

NUMERICAL INDEX TO THE COMMERCE CONTROL LIST

ECCN	Description	Page
0A001	“Nuclear reactors”, i.e. reactors capable of operation so as to maintain a controlled, self-sustaining fission chain reaction, and equipment and components specially designed or prepared for use in connection with a “nuclear reactor”	Cat 0-1
0A002	Power generating or propulsion equipment specially designed for use with space, marine or mobile “nuclear reactors”. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 0-2
0A018	Items on the Wassenaar Munitions List	Cat 0-2
0A918	Miscellaneous Military Equipment not on the Wassenaar Munitions List	Cat 0-3
0A978	Saps.	Cat 0-3
0A979	Police helmets and shields; and parts, n.e.s.	Cat 0-3
0A980	Horses by sea	Cat 0-4
0A982	Restraint devices, including leg irons, shackles, and handcuffs; straight jackets, plastic handcuffs; and parts and accessories, n.e.s.	Cat 0-4
0A983	Specially designed implements of torture, thumbscrews, and thumbcuffs; and parts and accessories, n.e.s.	Cat 0-4
0A984	Shotguns, barrel length 18 inches (45.72 cm) inches or over; buckshot shotgun shells; except equipment used exclusively to treat or tranquilize animals, and except arms designed solely for signal, flare, or saluting use; and parts, n.e.s.	Cat 0-5
0A985	Discharge type arms (for example, stun guns, shock batons, electric cattle prods, immobilization guns and projectiles) except equipment used exclusively to treat or tranquilize animals, and except arms designed solely for signal, flare, or saluting use; and parts, n.e.s.	Cat 0-5
0A986	Shotgun shells, except buckshot shotgun shells, and parts.	Cat 0-6
0A987	Optical sighting devices for firearms (including shotguns controlled by 0A984); and parts, n.e.s.	Cat 0-6
0A988	Conventional military steel helmets as described by 0A018.f.1; and machetes	Cat 0-6
0A999	Specific processing equipment.	Cat 0-7
0B001	Plant for the separation of isotopes of “natural uranium” and “depleted uranium”, “special fissile materials” and “other fissile materials”, and specially designed or prepared equipment and components therefor	Cat 0-7
0B002	Specially designed or prepared auxiliary systems, equipment and components, as follows, (see List of Items Controlled) for isotope separation plant specified in 0B001, made of or protected by UF ₆ resistant materials	Cat 0-13
0B003	Plant for the conversion of uranium and equipment specially designed or prepared therefor	Cat 0-14
0B004	Plant for the production of heavy water, deuterium or deuterium compounds, and specially designed or prepared equipment and components therefor	Cat 0-14
0B005	Plant specially designed for the fabrication of “nuclear reactor” fuel elements and specially designed equipment therefor	Cat 0-15
0B006	Plant for the reprocessing of irradiated “nuclear reactor” fuel elements, and specially designed or prepared equipment and components therefor	Cat 0-16
0B986	Equipment specially designed for manufacturing shotgun shells; and ammunition hand-loading equipment for both cartridges and shotgun shells.	Cat 0-17
0B999	Specific processing equipment	Cat 0-17
0C001	Natural uranium or depleted uranium or thorium in the form of metal, alloy, chemical compound or concentrate and any other material containing one or more of the foregoing	Cat 0-18
0C002	“Special fissile materials” and “other fissile materials”; except, four “effective grams” or less when contained in a sensing component in instruments.	Cat 0-18
0C004	Deuterium, heavy water, deuterated paraffins and other compounds of deuterium, and mixtures and solutions containing deuterium, in which the isotopic ratio of deuterium to hydrogen exceeds 1:5000.	Cat 0-18
0C005	Graphite, nuclear-grade, having a purity level of less than 5 parts per million “boron equivalent” and with a density greater than 1.5 g/cm ³ .	Cat 0-19
0C006	Nickel powder or porous nickel metal, specially prepared for the manufacture of gaseous diffusion barriers	Cat 0-19
0C201	Specially prepared compounds or powders, other than nickel, resistant to corrosion by UF ₆ (e.g. aluminum oxide and fully fluorinated hydrocarbon polymers), for the manufacture of gaseous diffusion barriers, having a purity of 99.9 weight percent or more and a mean particle size of less than 10 micrometers measured by American Society for Testing and Materials (ASTM) B330 standard and a high degree of particle size uniformity.	Cat 0-20
0D001	“Software” specially designed or modified for the “development”, “production” or “use” of goods controlled by this Category.	Cat 0-20
0D999	Specific software	Cat 0-21

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0E001	“Technology” according to the Nuclear Technology Note for the “development”, “production” or “use” of items controlled by this Category.	Cat 0-21
0E018	“Technology” for the “development”, “production”, or “use” of items controlled by 0A018.a through 0A018.c	Cat 0-22
0E918	“Technology” for the “development”, “production”, or “use” of bayonets	Cat 0-22
0E982	“Technology” exclusively for the “development” or “production” of equipment controlled by 0A982 or 0A985.	Cat 0-22
0E984	“Technology” for the “development” or “production” of shotguns controlled by 0A984 and buckshot shotgun shells.	Cat 0-23
1A001	Components made from fluorinated compounds	Cat 1-1
1A002	“Composite” structures or laminates	Cat 1-1
1A003	Manufactures of non-fluorinated polymeric substances controlled by 1C008.a.3 in film, sheet, tape or ribbon form	Cat 1-2
1A004	Protective and detection equipment and components, not specially designed for military use.	Cat 1-3
1A005	Body armor, and specially designed components therefor, not manufactured to military standards or specifications, nor to their equivalents in performance.	Cat 1-4
●1A006	Equipment, specially designed or modified for the disposal of improvised explosive devices, as follows (see List of Items Controlled), and specially designed components and accessories therefor.	Cat 1-5
●1A007	Equipment and devices, specially designed to initiate charges and devices containing energetic materials, by electrical means, as follows (see List of Items Controlled).	Cat 1-6
1A101	Devices for reduced observables such as radar reflectivity, ultraviolet/infrared signatures and acoustic signatures, for applications usable in “missiles” and their subsystems	Cat 1-5
1A102	Resaturated pyrolyzed carbon-carbon components designed for rockets, missiles, or unmanned aerial vehicles capable of achieving a “range” equal to or greater than 300km. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 1-5
1A202	Composite structures, other than those controlled by 1A002, in the form of tubes with an inside diameter of between 75 mm and 400 mm made with any of the “fibrous or filamentary materials” specified in 1C210.a or with carbon prepreg materials controlled by 1C210.c.	Cat 1-5
1A225	Platinized catalysts specially designed or prepared for promoting the hydrogen isotope exchange reaction between hydrogen and water for the recovery of tritium from heavy water or for the production of heavy water.	Cat 1-6
