

NATIONAL STRATEGIC GOODS LIST ANNEX 3

LIST OF NATIONALLY CONTROLLED GOODS

This list of goods is placed under unilateral controls for reasons of national security, foreign policy, anti-terrorism, crime control, and public safety. This implements sanctioned items for export, import, transit and transshipment to and from specific countries identified by the United Nations Security Council (UNSC) set out in the lists of UNSC documents.

CONTENTS

Notes

Definitions

Annex 3.1	Export, Transit and Transshipment of Goods to DPRK
Annex 3.2	Import, Transit and Transshipment of Goods from DPRK
Annex 3.3	Export, Transit and Transshipment of Goods to Iran
Annex 3.4	Import, Transit and Transshipment of Goods from Iran

GENERAL NOTES TO ANNEX III

1. The object of the prohibitions contained in this Annex should not be defeated by the export of any non-prohibited goods (including plant) containing one or more prohibited components when the prohibited component or components are the principal element of the goods and can feasibly be removed or used for other purposes.

N.B.: in judging whether the prohibited component or components are to be considered principal element, it is necessary to weigh the factors of quantity, value, and technological know-how involved and other special circumstances which might establish the prohibited component or components as the principal element of the goods being procured.

2. Goods specified in this Annex include both new and used goods.
3. In some instances, chemicals are listed by name and CAS number. The list applies to chemicals of the same structural formula (including hydrates) regardless of name or CAS number. CAS numbers are shown to assist in identifying a particular chemical or mixture, 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.
4. All export, transit, transshipment, and import of items in this list that falls under exemption provisions shall require an authorization from the Strategic Trade Management Office (STMO) prior to its actual export, transit, transshipment, and import.

NUCLEAR TECHNOLOGY NOTE (NTN)

(To be read in conjunction with section E of Category 0.)

The "technology" directly associated with any goods controlled in Category 0 is controlled according to the provisions of Category 0.

"Technology" for the "development", "production" or "use" of goods under control remains under control even when applicable to non controlled goods.

The approval of goods for export also authorizes the export to the same end user of the minimum "technology" required for the installation, operation, maintenance and repair of the goods.

Controls on "technology" transfer do not apply to information "in the public domain" or to "basic scientific research".

GENERAL TECHNOLOGY NOTE (GTN)

(To be read in conjunction with section E of Categories 1 to 9.)

The export of "technology" which is "required" for the "development", "production" or "use" of goods controlled in Categories 1 to 9, is controlled according to the provisions of Categories 1 to 9.

"Technology" "required" for the "development", "production" or "use" of goods under control remains under control even when applicable to non controlled goods.

Controls do not apply to that "technology" which is the minimum necessary for the installation, operation, maintenance (checking) or repair of those goods which are not controlled or whose export has been authorized.

Note: This does not release such "technology" specified in 1E002.e., 1E002.f., 8E002.a. and 8E002.b.

Controls on "technology" transfers do not apply to information "in the public domain", to "basic scientific research" or to the minimum necessary information for patent applications.

NUCLEAR SOFTWARE NOTE (NSN)

(This note overrides any control within section D of Category 0)

Section D of Category 0 of this list does not control "software" which is the minimum necessary "object code" for the installation, operation, maintenance (checking) or repair of those items whose export has been authorized.

The approval of goods for export also authorizes the export to the same end user of the minimum necessary "object code" for the installation, operation, maintenance (checking) or repair of the goods

GENERAL SOFTWARE NOTE (GSN)

(This note overrides any control within section D of Categories 1 to 9.)

Categories 1 to 9 of this list do not control "software" which is any of the following:

- a. Generally available to the public by being:
 1. Sold from stock at retail selling points, without restriction, by means of:
 - a. Over the counter transactions;
 - b. Mail order transactions;
 - c. Electronic transactions; or
 - d. Telephone call transactions; and

2. Designed for installation by the user without further substantial support by the supplier;
- b. "In the public domain"; or
- c. The minimum necessary "object code" for the installation, operation, maintenance (checking) or repair of those items whose export has been authorized.

EDITORIAL PRACTICES IN THIS ANNEX

- a comma is used to separate the whole number from decimals,
- whole numbers are presented in series of three, each series being separated by a thin space. The text reproduced in this annex follows the above described practice.

DEFINITIONS OF TERMS USED IN THIS ANNEX

"Basic scientific research" (GTN NTN) 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.

"Development" (GTN NTN All) is related to all phases prior to serial production, such as: design, design research, design analyses, design concepts, assembly and testing of prototypes, pilot production schemes, design data, process of transforming design data into a product, configuration design, integration design, layouts.

"Fibrous or filamentary materials" include:

- a. Continuous "monofilaments";
- b. Continuous "yarns" and "rovings";
- c. "Tapes", fabrics, random mats and braids;
- d. Chopped fibers, staple fibers and coherent fiber blankets;
- e. Whiskers, either monocrystalline or polycrystalline, of any length;
- f. Aromatic polyamide pulp.

"In the public domain" (GTN NTN GSN), as it applies herein, means "technology" or "software" which has been made available without restrictions upon its further dissemination (copyright restrictions do not remove "technology" or "software" from being "in the public domain").

"Monofilament" or filament is the smallest increment of fiber, usually several micrometers in diameter.

"Object code" (GSN) means an equipment executable form of a convenient expression of one or more processes ("source code" (source language)) which has been compiled by programming system.

"Production" (GTN NTN All) means all production phases, such as: construction, production engineering, manufacture, integration, assembly (mounting), inspection, testing, and quality assurance.

"Program" means a sequence of instructions to carry out a process in, or convertible into, a form executable by an electronic computer.

"Roving" is a bundle (typically 12-120) of approximately parallel 'strands'.

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

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

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

"Software" (GSN All) means a collection of one or more "programs" or 'microprograms' fixed in any tangible medium of expression.

