thermoluminescent dosimeters.</p> <p><u>Technical Note</u></p> <p>The natural isotopic abundance of lithium-6 is approximately 6.5 weight per cent (7.5 atom per cent).</p>
DL1C234	<p>Zirconium with a hafnium content of less than 1 part hafnium to 500 parts zirconium by weight, as follows: metal, alloys containing more than 50% zirconium by weight, compounds, manufactures thereof, waste or scrap of any of the foregoing.</p> <p><u>Note</u></p> <p>Category Code 1C234 does not include zirconium in the form of foil having a thickness of 0.10 mm or less.</p>
DL1C235	<p>Tritium, tritium compounds, mixtures containing tritium in which the ratio of tritium to hydrogen atoms exceeds 1 part in 1,000, and products or devices containing any of the foregoing.</p> <p><u>Note</u></p> <p>Category Code 1C235 does not include a product or device containing less than 1.48×10^3 GBq (40 Ci) of tritium.</p>
DL1C236	<p>Alpha-emitting radionuclides having an alpha half-life of 10 days or greater but less than 200 years, in the following forms:</p> <ol style="list-style-type: none"> a. Elemental; b. Compounds having a total alpha activity of 37 GBq/kg (1 Ci/kg) or greater; c. Mixtures having a total alpha activity of 37 GBq/kg (1 Ci/kg) or greater; d. Products or devices containing any of the foregoing. <p><u>Note</u></p> <p>Category Code 1C236 does not include a product or device containing less than 3.7 GBq (100 millicuries) of alpha activity.</p>
DL1C237	<p>Radium-226 (²²⁶Ra), radium-226 alloys, radium-226 compounds, mixtures</p>

<i>Product Code</i>	<i>Item Description</i>
	<p>containing radium-226, manufactures thereof, and products or devices containing any of the foregoing.</p> <p><u>Note</u> <i>Category Code 1C237 does not include the following:</i></p> <ul style="list-style-type: none"> <i>a. Medical applicators;</i> <i>b. A product or device containing less than 0.37 GBq (10 millicuries) of radium-226.</i>
DL1C238	Chlorine trifluoride (ClF ₃).
DL1C239	High explosives, other than those specified in Division 2 of Part I of this Schedule, or substances or mixtures containing more than 2% by weight thereof, with a crystal density greater than 1.8 g/cm ³ and having a detonation velocity greater than 8,000 m/s.
DL1C240	<p>Nickel powder and porous nickel metal, other than those specified in Category Code 0C005, as follows:</p> <ul style="list-style-type: none"> a. Nickel powder having both of the following characteristics: <ul style="list-style-type: none"> 1. A nickel purity content of 99.0% or greater by weight; <u>and</u> 2. A mean particle size of less than 10 micrometres measured by American Society for Testing and Materials (ASTM) B330 standard; b. Porous nickel metal produced from materials specified in Category Code 1C240.a. <p><u>Note</u> <i>Category Code 1C240 does not include the following:</i></p> <ul style="list-style-type: none"> <i>a. Filamentary nickel powders;</i> <i>b. Single porous nickel sheets with an area of 1,000 cm² per sheet or less.</i> <p><u>Technical Note</u> <i>Category Code 1C240.b. refers to porous metal formed by compacting and sintering the materials in Category Code 1C240.a to form a metal material with fine pores interconnected throughout the structure.</i></p>
DL1C350	<p>Chemicals, which may be used as precursors for toxic chemical agents, as follows, and “chemical mixtures” containing one or more thereof:</p> <p><u>N.B.</u> <i>See also Division 2 of Part I of this Schedule and Category Code 1C450.</i></p>
	1. Thiodiglycol (111-48-8);