1A226	Specialized packings for use in separating heavy water from ordinary water and made of phosphor bronze mesh (chemically treated to improve wettability) and designed for use in vacuum distillation towers.	Cat 1-6
1A227	High-density (lead glass or other) radiation shielding windows greater than 0.09 m ² on cold area and with a density greater than 3 g/cm ³ and a thickness of 100 mm or greater; and specially designed frames therefor. . .	Cat 1-7
1A290	Depleted uranium (any uranium containing less than 0.711% of the isotope U-235) in shipments of more than 1,000 kilograms in the form of shielding contained in X-ray units, radiographic exposure or teletherapy devices, radioactive thermoelectric generators, or packaging for the transportation of radioactive materials.	Cat 1-7
1A984	Chemical agents, including tear gas formulation containing 1 percent or less of orthochlorobenzalmalonitrile (CS), or 1 percent or less of chloroacetophenone (CN), <i>except in individual containers with a net weight of 20 grams or less</i> ; smoke bombs; non-irritant smoke flares, canisters, grenades and charges; and other pyrotechnic articles having dual military and commercial use.	Cat 1-8
1A985	Fingerprinting powders, dyes, and inks.	Cat 1-8
1A995	Protective and detection equipment and components not specially designed for military use and not controlled by ECCN 1A004 or ECCN 2B351.	Cat 1-8
1A999	Specific processing equipment	Cat 1-9
1B001	Equipment for the production of fibers, prepregs, preforms or “composites” controlled by 1A002 or 1C010, as follows (see List of Items Controlled), and specially designed components and accessories therefor.	Cat 1-9
1B002	Equipment for producing metal alloys, metal alloy powder or alloyed materials, specially designed to avoid contamination and specially designed for use in one of the processes specified in 1C002.c.2.	Cat 1-11
1B003	Tools, dies, molds or fixtures, for “superplastic forming” or “diffusion bonding” titanium or aluminum or their alloys	Cat 1-11
1B018	Equipment on the Wassenaar Arrangement Munitions List	Cat 1-11
1B101	Equipment, other than that controlled by 1B001, for the “production” of structural composites, fibers, prepregs or preforms as follows (see List of Items Controlled); and specially designed components, and accessories therefor.	Cat 1-12
1B102	Metal powder “production equipment,” other than that specified in 1B002, and components as follows (see List of Items Controlled)	Cat 1-13

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1B115	Equipment, other than that controlled in 1B002 or 1B102, for the “production” of propellant or propellant constituents, and specially designed components therefor.	Cat 1-14
1B116	Specially designed nozzles for producing pyrolytically derived materials formed on a mold, mandrel or other substrate from precursor gases which decompose in the 1,573 K (1,300 °C) to 3,173 K (2,900 °C) temperature range at pressures of 130 Pa to 20 kPa.	Cat 1-14
1B117	Batch mixers with provision for mixing under vacuum in the range from zero to 13.326 kPa and with temperature control capability of the mixing chamber and having all of the following characteristics (see List of Items Controlled), and specially designed components therefor.	Cat 1-15
1B118	Continuous mixers with provision for mixing under vacuum in the range from zero to 13.326 kPa and with temperature control capability of the mixing chamber and having all of the following characteristics (see List of Items Controlled), and specially designed components therefor	Cat 1-15
1B119	Fluid energy mills usable for grinding or milling propellant or propellant constituents specified in 1C011.a, 1C011.b or 1C111, or on the U.S. Munitions List, and specially designed components therefor . . .	Cat 1-16
1B201	Filament winding machines, other than those controlled by 1B001 or 1B101, in which the motions for positioning, wrapping, and winding fibers are coordinated and programmed in two or more axes, specially designed to fabricate composite structures or laminates from “fibrous or filamentary materials” and capable of winding cylindrical rotors of diameter between 75 mm and 400 mm and lengths of 600 mm or greater and coordinating and programming controls and precision mandrels therefor.	Cat 1-16
1B225	Electrolytic cells for fluorine production with a production capacity greater than 250 g of fluorine per hour.	Cat 1-17
1B226	Electromagnetic isotope separators, designed for or equipped with single or multiple ion sources capable of providing a total ion beam current of 50 mA or greater.	Cat 1-17
1B227	Ammonia synthesis converters or ammonia synthesis units in which the synthesis gas (nitrogen and hydrogen) is withdrawn from an ammonia/hydrogen high-pressure exchange column and the synthesized ammonia is returned to that column.	Cat 1-17
1B228	Hydrogen-cryogenic distillation columns	Cat 1-18
1B229	Water-hydrogen sulphide exchange tray columns constructed from fine carbon steel with a diameter of 1.8 m or greater, which can operate at a nominal pressure of 2 MPa or greater, and internal contactors therefor. .	Cat 1-18
1B230	Pumps capable of circulating solutions of concentrated or dilute potassium amide catalyst in liquid ammonia (KNH ₂ /NH ₃)	Cat 1-19
1B231	Tritium facilities, plant or equipment	Cat 1-20
1B232	Turboexpanders or turboexpander-compressor sets designed for operation at 35 K (-238° C) or less and a throughput of hydrogen gas of 1000 kg/hr or greater.	Cat 1-20
1B233	Lithium isotope separation facilities, plant and equipment	Cat 1-21
1B999	Specific processing equipment	Cat 1-21
1C001	Materials specially designed for use as absorbers of electromagnetic waves, or intrinsically conductive polymers	Cat 1-22
1C002	Metal alloys, metal alloy powder and alloyed materials	Cat 1-23
1C003	Magnetic metals, of all types and of whatever form	Cat 1-25
1C004	Uranium titanium alloys or tungsten alloys with a “matrix” based on iron, nickel or copper	Cat 1-26
1C005	“Superconductive” “composite” conductors in lengths exceeding 100 m or with a mass exceeding 100 g . . .	Cat 1-27
1C006	Fluids and lubricating materials	Cat 1-27
1C007	Ceramic base materials, non-“composite” ceramic materials, ceramic-“matrix” “composite” materials and precursor materials	Cat 1-29
1C008	Non-fluorinated polymeric substances	Cat 1-30
1C009	Unprocessed fluorinated compounds	Cat 1-31
1C010	“Fibrous or filamentary materials” which may be used in organic “matrix”, metallic “matrix” or carbon “matrix” “composite” structures or laminates	Cat 1-32
1C011	Metals and compounds	Cat 1-34
1C012	Materials	Cat 1-34
1C018	Commercial charges and devices containing energetic materials on the Wassenaar Arrangement Munitions List and certain chemicals	Cat 1-35