N.B. 'Microprogram' means a sequence of elementary instructions, maintained in a special storage, the execution of which is initiated by the introduction of its reference instruction into an instruction register.

"Specific modulus" is Young's modulus in pascals, equivalent to N/m^2 divided by specific weight in N/m^3 , measured at a temperature of (296 ± 2) K ((23 ± 2) °C) and a relative humidity of $(50 \pm 5)\%$.

"Specific tensile strength" is ultimate tensile strength in pascals, equivalent to N/m^2 divided by specific weight in N/m^3 , measured at a temperature of (296 ± 2) K ((23 ± 2) °C) and a relative humidity of $(50 \pm 5)\%$.

"Tape" is a material constructed of interlaced or unidirectional "monofilaments", 'strands', "rovings", "tows", or "yarns", etc., usually pre impregnated with resin.

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

"Technology" (GTN NTN All) means specific information necessary for the "development", "production" or "use" of goods. This information takes the form of 'technical data' or 'technical assistance'.

N.B.1. 'Technical assistance' may take forms such as instructions, skills, training, working knowledge and consulting services and may involve the transfer of 'technical data'.

N.B.2. 'Technical data' may take forms such as blueprints, plans, diagrams, models, formulae, tables, engineering designs and specifications, manuals and instructions written or recorded on other media or devices such as disk, tape, read only memories.

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

"Use" (GTN NTN All) means operation, installation (including on site installation), maintenance (checking), repair, overhaul and refurbishing.

ANNEX 3.1 —EXPORT, TRANSIT, AND TRANSHIPMENT OF GOODS AND TECHNOLOGY TO DPRK

Items, materials, equipment, goods, and technology listed herein are prohibited items for export to the Democratic People’s Republic of Korea (DPRK) set out in the lists of United Nations Security Council Resolution (UNSCR) 1718(2006) and its subsequent resolutions which could contribute to DPRK’s nuclear, other weapons of mass destruction or ballistic missile-related programs.

DUAL-USE ITEMS

CATEGORY 0 – NUCLEAR MATERIALS, FACILITIES, AND EQUIPMENT

- 0A901 Hot cells
- 0B901 Test, Inspection and Production Equipment
 - a. Ring magnets (except those designed for consumer electronics or automobile applications)
 - b. UF₆ Corrosion Resistant Bellow-sealed Valves
 - c. Particle accelerators
 - d. Freon and chilled-water cooling systems capable of continuous cooling capacity of 100 000 Btu/hr (29,3 kW) or greater
 - e. Vacuum valves, piping, flanges, gaskets and related equipment specially designed for use in high-vacuum service (0,1 Pa or lower pressure)
- 0D901 "Software" specially designed or modified for the "development", "production" or "use" of goods specified in this Category.
 - a. Software for neutronic calculations/modelling
 - b. Software for radiation transport calculations/modelling
 - c. Software for hydrodynamic calculations/modelling (except those used strictly for civilian purposes, such as but not limited to communal heating utilities)

CATEGORY 1- SPECIAL MATERIALS AND RELATED EQUIPMENT

- 1A904 Protective and detection equipment and components
 - a. Glove boxes suitable for use with radioactive materials
 - b. Radiation detection, monitoring and measurement equipment
 - c. Radiographic detection equipment such as X-ray converters, and storage phosphor image plates (except X-ray equipment specially designed for medical use)
- 1B901 Production equipment and machines
 - a. Equipment for carbon fibre production
 - b. Filament winding machines or fibre/ tow-placement machines and related equipment, of which the motions for positioning, wrapping and winding fibres can be coordinated and programmed

in two or more axes and which are designed to fabricate composite structures or laminates from fibrous or filamentary materials, coordinating and programming controls and precision mandrels for such equipment

- c. Filament winding machines having all of the following characteristics:
 - 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”; and
 - 3. Capable of winding cylindrical tubes of diameter of 75 mm or greater.
- d. Coordinating and programming controls for filament winding machines specified in 1B901.c.
- e. Mandrels for filament winding machines specified in 1B901.c.

1B925 Electrolytic cells for fluorine production

1C902 High strength aluminium alloy having both of the following characteristics:

- a. ‘Capable of’ an ultimate tensile of strength of 415 MPa or more at 293 K (20°C);
- b. In bar or tube form, with an outer diameter of 75 mm or greater.

Technical Note: The phrase “capable of” encompasses aluminium alloy before or after heat treatment.

1C903 Magnetic alloy materials in sheet or thin strip form having both of the following characteristics:

- a. Thickness of 0.05 mm or less; or height of 25 mm or less;
- b. Made of any of the following magnetic alloy materials: iron-chromium-cobalt, iron-cobalt-vanadium, iron-chromium-cobalt-vanadium or iron-chromium.

1C906 Perfluorinated Lubricants

1C907 Graphite, ceramic, ceramic-matrix composite materials, and precursor materials

- a. Ultra high-temperature ceramic composite materials in solid form (i.e. blocks, cylinders, tubes or ingots) in any of the following form factors:
 - 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; or
 - 3. Blocks having a size of 120 mm x 120 mm x 50 mm or greater.
- b. Graphite designed or specified for use in Electrical Discharge Machining (EDM) machines

1C908 Polymeric substances

- a. Hydroxyl Terminated Poly-Ether (HTPE)

- b. Hydroxyl Terminated Caprolactone Ether (HTCE)
- c. Polypropylene glycol (PPG)
- d. Polydiethyleneglycol adipate (PGA)
- e. Polyethylene Glycol (PEG)

1C910 Fibrous or filamentary materials and prepegs, as follows:

- a. Polyacrylonitrile (PAN) fibre usable as a precursor for carbon fibre production
- b. Para-aramid fiber (Kevlar and other Kevlar-like), filament and tape
- c. Carbon, aramid or glass “fibrous or filamentary materials” having both of the following characteristics:
 - 1. A “specific modulus” exceeding 3.18×10^6 m;
 - 2. A “specific tensile strength” exceeding 76.2×10^3 m;
- d. Prepegs: thermoset resin impregnated continuous “yarns”, “rovings”, “tows” or “tapes” with a width of 30 mm or less, made from carbon, aramid or glass “fibrous or filamentary materials” controlled in 1C910.c.

