

SCHEDULE 1

Articles 3 and 6

PROHIBITED GOODS, SOFTWARE AND TECHNOLOGY

Note: In this Schedule, defined terms are printed in quotation marks.

General Technology Note

1. Subject to paragraph 2 below, the export or transfer of “technology” in this Schedule is prohibited by Articles 3 and 6 of this Order if it is capable of being “required” for the “development”, “production” or “use” of “goods” or “software” in this Schedule, whether or not the “technology” being exported or transferred in the particular case is intended to be applied in respect of such “goods” or “software”.

2. The prohibitions in Articles 3 and 6 do not apply to that “technology” which is the minimum necessary for the installation, operation, maintenance (checking) and repair of “goods” or “software” not in this Schedule, to “technology” “in the public domain”, to “basic scientific research” or to the minimum necessary for patent applications.

Definitions

In this Schedule:

“adapted for use in war” means any modification or selection (e.g., altering purity, shelf life, virulence, dissemination characteristics, or resistance to ultra violet (UV) radiation) designed to increase the effectiveness in producing casualties in humans or animals, degrading equipment or damaging crops or the environment;

“basic scientific research” means experimental or theoretical work undertaken principally to acquire new knowledge of the fundamental principles of phenomena or observable facts, not primarily directed towards a specific practical aim or objective;

“biocatalyst” means enzymes for specific chemical or biochemical reactions and other biological compounds which bind to and accelerate the degradation of chemical warfare (CW) agents;

“biopolymer” means the following biological macromolecules:

- a. enzymes for specific chemical or biochemical reactions;
- b. “monoclonal antibodies”, “polyclonal antibodies” or “anti-idiotypic antibodies”;
- c. specially designed or specially processed “receptors”;

Technical Note:

“Monoclonal antibodies” means proteins which bind to a specific antigenic site and are produced by a single clone of cells;

“Polyclonal antibodies” means a mixture of proteins which bind to a specific antigen and are produced by more than one clone of cells;

“Anti-idiotypic antibodies” means antibodies which bind to the specific antigen binding sites of other antibodies;

“Receptors” means biological macromolecular structures capable of binding ligands, the binding of which affects physiological functions.

“development” means all stages prior to “production”(e.g., design, design research, design analyses, design concepts, assembly and testing of prototypes, pilot production schemes, design data, process of transforming design data into “goods” or “software”, configuration design, integration design, layouts);

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“end-effectors” means grippers, active tooling units (i.e., devices for applying motive power, process energy or sensing to the workpiece) and any other tooling that is attached to the baseplate on the end of a “robot” manipulator arm;

“energetic materials” means substances or mixtures that react chemically to release energy required for their intended application; “explosives”, “pyrotechnics” and “propellants” are subclasses of energetic materials;

“explosives” means solid, liquid or gaseous substances or mixtures of substances which, in their application as primary, booster, or main charges in warheads, demolition and other applications, are required to detonate;

“expression vectors” means carriers (e.g., plasmid or virus) used to introduce genetic material into host cells;

“first generation image intensifier tubes” means electrostatically focused tubes, employing input and output fibre optic or glass face plates, multi-alkali photocathodes (S-20 or S-25), but not microchannel plate amplifiers;

“improvised explosive devices” means devices fabricated or intended to be placed in an improvised manner incorporating destructive, lethal, noxious, “pyrotechnic” or incendiary chemicals designed to destroy, disfigure or harass; they may incorporate military stores, but are normally devised from non-military components;

“laser” means an assembly of components which produce both spatially and temporally coherent light which is amplified by stimulated emission of radiation;

“nuclear reactor” means the “goods” within or attached directly to the reactor vessel, the equipment which controls the level of power in the core, and the components which normally contain, come into direct contact with or control the primary coolant of the reactor core;

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

“propellants” means substances or mixtures that react chemically to produce large volumes of hot gases at controlled rates to perform mechanical work;

“pyrotechnic(s)” means mixtures of solid or liquid fuels and oxidisers which, when ignited, undergo an energetic chemical reaction at a controlled rate intended to produce specific time delays, or quantities of heat, noise, smoke, visible light or infrared radiation; pyrophorics are a subclass of pyrotechnics, which contain no oxidisers but ignite spontaneously on contact with air;

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

“riot control agents” means any chemical not listed in a schedule, which can produce rapidly in humans, sensory irritation or disabling physical effects which disappear within a short time following termination of exposure;

“robot” means a manipulation mechanism, which may be of the continuous path or of the point-to-point variety, may use sensors, and which:

- a. is multifunctional;
- b. is capable of positioning or orienting material, parts, tools or special devices through variable movements in three dimensional space;
- c. incorporates three or more closed or open loop servo-devices which may include stepping motors; and

- d. has “user-accessible programmability” by means of the teach/playback method or by means of an electronic computer which may be a programmable logic controller, i.e., without mechanical intervention;

Note: This definition does not include:

- a. *Manipulation mechanisms which are only manually/teleoperator controllable;*
- b. *Fixed sequence manipulation mechanisms, which are automated moving devices, operating according to “programmes” where the motions are limited by fixed stops, such as pins or cams, and the sequence of motions and the selection of paths or angles are not variable or changeable by mechanical, electronic or electrical means;*
- c. *Mechanically controlled variable sequence manipulation mechanisms, which are automated moving devices, operating according to “programmes” where the motions are limited by fixed, but adjustable stops, such as pins or cams, and the sequence of motions and the selection of paths or angles are variable within the fixed programme pattern; variations or modifications of the programme pattern (such as changes of pins or exchanges of cams) in one or more motion axes are accomplished only through mechanical operations;*
- d. *Non-servo-controlled variable sequence manipulation mechanisms, which are automated moving devices, operating according to mechanically fixed programmed motions; the “programme” is variable but the sequence proceeds only by the binary signal from mechanically fixed electrical binary devices or adjustable stops;*
- e. *Stacker cranes defined as Cartesian coordinate manipulator systems manufactured as an integral part of a vertical array of storage bins and designed to access the contents of those bins for storage or retrieval.*

“special gun-mounting” means any fixture designed to mount a gun;

“superconductive”, in relation to materials (e.g., metals, alloys or compounds), means those which can lose all electrical resistance (i.e., which can attain infinite electrical conductivity and carry very large electrical currents without Joule heating); the superconductive state of a material is individually characterised by a “critical temperature”, a critical magnetic field, which is a function of temperature, and a critical current density, which is a function of both magnetic field and temperature;

Technical Note:

“Critical temperature”(also known as the transition temperature) of a specific “superconductive” material means the temperature at which the specific material loses all resistance to the flow of direct electrical current.

“tear gases” means gases which produce temporary irritating or disabling effects which disappear within minutes of removal of exposure;

“technology” means specific “information” necessary for the “development”, “production” or “use” of “goods” or “software”;

Technical Note:

“Information” may take forms including, but not limited to: blueprints, plans, diagrams, models, formulae, tables, “source code”, engineering designs and specifications, manuals and instructions written or recorded on other media or devices (e.g., disk, tape, read-only memories);

“Source code”(or source language) is a convenient expression of one or more processes which may be turned by a programming system into equipment executable form.

“use” means operation, installation (e.g., on-site installation), maintenance, checking, repair, overhaul and refurbishing;

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“user-accessible programmability” means the facility allowing a user to insert, modify or replace “programmes” by means other than:

- a. A physical change in writing or interconnections; or
- b. The setting of function controls including entry of parameters.

PART I

MILITARY, SECURITY AND PARA-MILITARY GOODS, SOFTWARE AND TECHNOLOGY AND ARMS, AMMUNITION AND RELATED MATERIEL

ML1

Smooth-bore weapons with a calibre of less than 20 mm, other firearms and automatic weapons with a calibre of 12.7 mm (calibre 0.50 inches) or less and accessories, as follows, and specially designed components therefor:

- a. Rifles, carbines, revolvers, pistols, machine pistols and machine guns;
- b. Smooth-bore weapons;
- c. Weapons using caseless ammunition;
- d. Silencers, “special gun-mountings”, weapon sights, clips and flash suppressers for firearms in ML1.a., ML1.b. or ML1.c.