1C101	Materials for Reduced Observables such as Radar Reflectivity, Ultraviolet/Infrared Signatures and Acoustic Signatures (i.e., Stealth Technology), Other than Those Controlled by 1C001, for applications usable in rockets, missiles, or unmanned aerial vehicles capable of achieving a “range” equal to or greater than 300km, and their subsystems.	Cat 1-37
1C102	Resaturated pyrolyzed carbon-carbon materials designed for space launch vehicles specified in 9A004 or sounding rockets specified in 9A104. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 1-37
1C107	Graphite and ceramic materials, other than those controlled by 1C007	Cat 1-37

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1C111	Propellants and constituent chemicals for propellants, other than those specified in 1C011, as follows (see List of Items Controlled).	Cat 1-38
●1C116	Maraging steels (iron alloys generally characterized by high nickel, very low carbon content and the use of substitutional elements or precipitates to produce strengthening and age-hardening of the alloy) having an ultimate tensile strength equal to or greater than 1.5 GPa, measured at 293 K (20 °C), in the form of sheet, plate or tubing with a wall or plate thickness equal to or less than 5 mm.	Cat 1-40
1C117	Tungsten, molybdenum and alloys of these metals in the form of uniform, spherical or atomized particles of 500 micrometer diameter or less with a purity of 97% or greater for fabrication of rocket motor components, i.e., heat shields, nozzle substrates, nozzle throats and thrust vector control surfaces.	Cat 1-40
1C118	Titanium-stabilized duplex stainless steel (Ti-DSS), having all of the following characteristics (see List of Items Controlled).	Cat 1-40
1C202	Alloys, other than those controlled by 1C002.a.2.c or .d	Cat 1-41
1C210	“Fibrous or filamentary materials” or prepregs, other than those controlled by 1C010.a, b or e	Cat 1-42
1C216	Maraging steel, other than that controlled by 1C116, “capable of” an ultimate tensile strength of 2,050 MPa or more, at 293 K (20 °C)	Cat 1-43
1C225	Boron and boron compounds, mixtures and loaded materials in which the boron-10 isotope is more than 20% by weight of the total boron content.	Cat 1-43
1C226	Tungsten, tungsten carbide, and alloys containing more than 90% tungsten by weight, having a mass greater than 20 kg and in forms with a hollow cylindrical symmetry (including cylinder segments) with an inside diameter greater than 100 mm, but less than 300 mm, <i>except</i> manufactures specially designed for use as weights or gamma-ray collimators.	Cat 1-44
1C227	Calcium (high purity) containing both less than 1,000 parts per million by weight of metallic impurities other than magnesium and less than 10 parts per million by weight of boron.	Cat 1-44
1C228	Magnesium (high purity) containing both less than 200 parts per million by weight of metallic impurities other than calcium and less than 10 parts per million by weight of boron.	Cat 1-44
1C229	Bismuth with a purity of 99.99% or greater by weight and containing less than 10 parts per million by weight of silver.	Cat 1-45
1C230	Beryllium metal, alloys containing more than 50% of beryllium by weight, beryllium compounds, or manufactures thereof, and waste and scrap containing any of the foregoing.	Cat 1-45
1C231	Hafnium metal, alloys and compounds of hafnium containing more than 60% hafnium by weight and manufactures thereof, and waste and scrap containing any of the foregoing.	Cat 1-46
1C232	Helium-3, mixtures containing helium-3, and products or devices containing any of the foregoing, <i>except</i> a product or device containing less than 1 g of helium-3.	Cat 1-46
1C233	Lithium enriched in the 6 isotope (⁶ Li) to greater than 6.5 weight percent (7.5 atom percent), alloys, compounds, or mixtures containing lithium enriched in the 6 isotope, and products or devices containing any of the foregoing, <i>except</i> thermoluminescent dosimeters.	Cat 1-47
1C234	Zirconium with a hafnium content of less than 1 part hafnium to 500 parts zirconium by weight, in the form of metal, alloys containing more than 50% zirconium by weight, compounds, or manufactures thereof, <i>except</i> zirconium in the form of foil having a thickness not exceeding 0.10 mm.	Cat 1-47
1C235	Tritium, tritium compounds, mixtures containing tritium in which the ratio of tritium to hydrogen atoms exceeds 1 part in 1000, and products or devices containing any of the foregoing; <i>except</i> , a product or device containing not more than 1.48 x 10 ³ GBq (40 Ci) of tritium.	Cat 1-48
1C236	Alpha-emitting radionuclides having an alpha half-life of 10 days or greater, but less than 200 years, compounds or mixtures containing any of these radionuclides with a total alpha activity of 37 GBq/kg (1 Ci/kg) or greater, and products or devices containing any of the foregoing, <i>except</i> a product or device containing less than 3.7 GBq (100 millicuries) of alpha activity.	Cat 1-48
1C237	Radium-226, radium-226 alloys, radium-226 compounds, mixtures containing radium-226, manufactures thereof, and products or devices containing any of the foregoing, <i>except</i> medical applicators, or products or devices containing not more than 0.37 GBq (10 millicuries) of radium-226.	Cat 1-49
1C238	Chlorine trifluoride (ClF ₃)	Cat 1-49
1C239	High explosives, other than those controlled by the U.S. Munitions List, or substances or mixtures containing more than 2% thereof, with a crystal density greater than 1.8 gm per cm ³ and having a detonation velocity greater than 8,000 m/s.	Cat 1-49
1C240	Nickel powder or porous nickel metal, other than those controlled by 0C006	Cat 1-50
1C298	Graphite with a boron content of less than 5 parts per million and a density greater than 1.5 grams per cubic centimeter that is intended for use other than in a nuclear reactor	Cat 1-51
1C350	Chemicals that may be used as precursors for toxic chemical agents	Cat 1-51
1C351	Human and zoonotic pathogens and “toxins”	Cat 1-55
1C352	Animal pathogens	Cat 1-58
1C353	Genetic elements and genetically-modified organisms	Cat 1-59
1C354	Plant pathogens	Cat 1-60

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1C355	Chemical Weapons Convention (CWC) Schedule 2 and 3 chemicals and families of chemicals not controlled by ECCN 1C350 or by the Department of State under the ITAR	Cat 1-61
1C360	Select agents not controlled under ECCN 1C351, 1C352, or 1C354.	Cat 1-63
1C395	Mixtures and medical, analytical, diagnostic, and food testing kits not controlled by ECCN 1C350, as follows (see List of Items Controlled).	Cat 1-64
1C980	Inorganic chemicals listed in Supplement No. 1 to part 754 of the EAR that were produced or derived from the Naval Petroleum Reserves (NPR) or became available for export as a result of an exchange of any NPR produced or derived commodities.	Cat 1-66
1C981	Crude petroleum including reconstituted crude petroleum, tar sands & crude shale oil listed in Supplement No. 1 to part 754 of the EAR.	Cat 1-66