1C911 Metals, compounds, propellants and constituent chemicals for propellants

- a. Sodium Perchlorate
- b. Aviation fuel (aviation gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene-type rocket fuel)
- c. Isocyanates
 - 1. Toluene di-isocyanate (TDI)
 - 2. Methylene bis (phenyl isocyanate) (MDI)
 - 3. Isophorone diisocyanate (IPDI)
 - 4. Hexamethylene diisocyanate (HNMDI or HDI)
 - 5. Dimeryl diisocyanate (DDI)
- d. Nitric acid in concentrations of 20 per cent of weight or greater
- e. Fluorine (except that used for strictly civilian purposes, such as refrigerants, including freon and fluoride for toothpaste production)
- f. Metal hydrides such as zirconium hydride, beryllium hydride, aluminium hydride, lithium aluminium hydride and titanium hydride
- g. Plasticizers usable in composite propellants, such as dioctyl adipate (DOA), dioctyl sebacate (DOS) and dioctyl azelate (DOZ)

- 1C916 Steels, as follows:
- a. Grade 304, 316 and austenitic stainless steel plates, valves, piping, tanks and vessels (pipes and valves greater than 8-in diameter and rated for 500 psi and tanks greater than 500 L)
 - b. Maraging steel having both of the following characteristics:
 1. Capable of an ultimate tensile strength of 1,500 MPa or more at 293 K (20°C);
 2. In bar or tube form, with an outer diameter of 75 mm or greater.
 - c. Maraging steel capable of an ultimate tensile strength of 1,950 MPa or more at 293 K (20°C) and in any of the following forms:
 1. Sheet, plate or tubing with a wall or plate thickness equal to or less than 5.0 mm;
 2. Tubular forms with a wall thickness of 50 mm or less and having an inner diameter of 270 mm or more.
- 1C918 Special corrosion resistant steels — limited to steels resistant to Inhibited Red Fuming Nitric Acid (IRFNA) or nitric acid, such as nitrogen stabilized duplex stainless steel (N-DSS)
- 1C936 Alpha-emitting radionuclides
- 1C950 Toxic chemicals, toxic chemical agent precursors, and chemicals for decontamination of chemical warfare agents, as follows:
- a. Diethylenetriamine (111-40-0)
 - b. Butyrylcholinesterase (BCHE)
 - c. Pyridostigmine bromide (101-26-8)
 - d. Obidoxime chloride (114-90-9)
 - e. Aluminium chloride (7446-70-0)
 - f. Dichloromethane (75-09-2)
 - g. N,N Dimethylaniline (121-69-7)
 - h. Isopropyl bromide (75-26-3)
 - i. Isopropyl ether (108-20-3)
 - j. Monoisopropylamine (75-31-0)
 - k. Potassium bromide (7758-02-3)
 - l. Pyridine (110-86-1)
 - m. Sodium bromide (7647-15-6)
 - n. Sodium metal (7440-23-5)

- o. Sulfur trioxide (7446-11-9)
- p. Tributylamine (102-82-9)
- q. Triethylamine (121-44-8)
- r. Trimethylamine (75-50-3)

1C997 Metal inert gas welders (greater than 180 A DC)

1C998 Manganese metal Brazing Foils

1C999 Ammonium Nitrate, chemically pure or in phase stabilized version (PSAN)

CATEGORY 2 – MATERIALS PROCESSING

2A926 Bellows-sealed valves

2A901 Hardened steel and tungsten carbide precision ball bearings (3-mm diameter or greater)

2B901 Machine tools and any combination thereof, as follows:

- a. Electrical Discharge Machines (EDMs)
- b. 4- and 5- axis CNC machine tools

2B904 Isostatic presses

2B905 Electroplating equipment designed for coating parts with nickel or aluminium

2B909 Manufacturing machine and equipment

- a. Hydroforming machines
- b. Bellows manufacturing equipment, including hydraulic forming equipment and bellows forming dies

2B916 Seismic detection equipment or seismic intrusion-detection systems that detect, classify and determine the bearing of the source of a detected signal

2B919 Centrifugal multiplane balancing machines

2B926 Thermal treatment furnaces having all of the following characteristics:

- a. Capable of operating above 850°C; and
- b. Dimension of greater than 1m

1B931 Metal hydrides, such as zirconium hydride

2B950 Chemical manufacturing facilities, equipment and components, as follows:

- a. Monel equipment, including valves, piping, tanks and vessels (pipes and valves greater than 8-in diameter and rated for 500 psi and tanks greater than 500 L)

- b. Vacuum pumps with a manufacturer's specified maximum flow-rate greater than 1 m³/h (under standard temperature and pressure conditions), casings (pump bodies), preformed casing-liners, impellers, rotors, and jet pump nozzles designed for such pumps, in which all surfaces that come into direct contact with the chemicals being processed are made from any of the following materials:
1. Nickel or alloys with more than 40% nickel by weight;
 2. Alloys with more than 25% nickel and 20% chromium by weight;
 3. Fluoropolymers;
 4. Glass or glass-lined (including vitrified or enamelled coating);
 5. Graphite;
 6. Tantalum or tantalum alloys;
 7. Titanium or titanium alloys;
 8. Zirconium or zirconium alloys;
 9. Ceramics; or
 10. Ferrosilicon.
- c. Single-seal pumps with manufacturer's specified maximum flow rate greater than 0.6 m³/h and casings (pump bodies), preformed casing liners, impellers, rotors or jet pump nozzles designed for such pumps, in which all surfaces that come into direct contact with the chemical(s) being processed are made from any of the following materials:
1. Nickel or alloys with more than 40% nickel by weight;
 2. Alloys with more than 25% nickel and 20% chromium by weight;
 3. Fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight);
 4. Glass or glass-lined (including vitrified or enamelled coating);
 5. Graphite or carbon-graphite;
 6. Tantalum or tantalum alloys;
 7. Titanium or titanium alloys;
 8. Zirconium or zirconium alloys;
 9. Ceramics;
 10. Ferrosilicon (high silicon iron alloys); or
 11. Niobium (columbium) or niobium alloys.