Note: ML1 does not control:

- a. *Air weapons (other than those declared by the Firearms (Dangerous Air Weapons) Rule(1) to be specially dangerous);*
- b. *Firearms specially designed for dummy ammunition and which are incapable of firing any ammunition in this Part of this Schedule;*
- c. *Firearms certified by a registered UK Proof House as having been rendered incapable of firing any ammunition in this Part of this Schedule;*
- d. *Bayonets;*
- e. *Air (pneumatic) or cartridge (explosive) powered guns or pistols designed as:*
 - 1 *Industrial tools; or*
 - 2 *Humane stunning devices employed specifically for animal slaughter;*
- f. *Signal pistols.*

ML2

Smooth-bore weapons with a calibre of 20 mm or more, other armament or weapons with a calibre greater than 12.7 mm (calibre 0.50 inches), projectors and accessories, as follows, and specially designed components therefor:

(1) S.I. 1967/47 as amended by S.I. 1993/1490

- a. Guns, howitzers, cannon, mortars, anti-tank weapons, projectile launchers, military flame throwers, recoilless rifles and signature reduction devices therefor;
- b. Military smoke, gas and “pyrotechnic” projectors or generators;
- c. Weapon sights for firearms in ML2.a. or ML2.b.

Note: ML2 does not control signal pistols.

ML3

Ammunition and fuze setting devices, as follows, and specially designed components therefor, for the weapons in ML1, ML2 or ML12;

- a. Ammunition for the weapons in ML1, ML2 or ML12;

Note: ML3.a. does not control:

- a. *Ammunition crimped without a projectile (blank star) and dummy ammunition with a pierced powder chamber;*
 - b. *Lead or lead alloy pellet ammunition specially designed for air weapons;*
 - c. *Cartridges specially designed for signalling, bird scaring or lighting of gas flares at oil wells.*
- b. Fuze setting devices specially designed for ammunition in ML3.a.

ML4

Bombs, torpedoes, rockets, missiles, other explosive devices and charges, and related equipment and accessories, as follows, specially designed for military use, and specially designed components therefor:

N.B.: Electronic guidance and navigation equipment is controlled in ML11.

- a. Bombs, torpedoes, grenades, smoke canisters, rockets, mines, missiles, depth charges, demolition-charges, demolition-devices and demolition-kits, devices that contain “pyrotechnics”, cartridges and simulators (i.e., equipment simulating the characteristics of any of these “goods”);
- b. Equipment specially designed for the handling, control, activation, powering with one-time operational output, launching, laying, sweeping, discharging, decoying, jamming, detonation, disruption or detection of “goods” in ML4.a.

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Technical Note:

Hand held devices, limited by design solely to the detection of metal objects and incapable of distinguishing between mines and other metal objects, are not considered to be specially designed for the detection of “goods” in ML4.a.

PL5006

Apparatus or devices specially designed for military use, used for the handling, control, discharging, decoying, jamming, detonation, disruption or detection of “improvised explosive devices” or other explosive devices not in ML4.a., and specially designed components therefor.

Note: PL5006 does not control inspection devices not employing electronic management.

PL5030

Bombs and grenades, other than those in ML4, and specially designed components therefor.

ML5

Fire control equipment and related alerting and warning equipment, related systems, test and alignment and countermeasure equipment, as follows, specially designed for military use, and specially designed components and accessories therefor:

- a. Weapon sights, bombing computers, gun laying equipment and weapon control systems;
- b. Target acquisition, designation, range-finding, surveillance or tracking systems; detection, data fusion, recognition or identification equipment; and sensor integration equipment;
- c. Countermeasure equipment for “goods” in ML5.a. or ML5.b;
- d. Field test or alignment equipment, specially designed for “goods” in ML5.a. or ML5.b.

ML6

Ground “vehicles” and components, as follows:
N.B.: Electronic guidance and navigation equipment is controlled in ML11.

- a. Ground “vehicles” and components therefor, specially designed or modified for military use;

Technical Note:

For the purposes of ML6.a. the term ground “vehicles” includes trailers.

Note: In ML6.a. modification of a ground “vehicle” for military use entails a structural, electrical or mechanical change involving one or more specially designed military component.

- b. All-wheel drive “vehicles” capable of off-road use which have been manufactured or fitted with metallic or non-metallic materials to provide ballistic protection.

Note 1: ML6.b. does not control “vehicles” designed or fitted out for the transportation of valuables or funds.

Note 2: ML6.b. does not control “vehicles” fitted with, or designed or modified to be fitted with, a plough or flail for the purpose of land mine clearance.

ML7

Chemical or biological toxic agents, toxic chemicals and mixtures containing such agents or chemicals, “tear gases”, radioactive materials, related equipment, components, materials and “technology”, as follows:

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

- a. Biological agents and radioactive materials “adapted for use in war” to produce casualties in humans or animals, degrade equipment or damage crops or the environment, and chemical warfare (CW) agents;

Note: ML7.a. includes, but is not limited to, the following:

- 1. *CW nerve agents:*
 - a. *O-Alkyl (equal to or less than C₁₀, including cycloalkyl) alkyl (Methyl, Ethyl, n-*

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*Propyl or Isopropyl)-
phosphonofluoridates,*

such as:

*Sarin (GB): O-Isopropyl
methylphosphonofluoridate
(CAS 107-44-8); and
Soman (GD): O-Pinacolyl
methylphosphonofluoridate
(CAS 96-64-0);*

- b *O-Alkyl (equal to or less than
C₁₀, including cycloalkyl)
N,N-dialkyl (Methyl, Ethyl,
n-Propyl or Isopropyl)
phosphoramidocyanidates,*

such as:

*Tabun (GA): O-Ethyl N,N-
dimethylphosphoramidocyanidate
(CAS 77-81-6);*

- c *O-Alkyl (H or equal to or
less than C₁₀, including
cycloalkyl)S-2-dialkyl
(Methyl, Ethyl, n-Propyl or
Isopropyl)-aminoethylalkyl
(Methyl, Ethyl, n-Propyl or
Isopropyl) phosphonothiolates
and corresponding alkylated
and protonated salts,*

such as:

*VX: O-Ethyl S-2-
diisopropylaminoethyl methyl
phosphonothiolate (CAS
50782-69-9);*

- 2. *CW vesicant agents:*

- a *Sulphur mustards,*

such as:

*2-
Chloroethylchloromethylsulphide
(CAS 2625-76-5);
Bis(2-chloroethyl)
sulphide (CAS
505-60-2);
Bis(2-chloroethylthio)
methane (CAS
63869-13-6);*

1,2-bis (2-chloroethylthio) ethane (CAS 3563-36-8);
1,3-bis (2-chloroethylthio) - n-propane (CAS 63905-10-2);
1,4-bis (2-chloroethylthio) -n-butane (CAS 142868-93-7);
1,5-bis (2-chloroethylthio) - n-pentane (CAS 142868-94-8);
Bis (2-chloroethylthiomethyl) ether (CAS 63918-90-1);
Bis (2-chloroethylthioethyl) ether (CAS 63918-89-8);

b Lewisites,

such as:

2-chlorovinyl dichloroarsine (CAS 541-25-3);
Tris (2-chlorovinyl) arsine (CAS 40334-70-1);
Bis (2-chlorovinyl) chloroarsine (CAS 40334-69-8);

c Nitrogen mustards,

such as:

HN1: bis (2-chloroethyl) ethylamine (CAS 538-07-8);
HN2: bis (2-chloroethyl) methylamine (CAS 51-75-2);
HN3: tris (2-chloroethyl) amine (CAS 555-77-1);

3. CW incapacitating agents,

such as:

3-Quinuclidinyl benzilate (BZ) (CAS 6581-06-2);

4. CW defoliants,

such as:

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Butyl 2-chloro-4-fluorophenoxyacetate (LNF); 2,4,5-trichlorophenoxyacetic acid mixed with 2,4-dichlorophenoxyacetic acid (Agent Orange).