1C982	Other petroleum products listed in Supplement No. 1 to part 754 of the EAR that were produced or derived from the Naval Petroleum Reserves (NPR) or became available for export as a result of an exchange of any NPR produced or derived commodities.	Cat 1-66
1C983	Natural gas liquids and other natural gas derivatives listed in Supplement No. 1 to part 754 of the EAR that were produced or derived from the Naval Petroleum Reserves (NPR) or became available for export as a result of an exchange of any NPR produced or derived commodities.	Cat 1-67
1C984	Manufactured gas and synthetic natural gas (except when commingled with natural gas and thus subject to export authorization from the Department of Energy) listed in Supplement No. 1 to part 754 of the EAR that were produced or derived from the Naval Petroleum Reserves (NPR) or became available for export as a result of an exchange of any NPR produced or derived commodities.	Cat 1-67
1C988	Western red cedar (<i>Thuja plicata</i>), logs and timber, and rough, dressed and worked lumber containing wane listed in Supplement No. 2 to part 754 of the EAR.	Cat 1-67
1C990	Fibrous and filamentary materials, not controlled by 1C010 or 1C210, for use in "composite" structures and with a specific modulus of 3.18×10^6 m or greater and a specific tensile strength of 7.62×10^4 m or greater.	Cat 1-68
1C991	Vaccines, immunotoxins, medical products, diagnostic and food testing kits	Cat 1-68
1C992	Commercial charges and devices containing energetic materials, n.e.s., and nitrogen trifluoride in a gaseous state	Cat 1-69
1C995	Mixtures not controlled by ECCN 1C350, ECCN 1C355 or ECCN 1C395 that contain chemicals controlled by ECCN 1C350 or ECCN 1C355 and medical, analytical, diagnostic, and food testing kits not controlled by ECCN 1C350 or ECCN 1C395 that contain chemicals controlled by ECCN 1C350.d, as follows (see List of Items Controlled).	Cat 1-71
1C996	Hydraulic fluids containing synthetic hydrocarbon oils, having all the following characteristics (see List of Items Controlled)	Cat 1-72
1C997	Ammonium nitrate, including fertilizers and fertilizer blends containing more than 15% by weight ammonium nitrate, except liquid fertilizers (containing any amount of ammonium nitrate) or dry fertilizers containing less than 15% by weight ammonium nitrate.	Cat 1-73
1C998	Non-fluorinated polymeric substances, not controlled by 1C008, as follows (see List of Items Controlled).	Cat 1-73
1C999	Specific materials	Cat 1-74
1D001	"Software" specially designed or modified for the "development", "production" or "use" of equipment controlled by 1B001 to 1B003.	Cat 1-74
1D002	"Software" for the "development" of organic "matrix", metal "matrix" or carbon "matrix" laminates or "composites".	Cat 1-75
1D003	"Software" specially designed or modified to enable equipment to perform the functions of equipment controlled under 1A004.c.	Cat 1-75
1D018	"Software" specially designed or modified for the "development", "production", or "use" of items controlled by 1B018	Cat 1-75
1D101	"Software" specially designed or modified for the "use" of commodities controlled by 1B101, 1B102, 1B115, 1B117, 1B118, or 1B119.	Cat 1-76
1D103	"Software" specially designed for reduced observables such as radar reflectivity, ultraviolet/infrared signatures and acoustic signatures, for applications usable in "missiles" or their subsystems.	Cat 1-76
1D201	"Software" specially designed for the "use" of goods controlled by 1B201.	Cat 1-77
1D390	"Software" for process control that is specifically configured to control or initiate "production" of chemicals controlled by 1C350.	Cat 1-77
1D993	"Software" specially designed for the "development", "production", or "use" of equipment or materials controlled by 1C210.b or 1C990	Cat 1-77
1D999	Specific software	Cat 1-78
1E001	"Technology" according to the General Technology Note for the "development" or "production" of items controlled by 1A001.b, 1A001.c, 1A002, 1A003, 1A004, 1A005, 1A101, 1B (except 1B999), or 1C (except 1C355, 1C980 to 1C984, 1C988, 1C990, 1C991, 1C992, 1C995 to 1C999).	Cat 1-78

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1E002	Other "technology"	Cat 1-79
●1E001	"Technology" according to the General Technology Note for the "development" or "production" of items controlled by 1A001.b, 1A001.c, 1A002, 1A003, 1A004, 1A005, 1A006, 1A007, 1A101, 1B (except 1B999), or 1C (except 1C355, 1C980 to 1C984, 1C988, 1C990, 1C991, 1C992, 1C995 to 1C999).	Cat 1-81
1E102	"Technology" according to the General Technology Note for the "development" of software controlled by 1D001, 1D101 or 1D103.	Cat 1-81
1E103	"Technical data" (including processing conditions) and procedures for the regulation of temperature, pressure or atmosphere in autoclaves or hydroclaves, when used for the "production" of "composites" or partially processed "composites", usable for equipment or materials specified in 1C007, 1C102, 1C107, 1C116, 1C117, 1C118, 9A110, and 9C110.	Cat 1-82
1E104	"Technology" for the "production" of pyrolytically derived materials formed on a mold, mandrel or other substrate from precursor gases which decompose in the 1,573 K (1,300°C) to 3,173 K (2,900°C) temperature range at pressures of 130 Pa (1 mm Hg) to 20 kPa (150 mm Hg), including "technology" for the composition of precursor gases, flow-rates and process control schedules and parameters.	Cat 1-82
●1E201	"Technology" according to the General Technology Note for the "use" of items controlled by 1A002, 1A007, 1A202, 1A225 to 1A227, 1B201, 1B225 to 1B232, 1B233.b, 1C002.a.2.c or .d, 1C010.a, 1C010.b, 1C010.e.1, 1C202, 1C210, 1C216, 1C225 to 1C240 or 1D201.	Cat 1-82
1E202	"Technology" according to the General Technology Note for the "development" or "production" of goods controlled by 1A202 or 1A225 to 1A227.	Cat 1-83
1E203	"Technology" according to the General Technology Note for the "development" or "production" of "software" controlled by 1D201.	Cat 1-83
1E350	"Technology" according to the "General Technology Note" for facilities designed or intended to produce chemicals controlled by 1C350.	Cat 1-83
1E351	"Technology" according to the "General Technology Note" for the disposal of chemicals or microbiological materials controlled by 1C350, 1C351, 1C352, 1C353, 1C354, or 1C360.	Cat 1-84
1E355	"Technology" for the "production" of Chemical Weapons Convention (CWC) Schedule 2 and 3 chemicals	Cat 1-84
1E994	"Technology" for the "development", "production", or "use" of fibrous and filamentary materials controlled by 1C990.	Cat 1-85
1E998	"Technology" for the "development" or "production" of processing equipment controlled by 1B999, and materials controlled by 1C995, 1C996, 1C997, 1C998, and 1C999.	Cat 1-85
2A001	Anti-friction bearings and bearing systems, as follows, (see List of Items Controlled) and components therefor	Cat 2-1
2A225	Crucibles made of materials resistant to liquid actinide metals	Cat 2-2
2A226	Valves 5 mm or greater in "nominal size", with a bellows seal, wholly made of or lined with aluminum, aluminum alloy, nickel, or nickel alloy containing more than 60% nickel by weight	Cat 2-3