- 2B952 Biological manufacturing, handling, protective and containment equipment, as follows:
- a. Floor-mounted fume hoods (walk-in style) with a minimum nominal width of 2.5 meters
 - b. Batch centrifuges with a rotor capacity of 4 L or greater, usable with biological materials
 - c. Fermenters with an internal volume of 10-20 L (.01-.02 cubic meters), usable with biological materials
 - d. Full face-mask air-purifying and air-supplying respirators except those used in breathing apparatus for firefighters
 - e. Conventional or turbulent airflow clean-air rooms and self-contained fan-HEPA filter units that could be used for P3 or P4 (BSL 3, BSL 4, L3, L4) containment facilities.

2B995 Plasma cutting equipment

2B996 Laser welding equipment

2B997 Friction stirs welding machines

2B998 Isocyanates production equipment

Note: Isocyanates specified in entry 1C911.c.

2B999 Non-destructive test chambers with a 1m or more critical internal dimension.

CATEGORY 3 – ELECTRONICS

- 3A901 Ring magnets: permanent magnet materials having both of the following characteristics:
- a. Ring-shaped magnet with a relation between outer and inner diameter smaller or equal to 1.6:1;
 - b. Made of any of the following magnetic materials: aluminium-nickel-cobalt, ferrites, samarium-cobalt or neodymium-iron-boron.
- 3A902 All flash X-ray machines and parts or components of pulsed power systems designed therefrom, including Marx generators, high-power pulse-shaping networks, high-voltage capacitors and triggers
- 3A925 Frequency changers
- a. Frequency changers capable of operating in the frequency range of 300-600 Hz
 - b. Frequency changers (also known as converters or inverters) having all of the following characteristics, and specially designed software therefor:
 1. Multiphase frequency output;
 2. Capable of providing power of 40 W or greater; and
 3. Capable of operating anywhere (at any one point or more) within the frequency range between 600 Hz and 2,000 Hz.

Technical notes:

1. *Frequency changers are also known as converters or inverters.*
2. *The functionality specified above may be met by certain equipment described or marketed as electronic test equipment, AC power supplies, variable speed motor drives or variable frequency drives.*

3A933 Analytical instruments

- a. Mass spectrometers
- b. Chromatography and other spectrometry

3B902 Electronic equipment of synthesized frequencies within the range of 31.8 GHz or greater and power output of 100 mW or greater for time-delay generation or time-interval measurement, as follows:

- a. Digital time delay generators with a resolution of 50 nanoseconds or less over time intervals of 1 microsecond or greater; or
- b. Multichannel (i.e., with 3 or more channels) or modular time interval meters and chronometry equipment with resolution of 50 nanoseconds or less over time intervals of 1 microsecond or greater

CATEGORY 5 – TELECOMMUNICATIONS AND "INFORMATION SECURITY"

5A999 Countermeasure Subsystems and Penetration Aids (e.g. jammers, chaff, decoys) designed to saturate, confuse, or evade missile defenses.

CATEGORY 6 – SENSORS AND LASERS

6A903 Cameras, systems or equipment, and components therefor, as follows:

- a. High-speed imaging cameras except those used in medical imaging systems
- b. Radiation-hardened television cameras

CATEGORY 7 – NAVIGATION AND AVIONICS

7A901 Inertial equipment for any application, particularly for civilian aircraft, satellite, geophysical survey applications and their associated test equipment

7A916 Pyrotechnically Actuated Valves.

CATEGORY 9 – AEROSPACE AND PROPULSION

9A906 Turbo-pumps for liquid or hybrid rocket engines

9A917 Explosive bolts, nuts and shackles, flexible linear-shaped charges, ball locks, compression springs, circular cutting devices and acceleration rockets usable for staging mechanisms

9A915 Truck chassis with 6 or more axles

9B001 Rapid prototyping, including additive manufacturing equipment

9B905 Measurement and control equipment usable for wind tunnels (balance, thermal stream measurement, flow control)

- 9B906 All environmental test chambers capable of simulating flight conditions (temperature, pressure, shock and vibration) except those used for civilian aircraft safety purposes
- 9D105 Modeling and design software related to the modeling of aerodynamic and thermodynamic analysis of rocket or unmanned aerial vehicle systems

OTHER ITEMS

BASE METALS AND ARTICLES OF BASE METAL

- M9000 HS Code 72 – Iron and Steel
- M9001 HS Code 73 – Articles of Iron or Steel
- M9002 HS Code 74 – Copper and Articles Thereof
- M9003 HS Code 75 – Nickel and Articles Thereof
- M9004 HS Code 76 – Aluminum and Articles Thereof
- M9005 HS Code 78 – Lead and Articles Thereof
- M9006 HS Code 79 – Zinc and Articles Thereof
- M9007 HS Code 80 – Tin and Articles Thereof
- M9008 HS Code 81 – Other base metals; cermets; articles thereof
- M9009 HS Code 82 – Tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal
- M9010 HS Code 83 – Miscellaneous articles of base metal