- b. CW binary precursors and key precursors, as follows, and chemical mixtures containing one or more of these precursors:
1. Alkyl (Methyl, Ethyl, n-Propyl or Isopropyl) Phosphonyl Difluorides,

such as:

DF: Methyl Phosphonyldifluoride (CAS 676-99-3);
 2. O-Alkyl (H or equal to or less than C₁₀, including cycloalkyl) O-2-dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl) aminoethyl alkyl (Methyl, Ethyl, n-Propyl or Isopropyl) phosphonite and corresponding alkylated and protonated salts,

such as:

QL: O-Ethyl-2-di-isopropylaminoethyl methylphosphonite (CAS 57856-11-8);
 3. Chlorosarin: O-Isopropyl methylphosphonochloridate (CAS 1445-76-7);
 4. Chlorosoman: O-Pinacolyl methylphosphonochloridate (CAS 7040-57-5);
- c. “Tear gases” and “riot control agents” including, but not limited to:
1. Bromobenzyl cyanide (CA) (CAS 5798-79-8);
 2. o-Chlorobenzylidenemalononitrile (o-Chlorobenzalmalononitrile) (CS) (CAS 2698-41-1);
 3. Phenylacyl chloride (w-chloroacetophenone) (CN) (CAS 532-27-4);
 4. Dibenz-(b,f)-1,4-oxazephine (CR) (CAS 257-07-8);

Note: ML7.c. does not control “tear gases” or “riot control agents”

individually packaged for personal self-defence purposes.

- d. Equipment specially designed or modified for military use for the dissemination of any of the following, and specially designed components therefor:
 - 1. Materials or agents in ML7.a. or ML7.c.;
 - 2. CW agents made up of precursors in ML7.b.;
- e. Protective and decontamination “goods”, specially designed or modified for military use, and specially designed components therefor, and specially formulated chemical “mixtures”, as follows:
 - 1. “Goods” specially designed for defence against materials in ML7.a. or ML7.c. and specially designed components therefor;

N.B.: See also IA of Annex I to “the Regulation”.

- 2. “Goods” specially designed or modified for the decontamination of “goods” contaminated with materials in ML7.a. and specially designed components therefor;
 - 3. Chemical mixtures specially developed or formulated for the decontamination of “goods” contaminated with materials in ML7.a.;
- f. “Goods” specially designed or modified for military use, for the detection or identification of materials in ML7.a. or ML7.c. and specially designed components therefor;

Note: ML7.f. does not control personal radiation monitoring dosimeters.

- g. “Biopolymers” specially designed or processed for the detection or identification of CW agents in ML7.a., and the cultures of specific cells used to produce them;
- h. “Biocatalysts” for the decontamination or degradation of CW agents, and biological systems therefor, as follows:
 - 1. “Biocatalysts” specially designed for the decontamination or degradation of CW agents in

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- ML7.a. resulting from directed laboratory selection or genetic manipulation of biological systems;
- 2. Biological systems, as follows:
 - “expression vectors”, viruses or cultures of cells containing the genetic information specific to the “production” of “biocatalysts” in ML7.h.1.;
- i. “Technology” as follows:
 - 1. “Technology” for the “development”, “production” or “use” of toxicological agents, related equipment or components in ML7.a. to ML7.f.;
 - 2. “Technology” for the “development”, “production” or “use” of “biopolymers” or cultures of specific cells in ML7.g.;
 - 3. “Technology” exclusively for the incorporation of “biocatalysts”, in ML7.h.1., into military carrier substances or military materiel.

Note 1: ML7.a. and ML7.c. do not control:

a Cyanogen chloride (CAS 506-77-4);

N.B.: See IC of Annex I to “the Regulation”.

b Hydrocyanic acid (CAS 74-90-8);

c Chlorine (CAS 7782-50-5);

d Carbonyl chloride (phosgene) (CAS 75-44-5);

N.B.: See IC of Annex I to “the Regulation”.

e Diphosgene (trichloromethyl-1-chloroformate) (CAS 503-38-8);

f Ethyl bromoacetate (CAS 105-36-2);

g Xylyl bromide: ortho: (CAS 89-92-9), meta: (CAS 620-13-3), para: (CAS 104-81-4);

h Benzyl bromide (CAS 100-39-01);

i Benzyl iodide (CAS 620-05-3);

j Bromo acetone (CAS 598-31-2);

k Cyanogen bromide (CAS 506-68-3);

l Bromo methylethylketone (CAS 816-40-0);

m Chloro acetone (CAS 78-95-5);

n Ethyl iodoacetate (CAS 623-48-3);

o Iodo acetone (CAS 3019-04-3);

p Chloropicrin (CAS 76-06-2).

N.B.: See IC of Annex I to “the Regulation”.

Note 2: The “technology”, cultures of cells and biological systems listed in ML7.g., ML7.h.2. and ML7.i.3. are exclusive and do not include “technology”, cells or biological systems for civil purposes, (e.g., agricultural, pharmaceutical, medical, veterinary, environmental, waste management, or in the food industry).

ML8

“Energetic materials”, and related substances, as follows:

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

Technical Note:

A “mixture” refers to a composition of two or more substances with at least one substance being controlled in ML8.

- a. “Explosives”, as follows, and mixtures thereof:
 1. ADNBF (aminodinitrobenzofuroxan or 7-amino-4,6-dinitrobenzofurazane-1-oxide) (CAS 97096-78-1);
 2. BNCP (cis-bis (5-nitrotetrazolato) tetra amine-cobalt (III) perchlorate) (CAS 117412-28-9);
 3. CL-14 (diamino dinitrobenzofuroxan or 5,7-diamino-4,6-dinitrobenzofurazane-1-oxide) (CAS 117907-74-1);
 4. CL-20 (HNIW or Hexanitrohexaazaisowurtzitane) (CAS 135285-90-4); chlathrates of CL-20;

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5. CP (2-(5-cyanotetrazolato) penta amine-cobalt (III) perchlorate) (CAS 70247-32-4);
6. DADE (1,1-diamino-2,2-dinitroethylene, FOX7);
7. DATB (diaminotrinitrobenzene) (CAS 1630-08-6);
8. DDFP (1,4-dinitrodifurazanopiperazine);
9. DDPO (2,6-diamino-3,5-dinitropyrazine-1-oxide, PZO) (CAS 194486-77-6);
10. DIPAM (3,3'-diamino-2,2',4,4',6,6'-hexanitrobiphenyl or dipicramide) (CAS 17215-44-0);
11. DNGU (DINGU or dinitroglycoluril) (CAS 55510-04-8);
12. Furazans, as follows:
 - a. DAAOF (diaminoazoxyfuran);
 - b. DAAzF (diaminoazofuran) (CAS 78644-90-3);
13. HMX and derivatives, as follows:
 - a. HMX (Cyclotetramethylenetetranitramine, octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazine, 1,3,5,7-tetranitro-1,3,5,7-tetraazacyclooctane, octogen or octogene) (CAS 2691-41-0);
 - b. difluoroaminated analogs of HMX;
 - c. K-55 (2,4,6,8-tetranitro-2,4,6,8-tetraazabicyclo-[3,3,0]-octanone-3, tetranitrosemiglycouril or keto-bicyclic HMX) (CAS 130256-72-3);
14. HNAD (hexanitroadamantane) (CAS 143850-71-9);
15. HNS (hexanitrostilbene) (CAS 20062-22-0);
16. Imidazoles, as follows:
 - a. BNNII (Octahydro-2,5-bis(nitroimino)imidazo [4,5-d]imidazole);
 - b. DNI (2,4-dinitroimidazole) (CAS 5213-49-0);
 - c. FDIA (1-fluoro-2,4-dinitroimidazole);