2A290	Generators and other equipment specially designed, prepared, or intended for use with nuclear plants	Cat 2-3
2A291	Equipment, except items controlled by 2A290, related to nuclear material handling and processing and to nuclear reactors	Cat 2-4
2A292	Piping, fittings and valves made of, or lined with, stainless steel, copper-nickel alloy or other alloy steel containing 10% or more nickel and/or chromium	Cat 2-4
2A293	Pumps designed to move molten metals by electromagnetic forces	Cat 2-5
2A983	Explosives or detonator detection equipment, both bulk and trace based, consisting of an automated device, or combination of devices for automated decision making to detect the presence of different types of explosives, explosive residue, or detonators; and parts and components, n.e.s.	Cat 2-6
2A991	Bearings and bearing systems not controlled by 2A001	Cat 2-6
2A994	Portable electric generators and specially designed parts	Cat 2-7
2A999	Specific processing equipment	Cat 2-8
●2B001	Machine tools and any combination thereof, for removing (or cutting) metals, ceramics or "composites", which, according to the manufacturer's technical specifications, can be equipped with electronic devices for "numerical control"; and specially designed components as follows (see List of Items Controlled).	Cat 2-8
●2B002	Numerically controlled optical finishing machine tools equipped for selective material removal to produce non-spherical optical surfaces having all of the following characteristics (See List of Items Controlled)...	Cat 2-11
2B003	"Numerically controlled" or manual machine tools, and specially designed components, controls and accessories therefor, specially designed for the shaving, finishing, grinding or honing of hardened (R _c = 40 or more) spur, helical and double-helical gears with a pitch diameter exceeding 1,250 mm and a face width of 15% of pitch diameter or larger finished to a quality of AGMA 14 or better (equivalent to ISO 1328 class 3)	Cat 2-12
2B004	Hot "isostatic presses", having all of the following characteristics described in the List of Items Controlled, and specially designed components and accessories therefor	Cat 2-12
2B005	Equipment specially designed for the deposition, processing and in-process control of inorganic overlays, coatings and surface modifications, as follows, for non-electronic substrates, by processes shown in the	

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	Table and associated Notes following 2E003.f, and specially designed automated handling, positioning, manipulation and control components therefor	Cat 2-13
2B006	Dimensional inspection or measuring systems and equipment	Cat 2-14
2B007	“Robots” having any of the following characteristics described in the List of Items Controlled and specially designed controllers and “end-effectors” therefor	Cat 2-15
2B008	Assemblies or units, specially designed for machine tools, or dimensional inspection or measuring systems and equipment, as follows (see List of Items Controlled).	Cat 2-16
2B009	Spin-forming machines and flow-forming machines, which, according to the manufacturer’s technical specifications, can be equipped with “numerical control” units or a computer control	Cat 2-17
2B018	Equipment on the Wassenaar Arrangement Munitions List	Cat 2-17
2B104	“Isostatic presses” other than those controlled by 2B004	Cat 2-19
2B105	Chemical vapor deposition (CVD) furnaces, other than those controlled by 2B005.a, designed or modified for the densification of carbon-carbon composites	Cat 2-19
2B109	Flow-forming machines, other than those controlled by 2B009, and specially designed components therefor	Cat 2-20
2B116	Vibration test systems, equipment and components therefor	Cat 2-21
2B117	Equipment and process controls, other than those controlled by 2B004, 2B005.a, 2B104 or 2B105, designed or modified for the densification and pyrolysis of structural composite rocket nozzles and reentry vehicle nose tips	Cat 2-21
2B119	Balancing machines and related equipment, as follows (see List of Items Controlled)	Cat 2-22
2B120	Motion simulators or rate tables (equipment capable of simulating motion), having all of the following characteristics (see List of Items Controlled)	Cat 2-22
2B121	Positioning tables (equipment capable of precise rotary position in any axis), other than those controlled in 2B120, having all the following characteristics (See List of Items Controlled)	Cat 2-23
2B122	Centrifuges capable of imparting accelerations above 100 g and having slip rings capable of transmitting electrical power and signal information	Cat 2-24
2B201	Machine tools, other than those controlled by 2B001 for removing or cutting metals, ceramics or “composites”, which, according to manufacturer’s technical specification, can be equipped with electronic devices for simultaneous “contouring control” in two or more axes	Cat 2-24
2B204	“Isostatic presses,” not controlled by 2B004 or 2B104, capable of achieving a maximum working pressure of 69 Mpa (10,000 psi) or greater and having a chamber cavity with an inside diameter in excess of 152 mm (6 inches) and specially designed dies, molds, and controls therefor	Cat 2-25
2B206	Dimensional inspection machines, devices or systems, other than those controlled by 2B006	Cat 2-26
2B207	“Robots” or “end-effectors”, other than those controlled by 2B007, specially designed to comply with national safety standards applicable to handling high explosives (for example, meeting electrical code ratings for high explosives) and specially designed controllers therefor	Cat 2-27
2B209	Flow forming machines, or spin forming machines capable of flow forming functions, other than those controlled by 2B009 or 2B109, and mandrels	Cat 2-27
2B225	Remote manipulators that can be used to provide remote actions in radiochemical separation operations or hot cells	Cat 2-28
2B226	Controlled atmosphere (vacuum or inert gas) induction furnaces capable of operation above 1,123 K (850 °C) and having induction coils 600 mm or less in diameter, and designed for power inputs of 5 kW or more, and power supplies specially designed therefor with a specified power output of 5 kW or more	Cat 2-28
2B227	Vacuum or other controlled atmosphere metallurgical melting and casting furnaces and specially configured computer control and monitoring systems therefor	Cat 2-29
2B228	Rotor fabrication and assembly equipment, rotor straightening equipment, and bellows-forming mandrels and dies	Cat 2-30
2B229	Centrifugal multiplane balancing machines, fixed or portable, horizontal or vertical	Cat 2-30
2B230	“Pressure transducers” capable of measuring absolute pressure at any point in the range 0 to 13 kPa, with pressure sensing elements made of or protected by nickel, nickel alloy with more than 60% nickel by weight, aluminum or aluminum alloy	Cat 2-31