MACHINERY AND MECHANICAL APPLIANCES; ELECTRICAL EQUIPMENT; PARTS THEREOF; SOUND RECORDERS AND REPRODUCERS, TELEVISION IMAGE AND SOUND RECORDERS AND REPRODUCERS, AND PARTS AND ACCESSORIES OF SUCH ARTICLES

- I9000 HS Code 84 – Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof
- I9001 HS Code 85 – Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts and accessories of such articles

Note: I9000 and I9001 does not prohibit the export of spare parts needed to maintain the safe operation of DPRK commercial civilian passenger aircraft (currently consisting of the following aircraft models and types: An-24R/RV, An-148-100B, Il-18D, Il-62M, Tu-134B-3, Tu-154B, Tu-204-100B, and Tu-204-300)

PETROLEUM ITEMS

- P9000 Refined petroleum products including diesel

Note: Prohibition on the export of refined petroleum products does not apply under the following conditions:

1. Amount of up to 500,000 barrels during a period of 12 months;

2. *Transfer of refined petroleum products involve no individuals or entities that are associated with the DPRK's nuclear or ballistic missile programmes or other activities prohibited by the relevant resolutions, including designated individuals or entities, or individuals or entities acting on their behalf or at their direction, or entities owned or controlled by them, directly or indirectly, or individuals or entities assisting in the evasion of sanctions; and*
3. *Transfer of refined petroleum products are exclusively for livelihood purposes of DPRK nationals and unrelated to generating revenue for the DPRK's nuclear or ballistic missile programmes or other activities prohibited by the relevant resolutions.*

P9001 Kerosene

P9002 Crude oil

Note: Prohibition on the export of refined petroleum products does not apply under the following conditions:

1. *If the export is exclusively for livelihood purposes of DPRK nationals and unrelated to the DPRK's nuclear or ballistic missile programs or other activities prohibited by UNSC 1718 resolution and its subsequent resolutions; and*
2. *Total export does not exceed 4 million barrels or 525,000 tons in the aggregate per twelve month period.*

P9003 Natural gas liquids

P9004 Condensates

VEHICLES, AIRCRAFT, VESSELS AND ASSOCIATED TRANSPORT EQUIPMENT

V9000 HS Code 86 – Railway or tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electro-mechanical) traffic signalling equipment of all kinds

V9001 HS Code 87 – Vehicles other than railway or tramway rolling-stock, and parts and accessories thereof

V9002 HS Code 88 – Aircraft, spacecraft, and parts thereof

V9003 HS Code 89 – Ships, boats and floating structures

LUXURY ITEMS

X9000 Jewelry

- a. Jewelry with pearls
- b. Gems
- c. Precious and semi-precious stones (including diamonds, sapphire, rubies, and emeralds)
- d. Precious and semi-precious stones (including diamonds, sapphires, rubies, and emeralds)
- e. Jewelry of precious metal or of metal clad with precious metal

X9001 Transportation items, as follows:

- a. Yachts
- b. Luxury automobiles (and motor vehicles): automobiles and other motor vehicles to transport people (other than public transport), including station wagons
- c. Racing cars

- d. Aquatic recreational vehicles such as personal watercraft
- e. Snowmobiles valued greater than \$2,000

X9002 Luxury Watch

- a. Wristwatch with a case of precious metal or of metal clad with precious metal
- b. Pocket watch with a case of precious metal or of metal clad with precious metal
- c. Other luxury watch with a case of precious metal or of metal clad with precious metal

X9003 Items of lead crystal

X9004 Recreational sports equipment

X9005 Rugs and tapestries (valued greater than \$500)

X9006 Tableware of porcelain or bone china (valued greater than \$100)

ANNEX 3.2 —IMPORT, TRANSIT, AND TRANSHIPMENT OF GOODS AND TECHNOLOGY FROM DPRK

Items, materials, equipment, goods, and technology listed herein are prohibited items for import from the Democratic People's Republic of Korea (DPRK) set out in the lists of United Nations Security Council Resolution (UNSCR) 1718(2006) and its subsequent resolutions which could contribute to DPRK's nuclear-related, other weapons of mass destruction-related or ballistic missile-related programs.

DUAL-USE ITEMS

CATEGORY 0 – NUCLEAR MATERIALS, FACILITIES, AND EQUIPMENT

0A901 Hot cells

0B901 Test, Inspection and Production Equipment

- a. Ring magnets (except those designed for consumer electronics or automobile applications)
- b. UF₆ Corrosion Resistant Bellow-sealed Valves
- c. Particle accelerators
- d. Freon and chilled-water cooling systems capable of continuous cooling capacity of 100 000 Btu/hr (29,3 kW) or greater
- e. Vacuum valves, piping, flanges, gaskets and related equipment specially designed for use in high-vacuum service (0,1 Pa or lower pressure)

0D901 "Software" specially designed or modified for the "development", "production" or "use" of goods specified in this Category.

- a. Software for neutronic calculations/modelling
- b. Software for radiation transport calculations/modelling
- c. Software for hydrodynamic calculations/modelling (except those used strictly for civilian purposes, such as but not limited to communal heating utilities)

CATEGORY 1- SPECIAL MATERIALS AND RELATED EQUIPMENT

1A904 Protective and detection equipment and components

- a. Glove boxes suitable for use with radioactive materials
- b. Radiation detection, monitoring and measurement equipment
- c. Radiographic detection equipment such as X-ray converters, and storage phosphor image plates (except X-ray equipment specially designed for medical use)

1B901 Production equipment and machines

- a. Equipment for carbon fibre production

- b. Filament winding machines or fibre/ tow-placement machines and related equipment, of which the motions for positioning, wrapping and winding fibres can be coordinated and programmed in two or more axes and which are designed to fabricate composite structures or laminates from fibrous or filamentary materials, coordinating and programming controls and precision mandrels for such equipment
- c. Filament winding machines having all of the following characteristics:
 - 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”; and
 - 3. Capable of winding cylindrical tubes of diameter of 75 mm or greater.
- d. Coordinating and programming controls for filament winding machines specified in 1B901.c.
- e. Mandrels for filament winding machines specified in 1B901.c.