- d. NTDNIA (N-(2-nitrotriazolo)-2,4-dinitroimidazole);
- e. PTIA (1-picryl-2,4,5-trinitroimidazole);
- 17. NTNMH (1-(2-nitrotriazolo)-2-dinitromethylene hydrazine);
- 18. NTO (ONTA or 3-nitro-1,2,4-triazol-5-one) (CAS 932-64-9);
- 19. Polynitrocubanes with more than four nitro groups;
- 20. PXX (2,6-bis(picrylamino)-3,5-dinitropyridine) (CAS 38082-89-2);
- 21. RDX and derivatives, as follows:
 - a. RDX (cyclotrimethylenetrinitramine, cyclonite, T4, hexahydro-1,3,5-trinitro-1,3,5-triazine, 1,3,5-trinitro-1,3,5-triaza-cyclohexane, hexogen or hexogene) (CAS 121-82-4);
 - b. Keto-RDX (K-6 or 2,4,6-trinitro-2,4,6-triazacyclohexanone) (CAS 115029-35-1);
- 22. TAGN (triaminoguanidinenitrate) (CAS 4000-16-2);
- 23. TATB (triaminotrinitrobenzene) (CAS 3058-38-6);
- 24. TEDDZ (3,3,7,7-tetrakis(difluoroamine)octahydro-1,5-dinitro-1,5-diazocine);
- 25. Tetrazoles, as follows:
 - a. NTAT (nitrotriazolaminotetrazole);
 - b. NTNT (1-N-(2-nitrotriazolo)-4-nitrotetrazole);
- 26. Tetryl (trinitrophenylmethylnitramine) (CAS 479-45-8);
- 27. TNAD (1,4,5,8-tetranitro-1,4,5,8-tetraazadecalin) (CAS 135877-16-6);
- 28. TNAZ (1,3,3-trinitroazetidine) (CAS 97645-24-4);
- 29. TNGU (SORGUYL or tetranitroglycoluril) (CAS 55510-03-7);
- 30. TNP (1,4,5,8-tetranitropyridazino[4,5-d]pyridazine) (CAS 229176-04-9);

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31. Triazines, as follows:
 - a. DNAM (2-oxy-4,6-dinitroamino-s-triazine) (CAS 19899-80-0);
 - b. NNHT (2-nitroimino-5-nitro-hexahydro-1,3,5-triazine) (CAS 130400-13-4);
32. Triazoles, as follows:
 - a. 5-azido-2-nitrotriazole;
 - b. ADHTDN (4-amino-3,5-dihydrazino-1,2,4-triazole dinitramide) (CAS 1614-08-0);
 - c. ADNT (1-amino-3,5-dinitro-1,2,4-triazole);
 - d. BDNTA ([bis-dinitrotriazole]amine);
 - e. DBT (3,3'-dinitro-5,5-bi-1,2,4-triazole) (CAS 30003-46-4);
 - f. DNBT (dinitrobistriazole) (CAS 70890-46-9);
 - g. NTDNA (2-nitrotriazole-5-dinitramide) (CAS 75393-84-9);
 - h. NTDNT (1-N-(2-nitrotriazolo)-3,5-dinitrotriazole);
 - i. PDNT (1-picryl-3,5-dinitrotriazole);
 - j. TACOT (tetranitrobenzotriazolobenzotriazole) (CAS 25243-36-1);
33. Any “explosive” not listed elsewhere in ML8.a. with a detonation velocity exceeding 8,700 m/s at maximum density or a detonation pressure exceeding 34 GPa (340 kbar);
34. Other organic “explosives” not listed elsewhere in ML8.a. yielding detonation pressures of 25 GPa (250 kbar) or more that will remain stable at temperatures of 523 K (250°C) or higher for periods of 5 minutes or longer;
- b. “Propellants”, as follows:
 1. Any United Nations (UN) Class 1.1 solid “propellant” with a theoretical specific impulse (under standard conditions) of more than 250 seconds for non-metallised, or more

- than 270 seconds for aluminised compositions;
- 2. Any UN Class 1.3 solid “propellant” with a theoretical specific impulse (under standard conditions) of more than 230 seconds for non-halogenised, 250 seconds for non-metallised compositions and 266 seconds for metallised compositions;
- 3. “Propellants” having a force constant of more than 1,200 kJ/kg;
- 4. “Propellants” that can sustain a steady-state linear burning rate of more than 38 mm/s under standard conditions (as measured in the form of an inhibited single strand) of 6.89 MPa (68.9 bar) pressure and 294 K (21°C);
- 5. Elastomer modified cast double base (EMCDB) “propellants” with extensibility at maximum stress of more than 5% at 233 K (−40°C);
- 6. Any “propellant” containing substances listed in ML8.a.;
- c. “Pyrotechnics”, fuels and related substances, as follows, and “mixtures” thereof:
 - 1. Aircraft fuels specially formulated for military purposes;

Note: Aircraft fuels in ML8.c.1. are finished “goods”, not their constituents.
 - 2. Alane (aluminium hydride) (CAS 7784-21-6);
 - 3. Carboranes; decaborane (CAS 17702-41-9); pentaboranes (CAS 19624-22-7 and 18433-84-6) and their derivatives;
 - 4. Hydrazine and derivatives, as follows (see also ML8.d.8. and ML8.d.9. for oxidising hydrazine derivatives):
 - a. Hydrazine (CAS 302-01-2) in concentrations of 70% or more;

Note: ML8.c.4.a. does not control hydrazine “mixtures” specially formulated for corrosion control.

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- b. Monomethyl hydrazine (CAS 60-34-4);
 - c. Symmetrical dimethyl hydrazine (CAS 540-73-8);
 - d. Unsymmetrical dimethyl hydrazine (CAS 57-14-7);
5. Metal fuels in particle form whether spherical, atomised, spheroidal, flaked or ground, manufactured from material consisting of 99% or more of any of the following:
- a. Metals and “mixtures” thereof, as follows:
 - 1. Beryllium (CAS 7440-41-7) in particle sizes of less than 60 µm;
 - 2. Iron powder (CAS 7439-89-6) with particle size of 3 µm or less produced by reduction of iron oxide with hydrogen;
 - b. “Mixtures”, which contain any of the following:
 - 1. Zirconium (CAS 7440-67-7), magnesium (CAS 7439-95-4) or alloys of these in particle sizes of less than 60 µm;
 - 2. Boron (CAS 7440-42-8) or boron carbide (CAS 12069-32-8) fuels of 85% purity or higher and particle sizes of less than 60 µm;

Note: ML8.c.5.b.2. does not control boron and boron carbide enriched with boron-10 (20% or more of total boron-10 content).

Note: “Explosives” and fuels containing the metals or alloys listed in ML8.c.5. are controlled whether or not the metals or alloys are encapsulated in aluminium, magnesium, zirconium, or beryllium.