<i>Product Code</i>	<i>Item Description</i>
	2. Phosphorus oxychloride (10025-87-3);
	3. Dimethyl methylphosphonate (756-79-6);
	4. See Methyl phosphonyl difluoride (676-99-3) in Division 2 of Part I of this Schedule;
	5. Methyl phosphonyl dichloride (676-97-1);
	6. Dimethyl phosphite (DMP) (868-85-9);
	7. Phosphorus trichloride (7719-12-2);
	8. Trimethyl phosphite (TMP) (121-45-9);
	9. Thionyl chloride (7719-09-7);
	10. 3-Hydroxy-1-methylpiperidine (3554-74-3);
	11. N,N-Diisopropyl-(beta)-aminoethyl chloride (96-79-7);
	12. N,N-Diisopropyl-(beta)-aminoethane thiol (5842-07-9);
	13. 3-Quinuclidinol (1619-34-7);
	14. Potassium fluoride (7789-23-3);
	15. 2-Chloroethanol (107-07-3);
	16. Dimethylamine (124-40-3);
	17. Diethyl ethylphosphonate (78-38-6);
	18. Diethyl-N,N-dimethylphosphoramidate (2404-03-7);
	19. Diethyl phosphite (762-04-9);
	20. Dimethylamine hydrochloride (506-59-2);
	21. Ethyl phosphinyl dichloride (1498-40-4);
	22. Ethyl phosphonyl dichloride (1066-50-8);
	23. See Ethyl phosphonyl difluoride (753-98-0) in Division 2 of Part I of this Schedule;
	24. Hydrogen fluoride (7664-39-3);

<i>Product Code</i>	<i>Item Description</i>
	25. Methyl benzilate (76-89-1);
	26. Methyl phosphinyl dichloride (676-83-5);
	27. N,N-Diisopropyl-(beta)-amino ethanol (96-80-0);
	28. Pinacolyl alcohol (464-07-3);
	29. See O-Ethyl-2-diisopropylaminoethyl methyl phosphonite (QL) (57856-11-8) in Division 2 of Part I of this Schedule;
	30. Triethyl phosphite (122-52-1);
	31. Arsenic trichloride (7784-34-1);
	32. Benzilic acid (76-93-7);
	33. Diethyl methylphosphonite (15715-41-0);
	34. Dimethyl ethylphosphonate (6163-75-3);
	35. Ethyl phosphinyl difluoride (430-78-4);
	36. Methyl phosphinyl difluoride (753-59-3);
	37. 3-Quinuclidone (3731-38-2);
	38. Phosphorus pentachloride (10026-13-8);
	39. Pinacolone (75-97-8);
	40. Potassium cyanide (151-50-8);
	41. Potassium bifluoride (7789-29-9);
	42. Ammonium hydrogen fluoride or ammonium bifluoride (1341-49-7);
	43. Sodium fluoride (7681-49-4);
	44. Sodium bifluoride (1333-83-1);
	45. Sodium cyanide (143-33-9);
	46. Triethanolamine (102-71-6);
	47. Phosphorus pentasulphide (1314-80-3);
	48. Di-isopropylamine (108-18-9);

<i>Product Code</i>	<i>Item Description</i>
	49. Diethylaminotethanol (100-37-8);
	50. Sodium sulphide (1313-82-2);
	51. Sulphur monochloride (10025-67-9);
	52. Sulphur dichloride (10545-99-0);
	53. Triethanolamine hydrochloride (637-39-8);
	54. N,N-Diisopropyl-(Beta)-aminoethyl chloride hydrochloride (4261-68-1);
	55. Methylphosphonic acid (993-13-5);
	56. Diethyl methylphosphonate (683-08-9);
	57. N,N-Dimethylaminophosphoryl dichloride (677-43-0);
	58. Triisopropyl phosphite (116-17-6);
	59. Ethyldiethanolamine (139-87-7);
	60. O,O-Diethyl phosphorothioate (2465-65-8);
	61. O,O-Diethyl phosphorodithioate (298-06-6);
	62. Sodium hexafluorosilicate (16893-85-9);
	63. Methylphosphonothioic dichloride (676-98-2).
	<u>Note 1</u> Category Code 1C350 does not include “chemical mixtures” containing one or more of the chemicals specified in Category Codes 1C350.2, .6, .7, .8, .9, .10, .14, .15, .16, .19, .20, .24, .25, .30, .37, .38, .39, .40, .41, .42, .43, .44, .45, .46, .47, .48, .49, .50, .51, .52, .53, .58, .59, .60, .61 and .62 in which no individually specified chemical constitutes more than 30% by the weight of the mixture.
	<u>Note 2</u> Category Code 1C350 does not include products identified as consumer goods and packaged for retail sale for personal use or packaged for individual use.
DL1C351	Human pathogens, zoonoses and “toxins”, as follows:
	a. 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, as