1B925 Electrolytic cells for fluorine production

1C902 High strength aluminium alloy having both of the following characteristics:

- a. ‘Capable of’ an ultimate tensile of strength of 415 MPa or more at 293 K (20°C);
- b. In bar or tube form, with an outer diameter of 75 mm or greater.

Technical Note: The phrase “capable of” encompasses aluminium alloy before or after heat treatment.

1C903 Magnetic alloy materials in sheet or thin strip form having both of the following characteristics:

- a. Thickness of 0.05 mm or less; or height of 25 mm or less;
- b. Made of any of the following magnetic alloy materials: iron-chromium-cobalt, iron-cobalt-vanadium, iron-chromium-cobalt-vanadium or iron-chromium.

1C906 Perfluorinated Lubricants

1C907 Graphite, ceramic, ceramic-matrix composite materials, and precursor materials

- a. Ultra high-temperature ceramic composite materials in solid form (i.e. blocks, cylinders, tubes or ingots) in any of the following form factors:
 - 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; or
 - 3. Blocks having a size of 120 mm x 120 mm x 50 mm or greater.
- b. Graphite designed or specified for use in Electrical Discharge Machining (EDM) machines

1C908 Polymeric substances

- a. Hydroxyl Terminated Poly-Ether (HTPE)
- b. Hydroxyl Terminated Caprolactone Ether (HTCE)
- c. Polypropylene glycol (PPG)
- d. Polydiethyleneglycol adipate (PGA)
- e. Polyethylene Glycol (PEG)

1C910 Fibrous or filamentary materials and prepegs, as follows:

- a. Polyacrylonitrile (PAN) fibre usable as a precursor for carbon fibre production
- b. Para-aramid fiber (Kevlar and other Kevlar-like), filament and tape
- c. Carbon, aramid or glass “fibrous or filamentary materials” having both of the following characteristics:
 - 1. A “specific modulus” exceeding 3.18×10^6 m;
 - 2. A “specific tensile strength” exceeding 76.2×10^3 m;
- d. Prepegs: thermoset resin impregnated continuous “yarns”, “rovings”, “tows” or “tapes” with a width of 30 mm or less, made from carbon, aramid or glass “fibrous or filamentary materials” controlled in 1C910.c.

1C911 Metals, compounds, propellants and constituent chemicals for propellants

- a. Sodium Perchlorate
- b. Aviation fuel (aviation gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene-type rocket fuel)
- c. Isocyanates
 - 1. Toluene di-isocyanate (TDI)
 - 2. Methylene bis (phenyl isocyanate) (MDI)
 - 3. Isophorone diisocyanate (IPDI)
 - 4. Hexamethylene diisocyanate (HNMDI or HDI)
 - 5. Dimeryl diisocyanate (DDI)
- d. Nitric acid in concentrations of 20 per cent of weight or greater
- e. Fluorine (except that used for strictly civilian purposes, such as refrigerants, including freon and fluoride for toothpaste production)
- f. Metal hydrides such as zirconium hydride, beryllium hydride, aluminium hydride, lithium aluminium hydride and titanium hydride
- g. Plasticizers usable in composite propellants, such as dioctyl adipate (DOA), dioctyl sebacate

(DOS) and dioctyl azelate (DOZ)

- 1C916 Steels, as follows:
- a. Grade 304, 316 and austenitic stainless steel plates, valves, piping, tanks and vessels (pipes and valves greater than 8-in diameter and rated for 500 psi and tanks greater than 500 L)
 - b. Maraging steel having both of the following characteristics:
 1. Capable of an ultimate tensile strength of 1,500 MPa or more at 293 K (20°C);
 2. In bar or tube form, with an outer diameter of 75 mm or greater.
 - c. Maraging steel capable of an ultimate tensile strength of 1,950 MPa or more at 293 K (20°C) and in any of the following forms:
 1. Sheet, plate or tubing with a wall or plate thickness equal to or less than 5.0 mm;
 2. Tubular forms with a wall thickness of 50 mm or less and having an inner diameter of 270 mm or more.
- 1C918 Special corrosion resistant steels — limited to steels resistant to Inhibited Red Fuming Nitric Acid (IRFNA) or nitric acid, such as nitrogen stabilized duplex stainless steel (N-DSS)
- 1C936 Alpha-emitting radionuclides
- 1C950 Toxic chemicals, toxic chemical agent precursors, and chemicals for decontamination of chemical warfare agents, as follows:
- a. Diethylenetriamine (111-40-0)
 - b. Butyrylcholinesterase (BCHE)
 - c. Pyridostigmine bromide (101-26-8)
 - d. Obidoxime chloride (114-90-9)
 - e. Aluminium chloride (7446-70-0)
 - f. Dichloromethane (75-09-2)
 - g. N,N Dimethylaniline (121-69-7)
 - h. Isopropyl bromide (75-26-3)
 - i. Isopropyl ether (108-20-3)
 - j. Monoisopropylamine (75-31-0)
 - k. Potassium bromide (7758-02-3)
 - l. Pyridine (110-86-1)
 - m. Sodium bromide (7647-15-6)

- n. Sodium metal (7440-23-5)
- o. Sulfur trioxide (7446-11-9)
- p. Tributylamine (102-82-9)
- q. Triethylamine (121-44-8)
- r. Trimethylamine (75-50-3)

1C997 Metal inert gas welders (greater than 180 A DC)

1C998 Manganese metal Brazing Foils

1C999 Ammonium Nitrate, chemically pure or in phase stabilized version (PSAN)