- 6. Military materiel containing thickeners for hydrocarbon fuels specially formulated for use in

- flame throwers or incendiary munitions, such as metal stearates or palmates (e.g., octal (CAS 637-12-7)); and M1, M2 and M3 thickeners;
 - 7. Perchlorates, chlorates and chromates composited with powdered metal or other high energy fuel components;
 - 8. Spherical aluminium powder (CAS 7429-90-5) with a particle size of 60 µm or less, manufactured from material with an aluminium content of 99% or more;
 - 9. Titanium subhydride (TiH_n) of stoichiometry equivalent to n = 0.65-1.68;
 - d. Oxidisers, as follows, and “mixtures” thereof:
 - 1. ADN (ammonium dinitramide or SR 12) (CAS 140456-78-6);
 - 2. AP (ammonium perchlorate) (CAS 7790-98-9);
 - 3. Compounds composed of fluorine and any of the following:
 - a. Other halogens;
 - b. Oxygen; or
 - c. Nitrogen;
- Note: ML8.d.3. does not control chlorine trifluoride.*
- N.B.: See also IC of Annex I to “the Regulation”.*
- 4. DNAD (1,3-dinitro-1,3-diazetidine) (CAS 78246-06-7);
 - 5. HAN (hydroxylammonium nitrate) (CAS 13465-08-2);
 - 6. HAP (hydroxylammonium perchlorate) (CAS 15588-62-2);
 - 7. HNF (hydrazinium nitroformate) (CAS 20773-28-8);
 - 8. Hydrazine nitrate (CAS 37836-27-4);
 - 9. Hydrazine perchlorate (CAS 27978-54-7);
 - 10. Liquid oxidisers comprised of or containing inhibited red fuming nitric acid (IRFNA) (CAS 8007-58-7);
 - e. Binders, plasticisers, monomers, polymers, as follows:

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1. AMMO (azidomethylmethyloxetane and its polymers) (CAS 90683-29-7);
2. BAMO (bisazidomethylmethyloxetane and its polymers) (CAS 17607-20-4);
3. BDNPA (bis (2,2-dinitropropyl)acetal) (CAS 5108-69-0);
4. BDNPF (bis (2,2-dinitropropyl)formal) (CAS 5917-61-3);
5. BTTN (butanetrioltrinitrate) (CAS 6659-60-5);
6. Energetic monomers, plasticisers and polymers containing nitro, azido, nitrate, nitraza or difluoroamino groups specially formulated for military use;
7. FAMA0 (3-difluoroaminomethyl-3-azidomethyl oxetane) and its polymers;
8. FEFO (bis-(2-fluoro-2,2-dinitroethyl) formal) (CAS 17003-79-1);
9. FPF-1 (poly-2,2,3,3,4,4-hexafluoropentane-1,5-diol formal) (CAS 376-90-9);
10. FPF-3 (poly-2,4,4,5,5,6,6-heptafluoro-2-tri-fluoromethyl-3-oxaheptane-1,7-diol formal);
11. GAP (glycidylazide polymer) (CAS 143178-24-9) and its derivatives;
12. HTPB (hydroxyl terminated polybutadiene) with a hydroxyl functionality equal to or greater than 2.2 and less than or equal to 2.4, a hydroxyl value of less than 0.77 meq/g, and a viscosity at 30°C of less than 47 poise (CAS 69102-90-5);
13. Low (less than 10,000) molecular weight, alcohol functionalised, poly(epichlorohydrin); poly(epichlorohydrindiol) and triol;
14. NENAs (nitrateethylnitramine compounds) (CAS 17096-47-8, 85068-73-1, 82486-83-7, 82486-82-6 and 85954-06-9);
15. PGN (poly-GLYN, polyglycidylnitrate or poly(nitratomethyl oxirane)) (CAS 27814-48-8);

16. Poly-NIMMO (poly nitratomethylmethyloxetane) or poly-NMMO (poly[3-Nitratomethyl-3-methyloxetane]) (CAS 84051-81-0);
17. Polynitroorthocarbonates;
18. TVOPA (1,2,3-tris[1,2-bis(difluoroamino)ethoxy] propane or tris vinoxy propane adduct) (CAS 53159-39-0);
- f. Additives, as follows:
 1. Basic copper salicylate (CAS 62320-94-9);
 2. BHEGA (bis-(2-hydroxyethyl) glycolamide) (CAS 17409-41-5);
 3. BNO (butadienenitrileoxide) (CAS 9003-18-3);
 4. Ferrocene derivatives, as follows:
 - a. Butacene (CAS 125856-62-4);
 - b. Catocene (2,2-bis-ethylferrocenyl propane) (CAS 37206-42-1);
 - c. Ferrocene carboxylic acids;
 - d. n-butyl-ferrocene (CAS 319904-29-7);
 - e. Other adducted polymer ferrocene derivatives;
 5. Lead beta-resorcyate (CAS 20936-32-7);
 6. Lead citrate (CAS 14450-60-3);
 7. Lead-copper chelates of beta-resorcyate or salicylates (CAS 68411-07-4);
 8. Lead maleate (CAS 19136-34-6);
 9. Lead salicylate (CAS 15748-73-9);
 10. Lead stannate (CAS 12036-31-6);
 11. MAPO (tris-1-(2-methyl)aziridinyl phosphine oxide) (CAS 57-39-6), and BOBBA 8 (bis(2-methyl aziridinyl)-2-(2-hydroxypropanoxy) propylamino phosphine oxide); and other MAPO derivatives;
 12. Methyl BAPO (bis(2-methyl aziridinyl) methylamino phosphine oxide) (CAS 85068-72-0);
 13. N-methyl-p-nitroaniline (CAS 100-15-2);
 14. 3-Nitrazo-1,5-pentane diisocyanate (CAS 7406-61-9);
 15. Organo-metallic coupling agents, as follows:
 - a. Neopentyl[diallyl]oxy, tri[dioctyl]phosphato-titanate

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- (CAS 103850-22-2); also known as titanium IV, 2,2-[bis 2-propenolatomethyl, butanolato, tris (dioctyl) phosphato] (CAS 110438-25-0); or LICA 12 (CAS 103850-22-2);
- b. Titanium IV, [(2-propenolato-1) methyl, n-propanolatomethyl] butanolato-1, tris[dioctyl] pyrophosphate or KR3538;
 - c. Titanium IV, [(2-propenolato-1)methyl, n-propanolatomethyl] butanolato-1, tris(dioctyl)phosphate;
16. Polycyanodifluoroaminoethyleneoxide;
 17. Polyfunctional aziridine amides with isophthalic, trimesic (BITA or butyleneimine trimesamide), isocyanuric or trimethyladipic backbone structures and 2-methyl or 2-ethyl substitutions on the aziridine ring;
 18. Propyleneimine (2-methylaziridine) (CAS 75-55-8);
 19. Superfine iron oxide (Fe_2O_3) with a specific surface area more than 250 m^2/g and an average particle size of 3.0 nm or less;
 20. TEPAN (tetraethylenepentaamineacrylonitrile) (CAS 68412-45-3); cyanoethylated polyamines and their salts;
 21. TEPANOL (tetraethylenepentaamineacrylonitrileglycidol) (CAS 68412-46-4); cyanoethylated polyamines adducted with glycidol and their salts;
 22. TPB (triphenyl bismuth) (CAS 603-33-8);
- g. Precursors, as follows:
1. BCMO (bischloromethyloxetane) (CAS 142173-26-0);
 2. Dinitroazetidine-t-butyl salt (CAS 125735-38-8);
 3. HBIW (hexabenzylhexaazaisowurtzitane) (CAS 124782-15-6);
 4. TAIW (tetraacetyldibenzylhexaazaisowurtzitane);

5. TAT (1,3,5,7-tetraacetyl-1,3,5,7-tetraaza cyclo-octane) (CAS 41378-98-7);
6. 1,4,5,8-tetraazadecalin (CAS 5409-42-7);
7. 1,3,5-trichlorobenzene (CAS 108-70-3);
8. 1,2,4-trihydroxybutane (1,2,4-butanetriol) (CAS 3068-00-6).

Note: ML8 does not control charges and devices.

N.B.: Charges and devices are controlled in ML4.

ML9

“Vessels”, special naval equipment and accessories, as follows, and components therefor, specially designed or modified for military use:

N.B.: Electronic guidance and navigation equipment is controlled in ML11.

- a. Combatant “vessels” and “vessels”(surface or underwater) specially designed or modified for offensive or defensive action, whether or not converted to non-military use, regardless of current state of repair or operating condition, and whether or not they contain weapon delivery systems or armour;
- b. Submarine and torpedo nets;
- c. Hull penetrators and connectors specially designed for military use that enable interaction with equipment external to a “vessel”.

ML10

“Aircraft”, unmanned airborne vehicles, aero-engines, “aircraft” equipment and related “goods”, as follows, and components therefor, specially designed or modified for military use:

N.B.: Electronic guidance and navigation equipment is controlled in ML11.