<i>Product Code</i>	<i>Item Description</i>
	follows:
	1. Chikungunya virus;
	2. Congo-Crimean haemorrhagic fever virus;
	3. Dengue fever virus;
	4. Eastern equine encephalitis virus;
	5. Ebola virus;
	6. Hantaan virus;
	7. Junin virus;
	8. Lassa fever virus;
	9. Lymphocytic choriomeningitis virus;
	10. Machupo virus;
	11. Marburg virus;
	12. Monkey pox virus;
	13. Rift Valley fever virus;
	14. Tick-borne encephalitis virus (Russian Spring-Summer encephalitis virus);
	15. Variola virus;
	16. Venezuelan equine encephalitis virus;
	17. Western equine encephalitis virus;
	18. White pox;
	19. Yellow fever virus;
	20. Japanese encephalitis virus;
	21. Kyasanur Forest virus;
	22. Louping ill virus;
	23. Murray Valley encephalitis virus;

<i>Product Code</i>	<i>Item Description</i>
	24. Omsk haemorrhagic fever virus;
	25. Oropouche virus;
	26. Powassan virus;
	27. Rocio virus;
	28. St Louis encephalitis virus;
	29. Hendra virus (Equine morbillivirus);
	30. South American haemorrhagic fever (Sabia, Flexal, Guanarito);
	31. Pulmonary & renal syndrome-haemorrhagic fever viruses (Seoul, Dobrava, Puumala, Sin Nombre);
	32. Nipah virus;
	b. Rickettsiae, 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, as follows:
	1. Coxiella burnetii;
	2. Bartonella quintana (Rochalimaea quintana, Rickettsia quintana);
	3. Rickettsia prowasecki;
	4. Rickettsia rickettsii;
	c. Bacteria, 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, as follows:
	1. Bacillus anthracis;
	2. Brucella abortus;
	3. Brucella melitensis;
	4. Brucella suis;
	5. Chlamydia psittaci;
	6. Clostridium botulinum;

<i>Product Code</i>	<i>Item Description</i>
	7. <i>Francisella tularensis</i> ;
	8. <i>Burkholderia mallei</i> (<i>Pseudomonas mallei</i>);
	9. <i>Burkholderia pseudomallei</i> (<i>Pseudomonas pseudomallei</i>);
	10. <i>Salmonella typhi</i> ;
	11. <i>Shigella dysenteriae</i> ;
	12. <i>Vibrio cholerae</i> ;
	13. <i>Yersinia pestis</i> ;
	14. <i>Clostridium perfringens</i> epsilon toxin producing types;
	15. Enterohaemorrhagic <i>Escherichia coli</i> , serotype O157 and other verotoxin producing serotypes;
	d. ‘‘Toxins’’, as follows, and ‘‘sub-unit of toxins’’ thereof:
	1. Botulinum toxins;
	2. <i>Clostridium perfringens</i> toxins;
	3. Conotoxin;
	4. Ricin;
	5. Saxitoxin;
	6. Shiga toxin;
	7. <i>Staphylococcus aureus</i> toxins;
	8. Tetrodotoxin;
	9. Verotoxin and shiga-like ribosome inactivating proteins;
	10. Microcystin (Cyanginosin);
	11. Aflatoxins;
	12. Abrin;
	13. Cholera toxin;
	14. Diacetoxyscirpenol toxin;