CATEGORY 2 – MATERIALS PROCESSING

2A926 Bellows-sealed valves

2A901 Hardened steel and tungsten carbide precision ball bearings (3-mm diameter or greater)

2B901 Machine tools and any combination thereof, as follows:

- a. Electrical Discharge Machines (EDMs)
- b. 4- and 5- axis CNC machine tools

2B904 Isostatic presses

2B905 Electroplating equipment designed for coating parts with nickel or aluminium

2B909 Manufacturing machine and equipment

- a. Hydroforming machines
- b. Bellows manufacturing equipment, including hydraulic forming equipment and bellows forming dies

2B916 Seismic detection equipment or seismic intrusion-detection systems that detect, classify and determine the bearing of the source of a detected signal

2B919 Centrifugal multiplane balancing machines

2B926 Thermal treatment furnaces having all of the following characteristics:

- a. Capable of operating above 850°C; and
- b. Dimension of greater than 1m

1B931 Metal hydrides, such as zirconium hydride

2B950 Chemical manufacturing facilities, equipment and components, as follows:

- a. Monel equipment, including valves, piping, tanks and vessels (pipes and valves greater than 8-in diameter and rated for 500 psi and tanks greater than 500 L)
- b. Vacuum pumps with a manufacturer's specified maximum flow-rate greater than 1 m³/h (under standard temperature and pressure conditions), casings (pump bodies), preformed casing-liners, impellers, rotors, and jet pump nozzles designed for such pumps, in which all surfaces that come into direct contact with the chemicals being processed are made from any of the following materials:
 1. Nickel or alloys with more than 40% nickel by weight;
 2. Alloys with more than 25% nickel and 20% chromium by weight;
 3. Fluoropolymers;
 4. Glass or glass-lined (including vitrified or enamelled coating);
 5. Graphite;
 6. Tantalum or tantalum alloys;
 7. Titanium or titanium alloys;
 8. Zirconium or zirconium alloys;
 9. Ceramics; or
 10. Ferrosilicon.
- c. Single-seal pumps with manufacturer's specified maximum flow rate greater than 0.6 m³/h and casings (pump bodies), preformed casing liners, impellers, rotors or jet pump nozzles designed for such pumps, in which all surfaces that come into direct contact with the chemical(s) being processed are made from any of the following materials:
 1. Nickel or alloys with more than 40% nickel by weight;
 2. Alloys with more than 25% nickel and 20% chromium by weight;
 3. Fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight);
 4. Glass or glass-lined (including vitrified or enamelled coating);
 5. Graphite or carbon-graphite;
 6. Tantalum or tantalum alloys;
 7. Titanium or titanium alloys;
 8. Zirconium or zirconium alloys;
 9. Ceramics;
 10. Ferrosilicon (high silicon iron alloys); or

11. Niobium (columbium) or niobium alloys.

- 2B952 Biological manufacturing, handling, protective and containment equipment, as follows:
- a. Floor-mounted fume hoods (walk-in style) with a minimum nominal width of 2.5 meters
 - b. Batch centrifuges with a rotor capacity of 4 L or greater, usable with biological materials
 - c. Fermenters with an internal volume of 10-20 L (.01-.02 cubic meters), usable with biological materials
 - d. Full face-mask air-purifying and air-supplying respirators except those used in breathing apparatus for firefighters
 - e. Conventional or turbulent airflow clean-air rooms and self-contained fan-HEPA filter units that could be used for P3 or P4 (BSL 3, BSL 4, L3, L4) containment facilities.
- 2B995 Plasma cutting equipment
- 2B996 Laser welding equipment
- 2B997 Friction stirs welding machines
- 2B998 Isocyanates production equipment
- Note: Isocyanates specified in entry 1C911.c.*
- 2B999 Non-destructive test chambers with a 1m or more critical internal dimension.

CATEGORY 3 – ELECTRONICS

- 3A901 Ring magnets: permanent magnet materials having both of the following characteristics:
- a. Ring-shaped magnet with a relation between outer and inner diameter smaller or equal to 1.6:1;
 - b. Made of any of the following magnetic materials: aluminium-nickel-cobalt, ferrites, samarium-cobalt or neodymium-iron-boron.
- 3A902 All flash X-ray machines and parts or components of pulsed power systems designed therefrom, including Marx generators, high-power pulse-shaping networks, high-voltage capacitors and triggers
- 3A925 Frequency changers
- a. Frequency changers capable of operating in the frequency range of 300-600 Hz
 - b. Frequency changers (also known as converters or inverters) having all of the following characteristics, and specially designed software therefor:
 1. Multiphase frequency output;
 2. Capable of providing power of 40 W or greater; and
 3. Capable of operating anywhere (at any one point or more) within the frequency range between 600 Hz and 2,000 Hz.

Technical notes:

1. *Frequency changers are also known as converters or inverters.*
2. *The functionality specified above may be met by certain equipment described or marketed as electronic test equipment, AC power supplies, variable speed motor drives or variable frequency drives.*

3A933 Analytical instruments

- a. Mass spectrometers
- b. Chromatography and other spectrometry

3B902 Electronic equipment of synthesized frequencies within the range of 31.8 GHz or greater and power output of 100 mW or greater for time-delay generation or time-interval measurement, as follows:

- a. Digital time delay generators with a resolution of 50 nanoseconds or less over time intervals of 1 microsecond or greater; or
- b. Multichannel (i.e., with 3 or more channels) or modular time interval meters and chronometry equipment with resolution of 50 nanoseconds or less over time intervals of 1 microsecond or greater

CATEGORY 5 – TELECOMMUNICATIONS AND "INFORMATION SECURITY"

5A999 Countermeasure Subsystems and Penetration Aids (e.g. jammers, chaff, decoys) designed to saturate, confuse, or evade missile defenses.