2B231	Vacuum pumps with an input throat size of 380 mm or greater with a pumping speed of 15 m ³ /s or greater and capable of producing an ultimate vacuum better than 13.3 mPa	Cat 2-32
2B232	Multistage light gas guns or other high-velocity gun systems (coil, electromagnetic, electrothermal, and other advanced systems) capable of accelerating projectiles to 2 km/s or greater	Cat 2-32
2B290	“Numerically controlled” machine tools not controlled by 2B001 or 2B201	Cat 2-33
2B350	Chemical manufacturing facilities and equipment, except valves controlled by 2A226 or 2A292	Cat 2-33
●2B351	Toxic gas monitoring systems that operate on-line and dedicated detectors therefor, as follows, except those systems and detectors controlled by ECCN 1A004.c (see List of Items Controlled)	Cat 2-36
2B352	Equipment capable of use in handling biological materials	Cat 2-37
2B991	Numerical control units for machine tools and numerically controlled machine tools, n.e.s	Cat 2-39

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2B992	Non-“numerically controlled” machine tools for generating optical quality surfaces, and specially designed components therefor	Cat 2-41
2B993	Gearmaking and/or finishing machinery not controlled by 2B003 capable of producing gears to a quality level of better than AGMA 11	Cat 2-41
2B996	Dimensional inspection or measuring systems or equipment not controlled by 2B006	Cat 2-42
2B997	“Robots” not controlled by 2B007 or 2B207 that are capable of employing feedback information in real-time processing from one or more sensors to generate or modify “programs” or to generate or modify numerical program data	Cat 2-42
2B998	Assemblies, units or inserts specially designed for machine tools controlled by 2B991, or for equipment controlled by 2B993, 2B996 or 2B997	Cat 2-42
2B999	Specific processing equipment	Cat 2-43
2D001	“Software”, other than that controlled by 2D002, specially designed or modified for the “development”, “production” or “use” of equipment controlled by 2A001 or 2B001 to 2B009	Cat 2-44
2D002	“Software” for electronic devices, even when residing in an electronic device or system, enabling such devices or systems to function as a “numerical control” unit, capable of coordinating simultaneously more than 4 axes for “contouring control”.	Cat 2-45
2D018	“Software” for the “development”, “production” or “use” of equipment controlled by 2B018	Cat 2-45
2D101	“Software” specially designed or modified for the “use” of equipment controlled by 2B104, 2B105, 2B109, 2B116, 2B117, or 2B119 to 2B122.	Cat 2-45
2D201	“Software” specially designed for the “use” of equipment controlled by 2B204, 2B206, 2B207, 2B209, 2B227 or 2B229	Cat 2-46
2D202	“Software” specially designed or modified for the “development”, “production” or “use” of equipment controlled by 2B201	Cat 2-46
2D290	“Software” specially designed or modified for the “development”, “production” or “use” of items controlled by 2A290, 2A291, 2A292, 2A293, or 2B290	Cat 2-47
2D983	“Software” specially designed or modified for the “development”, “production” or “use” of equipment controlled by 2A983.	Cat 2-47
2D991	“Software” specially designed for the “development”, “production”, or “use” of equipment controlled by 2B991, 2B993, or 2B996, 2B997, and 2B998.	Cat 2-47
2D992	Adaptive control software	Cat 2-48
2D994	“Software” specially designed for the “development” or “production” of portable electric generators controlled by 2A994	Cat 2-48
2E001	“Technology” according to the General Technology Note for the “development” of equipment or “software” controlled by 2A (except 2A983, 2A991, or 2A994), 2B (except 2B991, 2B993, 2B996, 2B997, or 2B998), or 2D (except 2D983, 2D991, 2D992, or 2D994)	Cat 2-49
2E002	“Technology” according to the General Technology Note for the “production” of equipment controlled by 2A (except 2A983, 2A991, or 2A994), or 2B (except 2B991, 2B993, 2B996, 2B997, or 2B998)	Cat 2-50
2E003	Other “technology”	Cat 2-50
2E018	“Technology” for the “use” of equipment controlled by 2B018	Cat 2-65
2E101	“Technology” according to the General Technology Note for the “use” of equipment or “software” controlled by 2B004, 2B009, 2B104, 2B105, 2B109, 2B116, 2B117, 2B119 to 2B122, 2D001, 2D002 or 2D101.	Cat 2-65
2E201	“Technology” according to the General Technology Note for the “use” of equipment or “software” controlled by 2A225, 2A226, 2B001, 2B006, 2B007.b, 2B007.c, 2B201, 2B204, 2B206, 2B207, 2B209, 2B225 to 2B232, 2D002, 2D201 or 2D202 for NP reasons.	Cat 2-66
2E290	“Technology” according to the General Technology Note for the “use” of equipment controlled by 2A290, 2A291, 2A292, 2A293, and 2B290	Cat 2-66
2E301	“Technology” according to the “General Technology Note” for “use” of items controlled by 2B350, 2B351 and 2B352	Cat 2-66
2E983	“Technology” specially designed or modified for the “development”, “production” or “use” of equipment controlled by 2A983, or the “development” of software controlled by 2D983	Cat 2-67
2E991	“Technology” for the “use” of equipment controlled by 2B991, 2B993, 2B996, or 2B997	Cat 2-67
2E994	“Technology” for the “use” of portable electric generators controlled by 2A994	Cat 2-67
●3A001	Electronic components and specially designed components therefor, as follows.	Cat 3-1
●3A002	General purpose electronic equipment and accessories therefor, as follows.	Cat 3-10
3A003	Spray cooling thermal management systems employing closed loop fluid handling and reconditioning equipment in a sealed enclosure where a dielectric fluid is sprayed onto electronic components using specially designed spray nozzles that are designed to maintain electronic components within their operating temperature range, and specially designed components therefor.	Cat 3-13
3A101	Electronic equipment, devices and components, other than those controlled by 3A001	Cat 3-13
3A201	Electronic components, other than those controlled by 3A001	Cat 3-14

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3A225	Frequency changers (also known as converters or inverters) or generators, other than those controlled by 0B001.c.11	Cat 3-15
3A226	High-Power direct current power supplies, other than those controlled by 0B001.j.6, capable of continuously producing, over a time period of 8 hours, 100 V or greater with current output of 500 A or greater and with current or voltage regulation better than 0.1%	Cat 3-16
3A227	High-voltage direct current power supplies, other than those controlled by 0B001.j.5, capable of continuously producing, over a time period of 8 hours, 20,000 V or greater with current output of 1 A or greater and with current or voltage regulation better than 0.1% over a time period of 8 hours	Cat 3-16
3A228	Switching devices	Cat 3-17
3A229	Firing sets and equivalent high-current pulse generators (for detonators controlled by 3A232)	Cat 3-17
3A230	High-speed pulse generators with output voltages greater than 6 volts into a resistive load of less than 55 ohms, and with pulse transition times less than 500 picoseconds	Cat 3-18