<i>Product Code</i>	<i>Item Description</i>
	15. T-2 toxin;
	16. HT-2 toxin;
	17. Modeccin;
	18. Volkensin;
	19. Viscum album Lectin 1 (Viscumin);
	<p><i>Note</i></p> <p><i>Category Code 1C351.d. does not include botulinum toxins or conotoxins in product form meeting all of the following criteria:</i></p> <ol style="list-style-type: none"> <i>1. Are pharmaceutical formulations designed for human administration in the treatment of medical conditions;</i> <i>2. Are pre-packaged for distribution as medical products;</i> <i>3. Are authorised by a state authority to be marketed as medical products.</i> <p>e. 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, as follows:</p> <ol style="list-style-type: none"> 1. <i>Coccidioides immitis</i>; 2. <i>Coccidioides posadasii</i>. <p><i>Note</i></p> <p><i>Category Code 1C351 does not include “vaccines” or “immunotoxins”.</i></p>
DL1C352	<p>Animal pathogens, as follows:</p> <p>a. 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, as follows:</p> <ol style="list-style-type: none"> 1. African swine fever virus;

<i>Product Code</i>	<i>Item Description</i>
	<p>2. Avian influenza virus, which are:</p> <p>a. Uncharacterised; <u>or</u></p> <p>b. Defined in Annex I(2) EC Directive 2005/94/EC (O.J. L. 10 14.1.2006 p.16) as having high pathogenicity, as follows:</p> <p>1. Type A viruses with an IVPI (intravenous pathogenicity index) in 6 week old chickens of greater than 1.2; <u>or</u></p> <p>2. Type A viruses of the subtypes H5 or H7 subtype with genome sequences codified for multiple basic amino acids at the cleavage site of haemagglutinin molecule similar to that observed for other HPAI viruses, indicating that the haemagglutinin molecule can be cleaved by a host ubiquitous protease;</p>
	3. Bluetongue virus;
	4. Foot and mouth disease virus;
	5. Goat pox virus;
	6. Porcine herpes virus (Aujeszky's disease);
	7. Swine fever virus (Hog cholera virus);
	8. Lyssa virus;
	9. Newcastle disease virus;
	10. Peste des petits ruminants virus;
	11. Porcine enterovirus type 9 (swine vesicular disease virus);
	12. Rinderpest virus;
	13. Sheep pox virus;
	14. Teschen disease virus;
	15. Vesicular stomatitis virus;
	16. Lumpy skin disease virus;
	17. African horse sickness virus;
	<p>b. Mycoplasmas, 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, as follows:</p>

<i>Product Code</i>	<i>Item Description</i>
	<p>1. <i>Mycoplasma mycoides</i> subspecies <i>mycoides</i> SC (small colony);</p> <p>2. <i>Mycoplasma capricolum</i> subspecies <i>capripneumoniae</i>.</p> <p><u>Note</u> Category Code 1C352 does not include “vaccines”.</p>
DL1C353	<p>Genetic elements and genetically modified organisms, as follows:</p> <p>a. Genetically modified organisms or genetic elements that contain nucleic acid sequences associated with pathogenicity of organisms specified in Category Code 1C351.a. to c., 1C351.e., 1C352 or 1C354;</p> <p>b. Genetically modified organisms or genetic elements that contain nucleic acid sequences coding for any of the “toxins” specified in Category Code 1C351.d. or “sub-units of toxins” thereof.</p> <p><u>Technical Note</u></p> <p>1. Genetic elements include, inter alia, chromosomes, genomes, plasmids, transposons and vectors whether genetically modified or unmodified.</p> <p>2. Nucleic acid sequences associated with the pathogenicity of any of the microorganisms specified in Category Code 1C351.a. to c., 1C351.e., 1C352 or 1C354 means any sequence specific to the specified microorganism that:</p> <p>a. In itself or through its transcribed or translated products represents a significant hazard to human, animal or plant health; <u>or</u></p> <p>b. Is known to enhance the ability of a specified microorganism, or any other organism into which it may be inserted or otherwise integrated, to cause serious harm to humans, animals or plant health.</p> <p><u>Note</u> Category Code 1C353 does not extend to nucleic acid sequences associated with the pathogenicity of enterohaemorrhagic <i>Escherichia coli</i>, serotype O157 and other verotoxin producing strains, other than those coding for the verotoxin, or for its sub-units.</p>
DL1C354	<p>Plant pathogens, as follows:</p> <p>a. 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, as follows:</p> <p>1. Potato Andean latent tymovirus;</p>