CATEGORY 6 – SENSORS AND LASERS

6A903 Cameras, systems or equipment, and components therefor, as follows:

- a. High-speed imaging cameras except those used in medical imaging systems
- b. Radiation-hardened television cameras

CATEGORY 7 – NAVIGATION AND AVIONICS

7A901 Inertial equipment for any application, particularly for civilian aircraft, satellite, geophysical survey applications and their associated test equipment

7A916 Pyrotechnically Actuated Valves.

CATEGORY 9 – AEROSPACE AND PROPULSION

9A906 Turbo-pumps for liquid or hybrid rocket engines

9A917 Explosive bolts, nuts and shackles, flexible linear-shaped charges, ball locks, compression springs, circular cutting devices and acceleration rockets usable for staging mechanisms

9A915 Truck chassis with 6 or more axles

9B001 Rapid prototyping, including additive manufacturing equipment

- 9B905 Measurement and control equipment usable for wind tunnels (balance, thermal stream measurement, flow control)
- 9B906 All environmental test chambers capable of simulating flight conditions (temperature, pressure, shock and vibration) except those used for civilian aircraft safety purposes
- 9D105 Modeling and design software related to the modeling of aerodynamic and thermodynamic analysis of rocket or unmanned aerial vehicle systems

OTHER ITEMS**COAL**

- C9000 Coal

Note: Import of coal from DPRK is not prohibited provided that the total exports to all Member States of coal originating from the DPRK shall not exceed the aggregate of 400,870,018 US dollars or 7,500,000 metric tons and authorization is acquired from the STMO.

EARTH AND STONE INCLUDING MAGNESITE AND MAGNESIA

- E9000 HS Code 25 – Salt, sulphur; earths and stone; plastering materials, lime and cement

FOOD AND AGRICULTURAL PRODUCTS

- F9000 HS Code 07 – Edible vegetables and certain roots and tubers
- F9001 HS Code 08 – Edible fruit and nuts; peel of citrus fruit or melons
- F9002 HS Code 12 – Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder
- F9003 Seafood (including fish, crustaceans, mollusks, and other aquatic invertebrates in all forms)

**MACHINERY AND MECHANICAL APPLIANCES; ELECTRICAL EQUIPMENT; PARTS THEREOF;
SOUND RECORDERS AND REPRODUCERS, TELEVISION IMAGE AND SOUND RECORDERS
AND REPRODUCERS, AND PARTS AND ACCESSORIES OF SUCH ARTICLES**

- I9000 HS Code 84 – Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof
- I9001 HS Code 85 – Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts and accessories of such articles

METALS AND METAL ORES

- M9012 Iron except transactions intended exclusively for livelihood purposes

Note: Iron for export covered under the exception shall require and authorization from the STMO.

- M9013 Iron ore except transactions intended exclusively for livelihood purposes

Note: Iron ore for export covered under the exception shall require and authorization from the STMO.

M9014	Gold
M9015	Titanium Ore
M9016	Vanadium Ore
M9017	Rare earth minerals
M9018	Copper
M9019	Nickel
M9020	Zinc
M9021	Silver
M9022	Lead
M9023	Lead ore

STATUES

S9001	Statues
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TEXTILES

T9000	Textiles (including but not limited to fabrics and partially or fully completed apparel products)
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TRANSPORTATION VEHICLES

V9003	HS Code 89 – Ships, boats, and floating structures
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WOOD

W9000	HS Code 44 – Wood and articles of wood; wood charcoal
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ANNEX 3.3 – EXPORT, TRANSIT, AND TRANSSHIPMENT OF GOODS AND TECHNOLOGY TO IRAN

Items, materials, equipment, goods, and technology listed herein are items prohibited for export to Iran set out in the lists of United Nations Security Council Resolution (UNSCR) 2231 (2015) and its subsequent resolutions which could contribute to Iran's nuclear-related program.

These items, materials, equipment, goods, and technology are enumerated under the UNSC-related documents INFCIRC/254/Rev.13/Part1, INFCIRC/254/ Rev.10/Part 2, and S/2015/546. It includes arms and related material that could contribute to the development of nuclear weapon delivery systems. These items are also listed in Annex 1 and 2 of the National Strategic Goods List (NSGL).

EXCEPTION

The following criteria provide the exception prohibition for the export, transit, and transshipment of goods to Iran listed in the abovementioned UNSC-related documents. The export, transit, and transshipment shall require an authorization from the Strategic Trade Management Office (STMO) prior to its actual export, transit, or transshipment.

1. Any item which could contribute to reprocessing or enrichment-related or heavy water-related activities inconsistent with the Joint Comprehensive Plan of Action, which has been approved in advance by the UNSC;
2. Equipment covered by B.1 of INFCIRC/254/Rev.12/Part 1 when such equipment is for light water reactors;
3. Low-enriched uranium covered by A.1.2 of INFCIRC/254/Rev.12/Part 1 when it is incorporated in assembled nuclear fuel elements for such reactors;
4. Items, materials, equipment, goods, and technology that are directly related to the necessary modification of two cascades at the Fordow facility for stable isotope production, the export of Iran's enriched uranium in excess of 300 kilograms in return for natural uranium, and the modernization of the Arak reactor based on the agreed conceptual design and, subsequently, on the agreed final design of such reactor; or
5. Items, materials, equipment, goods, and technology covered by INFCIRC/254/Rev.12/ Part 1 and INFCIRC/254/Rev.9/Part 2, which have been approved in advance by the UNSC.

**ANNEX 3.4 – IMPORT, TRANSIT, AND TRANSSHIPMENT OF GOODS AND TECHNOLOGY FROM
IRAN**

The import, transit, and transshipment of arms and related materials from Iran are prohibited pursuant to United Nations Council Resolution (UNSCR) 2231 (2015) and its subsequent resolutions. These items are also listed in Annex 1 of the National Strategic Goods List (NSGL).