3A231	Neutron generator systems, including tubes, designed for operation without an external vacuum system and utilizing electrostatic acceleration to induce a tritium-deuterium nuclear reaction	Cat 3-19
3A232	Detonators and multipoint initiation systems	Cat 3-19
3A233	Mass spectrometers, other than those controlled by 0B002.g, capable of measuring ions of 230 atomic mass units or greater and having a resolution of better than 2 parts in 230, and ion sources therefor	Cat 3-20
3A292	Oscilloscopes and transient recorders other than those controlled by 3A002.a.5, and specially designed components therefor	Cat 3-21
3A980	Voice print identification and analysis equipment and parts, n.e.s.	Cat 3-21
3A981	Polygraphs (except biomedical recorders designed for use in medical facilities for monitoring biological and neurophysiological responses); fingerprint analyzers, cameras and equipment, n.e.s.; automated fingerprint and identification retrieval systems, n.e.s.; psychological stress analysis equipment; electronic monitoring restraint devices; and specially designed parts and accessories, n.e.s.	Cat 3-22
3A991	Electronic devices and components not controlled by 3A001	Cat 3-22
3A992	General purpose electronic equipment not controlled by 3A002.	Cat 3-25
3A999	Specific processing equipment	Cat 3-25
●3B001	Equipment for the manufacturing of semiconductor devices or materials, as follows (see List of Items Controlled) and specially designed components and accessories therefor	Cat 3-26
3B002	Test equipment, specially designed for testing finished or unfinished semiconductor devices, as follows (see List of Items Controlled), and specially designed components and accessories therefor.	Cat 3-28
3B991	Equipment not controlled by 3B001 for the manufacture of electronic components and materials, and specially designed components and accessories therefor	Cat 3-29
3B992	Equipment not controlled by 3B002 for the inspection or testing of electronic components and materials, and specially designed components and accessories therefor	Cat 3-33
3C001	Hetero-epitaxial materials consisting of a "substrate" having stacked epitaxially grown multiple layers	Cat 3-35
●3C002	Resist materials as follows (see List of Items Controlled) and "substrates" coated with the following resists..	Cat 3-36
3C003	Organo-inorganic compounds	Cat 3-36
3C004	Hydrides of phosphorus, arsenic or antimony, having a purity better than 99.999%, even diluted in inert gases or hydrogen.	Cat 3-37
●3C005	Silicon carbide (SiC), gallium nitride (GaN), aluminum nitride (AlN) or aluminum gallium nitride (AlGaN) "substrates", or ingots, boules, or other preforms of those materials, having resistivities greater than 10,000 ohm-cm at 20°C.	Cat 3-37
●3C006	"Substrates" specified in 3C005 with at least one epitaxial layer of silicon carbide, gallium nitride, aluminum nitride or aluminum gallium nitride.	Cat 3-37
3C992	Positive resists designed for semiconductor lithography specially adjusted (optimized) for use at wavelengths between 370 and 245 nm.	Cat 3-38
3D001	"Software" specially designed for the "development" or "production" of equipment controlled by 3A001.b to 3A002.g or 3B (except 3B991 and 3B992)	Cat 3-38
3D002	"Software" specially designed for the "use" of any of the following (see List of Items Controlled).	Cat 3-39
3D003	Physics-based simulation "software" specially designed for the "development" of lithographic, etching or deposition processes for translating masking patterns into specific topographical patterns in conductors, dielectrics or semiconductor materials.	Cat 3-39
3D004	"Software" specially designed for the "development" of the equipment controlled by 3A003.	Cat 3-40
3D101	"Software" specially designed or modified for the "use" of equipment controlled by 3A101.b.	Cat 3-40
3D980	"Software" specially designed for the "development", "production", or "use" of items controlled by 3A980 and 3A981	Cat 3-40
3D991	"Software" specially designed for the "development", "production", or "use" of electronic devices or components controlled by 3A991, general purpose electronic equipment controlled by 3A992, or manufacturing and test equipment controlled by 3B991 and 3B992; or "software" specially designed for the "use" of equipment controlled by 3B001.g and .h.	Cat 3-41

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●3E001	“Technology” according to the General Technology Note for the “development” or “production” of equipment or materials controlled by 3A (except 3A292, 3A980, 3A981, 3A991 3A992, or 3A999), 3B (except 3B991 or 3B992) or 3C (except 3C992)..	Cat 3-41
3E002	“Technology” according to the General Technology Note other than that controlled in 3E001 for the “development” or “production” of a “microprocessor microcircuit”, “micro-computer microcircuit” and microcontroller microcircuit core, having an arithmetic logic unit with an access width of 32 bits or more and any of the following features or characteristics (see List of Items Controlled).	Cat 3-42
3E003	Other “technology” for the “development” or “production” of items described in the List of Items Controlled	Cat 3-43
3E101	“Technology” according to the General Technology Note for the “use” of equipment or “software” controlled by 3A001.a.1 or .2, 3A101, or 3D101.	Cat 3-44
3E102	“Technology” according to the General Technology Note for the “development” of “software” controlled by 3D101	Cat 3-44
3E201	Technology” according to the General Technology Note for the “use” of equipment controlled by 3A001.e.2 or .e.3, 3A201, or 3A225 to 3A233	Cat 3-45
3E292	“Technology” according to the General Technology Note for the “development”, “production”, or “use” of equipment controlled by 3A292	Cat 3-45
3E980	“Technology” specially designed for “development”, “production”, or “use” of items controlled by 3A980 and 3A981	Cat 3-45
3E991	“Technology” for the “development”, “production”, or “use” of electronic devices or components controlled by 3A991, general purpose electronic equipment controlled by 3A992, or manufacturing and test equipment controlled by 3B991 or 3B992, or materials controlled by 3C992.	Cat 3-46
4A001	Electronic computers and related equipment, and “electronic assemblies” and specially designed components therefor	Cat 4-1
4A003	“Digital computers”, “electronic assemblies”, and related equipment therefor, as follows, and specially designed components therefor.	Cat 4-2
4A004	Computers, as follows (see List of Items Controlled) and specially designed related equipment, “electronic assemblies” and components therefor	Cat 4-4
4A101	Analog computers, “digital computers” or digital differential analyzers, other than those controlled by 4A001 designed or modified for use in “missiles”	Cat 4-4
4A102	“Hybrid computers” specially designed for modelling, simulation or design integration of “missiles”. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 4-5
4A980	Computers for fingerprint equipment, n.e.s.	Cat 4-5