<i>Product Code</i>	<i>Item Description</i>
	<p>2. Potato spindle tuber viroid;</p> <p>b. Bacteria, whether natural, enhanced or modified, either in the form of “isolated live cultures” or as material which has been deliberately inoculated or contaminated with such cultures, as follows:</p> <p>1. Xanthomonas albilineans;</p> <p>2. Xanthomonas campestris pv. citri including strains referred to as Xanthomonas campestris pv. citri types A,B,C,D,E or otherwise classified as Xanthomonas citri, Xanthomonas campestris pv. aurantifolia or Xanthomonas campestris pv. citrumelo;</p> <p>3. Xanthomonas oryzae pv. Oryzae (Pseudomonas campestris pv. Oryzae);</p> <p>4. Clavibacter michiganensis subsp. Sepedonicus (Corynebacterium michiganensis subsp. Sepedonicum or Corynebacterium Sepedonicum);</p> <p>5. Ralstonia solanacearum Races 2 and 3 (Pseudomonas solanacearum Races 2 and 3 or Burkholderia solanacearum Races 2 and 3);</p> <p>c. Fungi, whether natural, enhanced or modified, either in the form of “isolated live cultures” or as material which has been deliberately inoculated or contaminated with such cultures, as follows:</p> <p>1. Colletotrichum coffeanum var. virulans (Colletotrichum kahawae);</p> <p>2. Cochliobolus miyabeanus (Helminthosporium oryzae);</p> <p>3. Microcyclus ulei (syn. Dothidella ulei);</p> <p>4. Puccinia graminis (syn. Puccinia graminis f. sp. tritici);</p> <p>5. Puccinia striiformis (syn. Puccinia glumarum);</p> <p>6. Magnaporthe grisea (pyricularia grisea/pyricularia oryzae).</p>
DL1C450	<p>Toxic chemicals and toxic chemical precursors, as follows, and “chemical mixtures” containing one or more thereof:</p> <p><u>N.B.</u></p> <p><i>See also Category Codes 1C350, 1C351.d. and Division 2 of Part I of this Schedule.</i></p> <p>a. Toxic chemicals, as follows:</p>

<i>Product Code</i>	<i>Item Description</i>
	1. Amiton: O,O-Diethyl S-[2-(diethylamino)ethyl] phosphorothiolate (78-53-5) and corresponding alkylated or protonated salts;
	2. PFIB: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (382-21-8);
	3. See BZ: 3-Quinuclidinyl benzilate (6581-06-2) in Division 2 of Part I of this Schedule;
	4. Phosgene: Carbonyl dichloride (75-44-5);
	5. Cyanogen chloride (506-77-4);
	6. Hydrogen cyanide (74-90-8);
	7. Chloropicrin: Trichloronitromethane (76-06-2);
	b. Toxic chemical precursors, as follows:
	<p>1. Chemicals, other than those specified in Division 2 of Part I of this Schedule or in Category Code 1C350, containing a phosphorus atom to which is bonded one methyl, ethyl or propyl (normal or iso) group but not further carbon atoms;</p> <p><i>Note</i></p> <p><i>Category Code 1C450.b.1 does not include Fonofos: O-Ethyl S- phenyl ethylphosphonothiolothionate (944-22-9);</i></p>
	<p>2. N,N-Dialkyl [methyl, ethyl or propyl (normal or iso)] phosphoramidic dihalides, other than N,N-Dimethylaminophosphoryl dichloride;</p> <p><u>N.B.</u></p> <p><i>See Category Code 1C350.57. for N,N-Dimethylaminophosphoryl dichloride.</i></p>
	3. Dialkyl [methyl, ethyl or propyl (normal or iso)] N,N- dialkyl [methyl, ethyl or propyl (normal or iso)]-phosphoramidates, other than Diethyl-N,N-dimethylphosphoramidate which is specified in Category Code 1C350;
	4. N,N-Dialkyl [methyl, ethyl or propyl (normal or iso)] aminoethyl-2-chlorides and corresponding protonated salts, other than N,NDiisopropyl-(beta)-aminoethyl chloride or N,N-Diisopropyl-(beta)-aminoethyl chloride hydrochloride which are specified in Category Code 1C350;