- a. Combat “aircraft”;
- b. Other “aircraft”(e.g., military reconnaissance, assault, military training, transporting and airdropping troops or military equipment, logistics support);
- c. Unmanned airborne vehicles (UAV) (e.g., remotely piloted air vehicles (RPV)), and autonomous programmable vehicles (APV) and their launchers, ground support and related equipment for command and control;

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- d. Aero-engines;
- e. Airborne equipment (e.g., airborne refuelling equipment), specially designed for “use” with “aircraft” in ML10.a. or ML10.b. or aero-engines in ML10.d.;
- f. Pressure refuellers, pressure refuelling equipment, equipment specially designed to facilitate operations in confined areas and “ground equipment”, specially designed or modified for “use” with “aircraft” in ML10.a. or ML10.b., or aero-engines in ML10.d.;

Technical Note:

“Ground equipment” means ground-based equipment for the operation, handling, maintenance, checking, repair, overhaul and refurbishment of “aircraft” or aero-engines.

- g. Military aircrew protective headgear and masks, pressurised breathing equipment and partial pressure suits for use in “aircraft”, anti-g suits, liquid oxygen converters used for “aircraft” or missiles, and catapults and cartridge actuated devices for emergency escape of personnel from “aircraft”;
- h. Parachutes and related equipment used for combat personnel, cargo dropping or “aircraft” deceleration, as follows:
 - 1. Parachutes for:
 - a. Pin point dropping of military personnel;
 - b. Dropping of paratroopers;
 - 2. Cargo parachutes;
 - 3. Paragliders, drag parachutes, drogue parachutes for stabilisation and attitude control of dropping bodies;
 - 4. Drogue parachutes for use with ejection seat systems for deployment and inflation sequence regulation of emergency parachutes;
 - 5. Recovery parachutes for guided missiles, drones or space vehicles;
 - 6. Approach parachutes and landing deceleration parachutes;
 - 7. Other military parachutes;
 - 8. Equipment specially designed for high altitude parachutists;
- i. Automatic piloting systems for parachuted loads and equipment for

- controlled opening of parachutes at any pre-determined height.
- ML11** Electronic equipment, not controlled elsewhere in this Part of this Schedule, specially designed or modified for military use and specially designed components therefor.
- Note: ML11 controls all electronic guidance and navigation equipment.*
- ML12** High velocity kinetic energy weapon (KEW) systems and related equipment, as follows, and specially designed components therefor:
- a. Kinetic energy weapon systems specially designed for destruction or effecting mission abort of a target;
- N.B.: For weapon systems using sub-calibre ammunition or employing solely chemical propulsion, and ammunition therefor, see ML1 to ML4.*
- b. Specially designed test and evaluation facilities and test models (e.g., diagnostic instrumentation and targets), for dynamic testing of kinetic energy projectiles and systems.
- ML13** Armoured or protective “goods” and constructions, as follows, and specially designed components therefor:
- a. Armoured plate as follows:
 1. Manufactured to comply with a military standard or specification; or
 2. Suitable for military use;
 - b. Constructions of metallic or non-metallic materials or combinations thereof specially designed to provide ballistic protection for military systems;
 - c. Military helmets;
- Note: ML13.c. does not control:*
- a. Conventional steel helmets, neither modified nor designed to accept, nor equipped with any type of accessory device;
 - b. Helmets manufactured before 1945.
- N.B. 1: Military aircrew protective headgear is controlled in ML10.g.*
- N.B. 2: Military high altitude parachutists' protective headgear is controlled in ML10.h.8.*

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- d. Body armour and ballistic protective garments manufactured according to military standards or specifications, or equivalent.

Note: ML13.d. does not control individual suits of body armour or ballistic protective garments for personal protection and accessories therefor when accompanying their users.

N.B.: See also IA of Annex I to “the Regulation”.

ML14

Specialised equipment for military training or for simulating military scenarios, simulators specially designed for training in the “use” of any firearm or weapon in ML1 or ML2, and specially designed components and accessories therefor.

ML15

Imaging or countermeasure equipment, as follows, specially designed for military use, and specially designed components and accessories therefor:

- a. Recorders and image processing equipment;
- b. Cameras, photographic equipment and film processing equipment;
- c. Image intensifier equipment;
- d. Infrared or thermal imaging equipment;
- e. Imaging radar sensor equipment;
- f. Countermeasure or counter-countermeasure equipment for the equipment in ML15.a. to ML15.e.

Note: ML15 does not control “first generation image intensifier tubes” or equipment specially designed so that only “first generation image intensifier tubes” are or can be incorporated in it.

N.B. 1: For weapon sight incorporating “first generation image intensifier tubes” see ML1, ML2 and ML5.

N.B. 2: See also 6A of Annex I to “the Regulation”.

ML16

Forgings, castings and other unfinished “goods”, the use of which in controlled “goods” is identifiable by material composition, geometry or function, and which are specially

PL5020

designed for any of the “goods” in ML1 to ML4, ML6, ML9, ML10, ML12 or ML19.

Forgings, castings and semi-finished “goods” specially designed for “goods” in PL5006.

ML17

Miscellaneous “goods”, material and “libraries”, as follows, and specially designed components therefor:

- a. Self-contained diving and underwater swimming apparatus, as follows:
 1. Closed or semi-closed circuit (rebreathing) apparatus specially designed for military use (i.e., specially designed to be non-magnetic);
 2. Specially designed components for use in the conversion of open-circuit apparatus to military use;
 3. “Goods” designed exclusively for military use with self-contained diving and underwater swimming apparatus;
- b. Construction equipment specially designed for military use;
- c. Fittings, coatings and treatments for signature suppression, specially designed for military use;
- d. Field engineer equipment specially designed for “use” in a combat zone;
- e. “Robots”, “robot” controllers and “robot” “end-effectors”, having any of the following characteristics:
 1. Specially designed for military use;
 2. Incorporating means of protecting hydraulic lines against externally induced punctures caused by ballistic fragments (e.g., incorporating self-sealing lines) and designed to use hydraulic fluids with flash points higher than 839 K (566°C); or
 3. Specially designed or rated for operating in an electro-magnetic pulse (EMP) environment;
- f. “Libraries” (parametric technical databases) specially designed for military use with equipment in this Part of this Schedule;

Technical Note:

For the purpose of ML17, the term “libraries” (parametric technical database) means a collection of

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technical information of a military nature, reference to which may enhance the performance of military equipment or systems.

- g. Nuclear power generating equipment or propulsion equipment (e.g., “nuclear reactors”), specially designed for military use and components therefor, specially designed or modified for military use;
- h. “Goods” and material, coated, treated or prepared to provide signature suppression, specially designed for military use, other than those controlled elsewhere in this Part of this Schedule;
- i. Simulators specially designed for military “nuclear reactors”;
- j. Mobile repair shops specially designed or modified to service military equipment;
- k. Field generators specially designed or modified for military use;
- l. Containers specially designed or modified for military use;
- m. Ferries, other than those controlled elsewhere in this Part of this Schedule, rafts, bridges and pontoons, specially designed for military use;
- n. Test models specially designed for the “development” of “goods” or “technology” in ML4, ML6, ML9 or ML10.

ML18

Equipment for the “production” of “goods” as follows:

- a. Specially designed or modified production equipment for the “production” of “goods” in this Part of this Schedule, and specially designed components therefor;
- b. Specially designed environmental test facilities and specially designed equipment therefor, for the certification, qualification or testing of “goods” in this Part of this Schedule.

PL5017

Equipment and test models other than those in ML11, ML12.b., ML17.n. or ML19.e. specially designed or modified for the “development” or “use” of military “goods” in this Part of this Schedule.