<i>Product Code</i>	<i>Item Description</i>
	<p>5. N,N-Dialkyl [methyl, ethyl or propyl (normal or iso)] aminoethane-2-ols and corresponding protonated salts, other than N,N-Diisopropyl-(beta)-aminoethanol (96-80-0) and N,N- Diethylaminoethanol (100-37-8) which are specified in Category Code 1C350;</p> <p><u>Note</u></p> <p><i>Category Code 1C450.b.5. does not include the following:</i></p> <p><i>a. N,N-Dimethylaminoethanol (108-01-0) and corresponding protonated salts;</i></p> <p><i>b. Protonated salts of N,N-Diethylaminoethanol (100-37-8);</i></p>
	<p>6. N,N-Dialkyl [methyl, ethyl or propyl (normal or iso)] aminoethane-2-thiols and corresponding protonated salts, other than N,N-Diisopropyl-(beta)-aminoethane thiol which is specified in Category Code 1C350;</p>
	<p>7. See Category Code 1C350 for ethyldiethanolamine (139-87-7);</p>
	<p>8. Methyldiethanolamine (105-59-9).</p>
	<p><u>Note 1</u></p> <p><i>Category Code 1C450 does not include “chemical mixtures” containing one or more of the chemicals specified in Category Codes 1C450.a.4, .a.5, .a.6, .a.7, and .b.8 in which no individually specified chemical constitutes more than 30% by weight of the mixture.</i></p> <p><u>Note 2</u></p> <p><i>Category Code 1C450 does not include products identified as consumer goods packaged for retail sale for personal use or packaged for individual use.</i></p>
1D	Software
DL1D001	“Software” specially designed or modified for the “development”, “production” or “use” of equipment specified in Category Codes 1B001 to 1B003.
DL1D002	“Software” for the “development” of organic “matrix”, metal “matrix” or carbon “matrix” laminates or “composites”.
DL1D003	“Software” specially designed or modified to enable equipment to perform the functions of equipment specified in Category Code 1A004.c.
DL1D101	“Software” specially designed or modified for the “use” of goods specified in Category Code 1B101.
DL1D103	“Software” specially designed for analysis of reduced observables such as

<i>Product Code</i>	<i>Item Description</i>
	radar reflectivity, ultraviolet/infrared signatures and acoustic signatures.
DL1D201	“Software” specially designed for the “use” of goods specified in Category Code 1B201.
1E	Technology
DL1E001	“Technology” according to the General Technology Note for the “development” or “production” of equipment or materials specified in Category Code 1A001.b., 1A001.c., 1A002 to 1A005 or Category 1B or 1C.
DL1E002	Other “technology”, as follows:
	a. “Technology” for the “development” or “production” of polybenzothiazoles or polybenzoxazoles;
	b. “Technology” for the “development” or “production” of fluoroelastomer compounds containing at least one vinyl ether monomer;
	c. “Technology” for the design or “production” of the following base materials or non-“composite” ceramic materials:
	<ol style="list-style-type: none"> 1. Base materials having all of the following: <ol style="list-style-type: none"> a. Any of the following compositions: <ol style="list-style-type: none"> 1. Single or complex oxides of zirconium and complex oxides of silicon or aluminium; 2. Single nitrides of boron (cubic crystalline forms); 3. Single or complex carbides of silicon or boron; <u>or</u> 4. Single or complex nitrides of silicon; b. Any of the following total metallic impurities (excluding intentional additions): <ol style="list-style-type: none"> 1. Less than 1,000 ppm for single oxides or carbides; <u>or</u> 2. Less than 5,000 ppm for complex compounds or single nitrides; <u>and</u> c. Being any of the following: <ol style="list-style-type: none"> 1. Zirconia with an average particle size equal to or less than 1 µm and no more than 10% of the particles larger than 5 µm; 2. Other base materials with an average particle size equal to or less than 5 µm and no more than 10% of the particles larger than 10 µm; <u>or</u> 3. Having all of the following: <ol style="list-style-type: none"> a. Platelets with a length to thickness ratio exceeding 5;

<i>Product Code</i>	<i>Item Description</i>
	<p>b. Whiskers with a length to diameter ratio exceeding 10 for diameters less than 2 µm; <u>and</u></p> <p>c. Continuous or chopped fibres less than 10 µm in diameter;</p> <p>2. Non-“composite” ceramic materials composed of the materials specified in Category Code 1E002.c.1.;</p> <p><i>Note</i> Category Code 1E002.c.2. does not include “technology” for the design or production of abrasives.</p> <p>d. “Technology” for the “production” of aromatic polyamide fibres;</p> <p>e. “Technology” for the installation, maintenance or repair of materials specified in Category Code 1C001;</p> <p>f. “Technology” for the repair of “composite” structures, laminates or materials specified in Category Code 1A002, 1C007.c. or 1C007.d.</p> <p><i>Note</i> Category Code 1E002.f. does not include “technology” for the repair of “civil aircraft” structures using carbon “fibrous or filamentary materials” and epoxy resins, contained in aircraft manufacturers’ manuals.</p> <p>g. ‘Libraries (parametric technical databases)’ specially designed or modified to enable equipment to perform the functions of equipment specified in Category Code 1A004.c.</p> <p><i>Technical Note</i> For the purpose of Category Code 1E002.g., ‘library (parametric technical database)’ means a collection of technical information, reference to which may enhance the performance of relevant equipment or systems.</p>
DL1E101	“Technology” (according to the General Technology Note) for the “use” of goods specified in Category Code 1A102, 1B001, 1B101, 1B102, 1B115 to 1B119, 1C001, 1C101, 1C107, 1C111 to 1C118, 1D101 or 1D103.
DL1E102	“Technology” (according to the General Technology Note) for the “development” of “software” specified in Category Code 1D001, 1D101 or 1D103.
DL1E103	“Technology” for the regulation of temperature, pressure or atmosphere in autoclaves or hydroclaves, when used for the “production” of “composites” or partially processed “composites”.

<i>Product Code</i>	<i>Item Description</i>
DL1E104	<p>“Technology” relating to the “production” of pyrolytically derived materials formed on a mould, mandrel or other substrate from precursor gases which decompose in the 1,573 K (1,300°C) to 3,173 K (2,900°C) temperature range at pressures of 130 Pa to 20 kPa.</p> <p><u>Note</u></p> <p>Category Code 1E104 includes “technology” for the composition of precursor gases, flow-rates and process control schedules and parameters.</p>
DL1E201	<p>“Technology” (according to the General Technology Note) for the “use” of goods specified in Category Code 1A002, 1A007, 1A202, 1A225 to 1A227, 1B201, 1B225 to 1B233, 1C002.b.3 or .b.4., 1C010.b., 1C202, 1C210, 1C216, 1C225 to 1C240 or 1D201.</p>
DL1E202	<p>“Technology” (according to the General Technology Note) for the “development” or “production” of goods specified in Category Code 1A007, 1A202 or 1A225 to 1A227.</p>
DL1E203	<p>“Technology” (according to the General Technology Note) for the “development” of “software” specified in Category Code 1D201.</p>