ML19

Directed energy weapon (DEW) systems, related or countermeasure equipment and test models, as follows, and specially designed components therefor:

- a. "Laser" systems specially designed for destruction or effecting mission-abort of a target;
- b. Particle beam systems capable of destruction or effecting mission-abort of a target;
- c. High power radio-frequency (RF) systems capable of destruction or effecting mission-abort of a target;
- d. Equipment specially designed for the detection or identification of, or defence against, systems in ML19.a. to ML19.c.;
- e. Physical test models and related test results for the systems, equipment and components in ML19;
- f. Continuous wave or pulsed "laser" systems specially designed to cause permanent blindness to un-enhanced vision (i.e., to the naked eye or to the eye with corrective eyesight devices).

ML20

Cryogenic and "superconductive" equipment, as follows, and specially designed components and accessories therefor:

- a. Equipment specially designed or configured to be installed in a vehicle for military ground, marine, airborne or space applications, capable of operating while in motion and of producing or maintaining temperatures below 103 K (-170°C);
- b. "Superconductive" electrical equipment (rotating machinery and transformers) specially designed or configured to be installed in a vehicle for military ground, marine, airborne or space applications, capable of operating while in motion.

Note: ML20 does not control direct-current hybrid homopolar generators that have single-pole normal metal armatures which rotate in a magnetic field produced by superconducting windings, provided those windings are the only superconducting component in the generator.

ML21

"Software" as follows:

- a. "Software" specially designed or modified for the "development", "production" or "use" of equipment or materiel in this Part of this Schedule;
- b. Specific "software", as follows:
 1. "Software" specially designed for:

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- a. Modelling, simulation or evaluation of military weapon systems;
 - b. “Development”, monitoring, maintenance or up-dating of “software” embedded in military weapon systems;
 - c. Modelling or simulating military operation scenarios, other than those controlled in ML14;
 - d. Command, Communications, Control and Intelligence (C3I) applications or Command, Communications, Control, Computer and Intelligence (C4I) applications;
- 2. “Software” for determining the effects of conventional, nuclear, chemical or biological warfare weapons;
 - 3. “Software” not controlled in ML21.a., ML21.b.1. or ML21.b.2., specially designed or modified to enable equipment not in this Part of this Schedule to perform military functions of equipment in ML5, ML7.f., ML9, ML10.e., ML11, ML14, ML15, ML17.i. or ML18;
- c. Other “software” specially designed or modified for military use.

N.B.: Source code for “software” is controlled in ML22.

PL5001

Other security and para-military police “goods”, as follows:

- a. Acoustic devices represented by the manufacturers or suppliers thereof as suitable for riot control purposes, and specially designed components therefor;
- b. Anti-riot and ballistic shields and specially designed components therefor;
- c. Restraints specially designed for restraining human beings, as follows:
 - 1. Leg-irons;
 - 2. Gangchains;
 - 3. Electric-shock belts;
 - 4. Individual cuffs having an internal perimeter dimension:
 - a. less than 165 mm when the ratchet is engaged at the last

- notch entering the locking mechanism;
 - b. exceeding 200 mm when the ratchet is engaged at the first notch entering the locking mechanism;
 - 5. Shackles (i.e., cuffs and connecting link) assembled or constructed with cuffs in PL5001.c.4.;
 - 6. Shackles (i.e., cuffs and connecting link) having a maximum length exceeding 240 mm when the ratchets are engaged in the locking mechanism, other than those controlled in PL5001.c.5.;
- d. Portable anti-riot devices for administering an incapacitating substance, and specially designed components therefor;
- e. Water cannon and specially designed components therefor;
- f. Riot control vehicles which have been specially designed or modified to be electrified to repel boarders and components therefor specially designed or modified for that purpose;
- g. Portable devices designed or modified for the purpose of riot control or self-protection by the administration of an electric shock (e.g., electric-shock batons, electric-shock shields, stun-guns and electric-shock dart-guns (tasers)) and components therefor specially designed or modified for such a purpose.

ML22

“Technology” as follows:

- a. “Technology” according to the General Technology Note for the “development”, “production” or “use” of “goods” or “software” in this Part of this Schedule, other than “technology” specified in ML7 or ML19.e.;
 - b. “Technology” specific to the design of, the assembly of components into, and the operation, maintenance and repair of complete production installations for “goods” in this Part of this Schedule, even if the components of such production installations are not controlled.
-

Status: This is the original version (as it was originally made).

PART II

EXPLOSIVE-RELATED GOODS AND TECHNOLOGY

PL8001

Explosive-related “goods” and “technology”, as follows:

- a. Equipment or devices, other than those in Part I of this Schedule or in 1A005, 3A229 or 3A232 in Annex I to “the Regulation” for detection of or “use” with “explosives” or for dealing with or protecting against “improvised explosive devices”, as follows, and specially designed components therefor:

1. Electronic equipment capable of detecting concealed “explosives”;

Note: PL8001.a.1. does not control television or X-ray inspection equipment.

2. Electronic jamming equipment specially designed to prevent the detonation by radio remote control of “improvised explosive devices”;
3. Equipment and devices specially designed to initiate explosions by electrical or non-electrical means, (e.g., firing sets, detonators, igniters and detonating cord);

Note: PL8001.a.3. does not control:

- a. Equipment and devices specially designed for a specific commercial use consisting of the actuation or operation by explosive means of other equipment or devices the function of which is not the initiation or creation of explosions; and
 - b. Pressure controlled equipment specially designed for down-hole oilfield equipment applications and which are incapable of use at atmospheric pressure.
4. Equipment and devices, including, but not limited to: shields and helmets, specially designed for the disposal of “improvised explosive devices”;

Note: PL8001.a.4. does not control bomb blankets and containers designed for holding “improvised explosive devices” or objects suspected of being such devices.

- b. Linear cutting explosive charges;
- c. “Technology” “required” for the “use” of “goods” in this Part of this Schedule.

SCHEDULE 2

Articles 4 and 7

PROHIBITED DUAL-USE GOODS, SOFTWARE AND TECHNOLOGY

Note: In this Schedule, defined terms are printed in quotation marks.

Definitions

In this Schedule:

“development” means all stages prior to “production”(e.g., design, design research, design analyses, design concepts, assembly and testing of prototypes, pilot production schemes, design data, process of transforming design data into “goods”, configuration design, integration design, layouts);

“energetic materials” means substances or mixtures that react chemically to release energy required for their intended application; “explosives”, “pyrotechnics” and “propellants” are subclasses of energetic materials;

“explosives” means solid, liquid or gaseous substances or mixtures of substances which, in their application as primary, booster, or main charges in warheads, demolition and other applications, are required to detonate;

“previously separated” means the application of any process intended to increase the concentration of the controlled isotope;

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

“propellants” means substances or mixtures that react chemically to produce large volumes of hot gases at controlled rates to perform mechanical work;

“pyrotechnic(s)” means mixtures of solid or liquid fuels and oxidisers which, when ignited, undergo an energetic chemical reaction at a controlled rate intended to produce specific time delays, or quantities of heat, noise, smoke, visible light or infrared radiation; pyrophorics are a subclass of pyrotechnics, which contain no oxidisers but ignite spontaneously on contact with air;

“technology” means specific “information” necessary for the “development”, “production” or “use” of “goods” or “software”;

Technical Note:

“Information” may take forms including, but not limited to: blueprints, plans, diagrams, models, formulae, tables, “source code”, engineering designs and specifications, manuals and instructions written or recorded on other media or devices (e.g., disk, tape, read-only memories);

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“Source code”(or source language) is a convenient expression of one or more processes which may be turned by a programming system into equipment executable form.

“use” means operation, installation (e.g., on-site installation), maintenance, checking, repair, overhaul and refurbishing;

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

MATERIALS, CHEMICALS, MICRO-ORGANISMS AND TOXINS

PL9001	<p>The export of the following “goods” is prohibited to any destination except to “the European Community” Member States:</p> <p>Portable devices, other than those in PL5001 of Part I of Schedule 1 to this Order, designed for self-protection by the administration of an incapacitating substance and specially designed components therefor.</p>
PL9002	<p>The export of the following “goods” is prohibited to any destination:</p> <p>“Energetic materials”, as follows, and mixtures containing one or more thereof:</p> <ul style="list-style-type: none"> a. Nitrocellulose (containing more than 12.5% nitrogen); b. Nitroglycol; c. Pentaerythritol tetranitrate (PETN); d. Picryl chloride; e. Trinitrophenylmethylnitramine (tetryl); f. 2,4,6-Trinitrotoluene (TNT). <p><i>Note: PL9002 does not control single, double and triple base “propellants”.</i></p>
PL9003	<p>The export of the following “goods” is prohibited to any destination:</p> <p>“Vaccines” for protection against:</p> <ul style="list-style-type: none"> a. bacillus anthracis; b. botulinum toxin.
PL9004	<p>The export of the following “goods” is prohibited to any destination:</p> <p>“Previously separated” americium-241, -242m or -243 in any form.</p> <p><i>Note: PL9004 does not control “goods” with an americium content of 10 grams or less.</i></p>

TELECOMMUNICATIONS AND RELATED TECHNOLOGY

PL9005

The export or “transfer” of the following “goods” or “technology” is prohibited to any destination in Iran or Iraq:

- a. Tropospheric scatter communication equipment using analogue or digital modulation techniques and specially designed components therefor;
 - b. “Technology” according to the General Technology Note of Schedule 1 to this Order for the “development”, “production” or “use” of “goods” in PL9005.a.
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VESSELS AND RELATED SOFTWARE AND TECHNOLOGY

PL9008

The export or “transfer” of the following “goods”, “software” or “technology”, is prohibited to any destination in Iran or Iraq:

- a. “Vessels” and inflatable craft and related equipment and components, as follows, other than those in ML9 of Part I of Schedule 1 to this Order or Annex I to “the Regulation”:
 1. Marine “vessels”(surface or underwater) and inflatable craft;
 2. Equipment and components designed for “vessels” or inflatable craft in PL9008.a.1. as follows:
 - a. Hull and keel structures and components;
 - b. Propulsive engines designed or modified for marine use and specially designed components therefor;
 - c. Marine radar, sonar and speed log equipment, and specially designed components therefor;
 - b. “Software” designed for the “development”, “production” or “use” of “goods” in PL9008.a.;
 - c. “Technology” according to the General Technology Note of Schedule 1 to this Order for the “development”, “production” or “use” of “goods” or “software” in PL9008.a. or PL9008.b.
-

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AIRCRAFT AND RELATED TECHNOLOGY

PL9009

The export or “transfer” of the following “goods” or “technology” is prohibited to any destination in Iran or Iraq:

- a. “Aircraft” and related equipment and components, as follows, other than those in ML10 of Part I of Schedule 1 to this Order or Annex I to “the Regulation”:
 1. “Aircraft” having a maximum all up weight of 390 kg or more;
 2. Equipment and components designed for “aircraft” in PL9009.a.1. as follows:
 - a. Airframe structures and components;
 - b. Aero-engines and specially designed components therefor;
 - c. Avionics and navigation equipment and specially designed components therefor;
 - d. Landing gear and specially designed components therefor, and aircraft tyres;
- b. “Aircraft” or steerable parachutes, having a maximum all up weight of less than 390 kg;
- c. “Technology” according to the General Technology Note of Schedule 1 to this Order for the “development”, “production” or “use” of “goods” in PL9009.a. or PL9009.b.

Note: PL9009.c. does not control technical data, drawings or documentation for maintenance activities directly associated with calibration, removal or replacement of damaged or unserviceable “goods” that are necessary for the continuing airworthiness and safe operation of civil “aircraft”.

SCHEDULE 3

Article 11

LIST OF COUNTRIES AND DESTINATIONS REFERRED TO IN ARTICLE 11

Afghanistan
 Argentina
 Armenia
 Azerbaijan

Bosnia and Herzegovina
Burma (Myanmar)
Burundi
China (People’s Republic) excluding Special Administrative Regions
Democratic Republic of the Congo
Liberia
Macao Special Administrative Region
Rwanda
Sierra Leone
Somalia
Sudan
Tanzania
Uganda
Zimbabwe

SCHEDULE 4

Articles 13 and 14

PART I: REGISTRATION OF CATEGORY 5 GOODS

Article 13(3) does not apply to “goods” or “software” which are for “use” by the exporter, or by any “subsidiary” or “parent undertaking” of the exporter, or by a “business or academic collaborator” of the exporter, in his or their own commercial cryptographic “goods”, “software” or “development” activities but only insofar as they are activities pursuant to the agreement establishing the collaboration, as follows:

1. Any cryptography “development” “software” in entry 5D002 of Annex I to “the Regulation”, other than “software” having the characteristics, or performing or simulating the functions, of equipment designed or modified to perform cryptanalytic functions; or
2. Any cryptography “development” “technology” in entry 5E002 of Annex I to “the Regulation”, other than “technology” for the “development”, “production” or “use” of:
 - a. Equipment designed or modified to perform cryptanalytic functions; or
 - b. “Software” having the characteristics, or performing or simulating the functions, of equipment designed or modified to perform cryptanalytic functions.

Note 1.: “Business or academic collaborator” means a person who is either working by way of business in research and “development” of cryptography or cryptographic “goods” or “software” or is teaching, or undertaking research as a member of or at a university or institution of higher education into, cryptography or cryptographic “goods” or “software” and with whom an exporter has previously entered into an agreement for the carrying out of work comprising or related to research into or “development” of cryptography or cryptographic “goods” or “software”.

Note 2.: “Parent undertaking” and “subsidiary undertaking” have the same meanings assigned by sections 258 and 259 of the Companies Act 1985 (as substituted by sections 21 and 22 of the Companies Act 1989).

PART II: INFORMATION REQUIRED UNDER ARTICLE 14(9)

The following information is required to be kept on record in relation to certain “goods” and “software” in Part 2 of Category 5 of Annex I to “the Regulation”:

1. A general description of the “goods” and “software”(as defined in “the Regulation”), such as might be contained in a product brochure;
2. Descriptions of all relevant encryption algorithms and key management schemes, and descriptions of how they are used by the “goods” and “software”(e.g., which algorithm is used for authentication, which for confidentiality and which for key exchange); and details (e.g., source code) of how they are implemented (e.g., how keys are generated and distributed, how key length is governed and how the algorithm and keys are called by the “software”);
3. Details of any measures taken to preclude user modification of the encryption algorithm, key management scheme or key length;
4. Details of pre- or post-processing of data, such as compression of plain text or packetisation of encrypted data;
5. Details of programming interfaces that can be used to gain access to the cryptographic functionality of the “goods” and “software”; and
6. A list of any standards or protocols to which the “goods” and “software” adhere.

SCHEDULE 5

Article 2

AMENDMENTS TO COUNCIL REGULATION (EC) NO. 1334/2000

Council Regulation (EC) No. 2889/2000 of 22 December 2000 (O.J. L 336, 30.12. 2000, p.14)

Council Regulation (EC) No. 458/2001 of 6 March 2001 (O.J. L 65, 07.03.2001, p.19)

Council Regulation (EC) No. 2432/2001 of 20 November 2001 (O.J. L 338, 20.12. 2001, p.1)

Council Regulation (EC) No. 880/2002 of 27 May 2002 (O.J. L 139, 29.05.2002, p.7)

SCHEDULE 6

Article 24

REVOCATIONS

The Dual-Use Items (Export Control) Regulations 2000 (S.I.2000/2620)

The Dual-Use Items (Export Control) (Amendment) Regulations 2000 (S.I. 2000/3304)

The Dual-Use Items (Export Control) (Amendment) Regulations 2001 (S.I. 2001/1344)

The Dual-Use Items (Export Control) (Amendment) Regulations 2002 (S.I. 2002/50)

The Dual-Use Items (Export Control) (Amendment) (No.2) Regulations 2002 (S.I. 2002/2033)