4A994	Computers, “electronic assemblies”, and related equipment not controlled by 4A001 or 4A003, and specially designed components therefor	Cat 4-5
4B994	Equipment for the “development” and “production” of magnetic and optical storage equipment	Cat 4-7
4C994	Materials specially formulated for and required for the fabrication of head/disk assemblies for controlled magnetic and magneto-optical hard disk drives	Cat 4-8
4D001	Specified “software”, see List of Items Controlled.	Cat 4-8
4D002	“Software” specially designed or modified to support “technology” controlled by 4E (except 4E980, 4E992, and 4E993)	Cat 4-9
4D003	Specific “software”	Cat 4-9
4D980	“Software” specially designed for the “development”, “production”, or “use” of items controlled by 4A980	Cat 4-10
●4D993	“Program” proof and validation “software”, “software” allowing the automatic generation of “source codes”, and operating system “software” not controlled by 4D003 that are specially designed for real time processing equipment (see List of Items Controlled)	Cat 4-10
4D994	“Software” other than that controlled in 4D001 specially designed or modified for the “development”, “production”, or “use” of equipment controlled by 4A101, 4A994, 4B994, and materials controlled by 4C994.	Cat 4-10
4E001	Specified “technology”, see List of Items Controlled.. . . .	Cat 4-11
4E980	“Technology” for the “development”, “production”, or “use” of items controlled by 4A980	Cat 4-12
4E992	“Technology” other than that controlled in 4E001 for the “development”, “production”, or “use” of equipment controlled by 4A994 and 4B994, materials controlled by 4C994, or “software” controlled by 4D993 or 4D994.	Cat 4-12
4E993	Other “Technology” for the “development” or “production” of graphics accelerators or equipment designed for “multi-data-stream processing” and “technology” “required” for the “development” or “production” of magnetic hard disk drives	Cat 4-12
5A001	Telecommunications systems, equipment, components and accessories, as follows	Cat 5-Pt1-1
●5A002	“Information security” systems, equipment and components therefor, as follows.. . . .	Cat 5-Pt2-1

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5A101	Telemetry and telecontrol equipment, including ground equipment, designed or modified for unmanned aerial vehicles or rocket systems (including ballistic missile systems, space launch vehicles, sounding rockets, cruise missile systems, target drones, and reconnaissance drones) capable of a maximum "range" equal to or greater than 300 km	Cat 5-Pt1-4
5A980	Devices primarily useful for the surreptitious interception of wire, oral, or electronic communications; and parts and accessories therefor.	Cat 5-Pt1-4
5A991	Telecommunication equipment, not controlled by 5A001.	Cat 5-Pt1-5
5A992	Equipment not controlled by 5A002.	Cat 5-Pt2-4
5B001	Telecommunication test, inspection and production equipment, as follows (See List of Items Controlled).	Cat 5-Pt1-9
5B002	Information Security - test, inspection and "production" equipment	Cat 5-Pt2-4
5B991	Telecommunications test equipment	Cat 5-Pt1-10
5C991	Preforms of glass or of any other material optimized for the manufacture of optical fibers controlled by 5A991.	Cat 5-Pt1-10
5D001	"Software", as described in the List of Items Controlled	Cat 5-Pt1-11
5D002	Information Security - "Software"	Cat 5-Pt2-5
5D101	"Software" specially designed or modified for the "use" of items controlled by 5A101.	Cat 5-Pt1-12
5D980	Other "software", as follows (see List of Items Controlled).	Cat 5-Pt1-12
5D991	"Software" specially designed or modified for the "development", "production", or "use" of equipment controlled by 5A991 and 5B991, and dynamic adaptive routing software as described in the List of Items Controlled.	Cat 5-Pt1-13
5D992	"Information Security" "software" not controlled by 5D002	Cat 5-Pt2-6
5E001	"Technology"	Cat 5-Pt1-13
5E002	"Technology" according to the General Technology Note for the "development", "production" or "use" of equipment controlled by 5A002 or 5B002 or "software" controlled by 5D002	Cat 5-Pt2-6
5E101	"Technology" according to the General Technology Note for the "development", "production" or "use" of equipment or software controlled by 5A101 or 5D101	Cat 5-Pt1-15
5E980	"Technology" primarily useful for the "development", "production", or "use" of equipment controlled by 5A980	Cat 5-Pt1-15
5E991	"Technology" for the "development", "production" or "use" of equipment controlled by 5A991 or 5B991, or "software" controlled by 5D991	Cat 5-Pt1-15
5E992	"Information Security" "technology", not controlled by 5E002	Cat 5-Pt2-7
●6A001	Acoustic systems, equipment and components, as follows.	Cat 6-1
6A002	Optical sensors	Cat 6-4
6A003	Cameras	Cat 6-9
6A004	Optics	Cat 6-12
6A005	"Lasers" (other than those described in 0B001.g.5 or .h.6), components and optical equipment	Cat 6-14
6A006	"Magnetometers", "magnetic gradiometers", "intrinsic magnetic gradiometers", underwater electric field sensors, and "compensation systems", and specially designed components therefor, as follows (see List of Items Controlled).	Cat 6-22
6A007	Gravity meters (gravimeters) and gravity gradiometers	Cat 6-23
6A008	Radar systems, equipment and assemblies having any of the following characteristics (see List of Items Controlled), and specially designed components therefor	Cat 6-24
6A102	Radiation hardened detectors, other than those controlled by 6A002, specially designed or modified for protecting against nuclear effects (e.g., Electromagnetic Pulse (EMP), X-rays, combined blast and thermal effects) and usable for "missiles", designed or rated to withstand radiation levels which meet or exceed a total irradiation dose of 5 x 10 ⁵ rads (silicon).	Cat 6-26
6A103	Radomes designed to withstand a combined thermal shock greater than 100 cal/sq cm accompanied by a peak over pressure of greater than 50 kPa, usable in protecting "missiles" against nuclear effects (e.g. Electromagnetic Pulse (EMP), X-rays, combined blast and thermal effects), and usable for "missiles". (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 6-27
6A107	Gravity meters (gravimeters) and specially designed components for gravity meters and gravity gradiometers, as follows (see List of Items Controlled).	Cat 6-27
6A108	Radar systems and tracking systems, other than those controlled by 6A008	Cat 6-27
6A202	Photomultiplier tubes with a photocathode area of greater than 20 cm ² having an anode pulse rise time of less than 1 ns	Cat 6-28
6A203	Cameras and components, other than those controlled by 6A003	Cat 6-28
6A205	"Lasers", "laser" amplifiers and oscillators, other than those controlled by 0B001.g.5, 0B001.h.6, or 6A005, as follows (see List of Items Controlled).	Cat 6-29
6A225	Velocity interferometers for measuring velocities in excess of 1 km/s during time intervals of less than	

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	10 microseconds	Cat 6-31
6A226	Pressure sensors	Cat 6-31
6A991	Marine or terrestrial acoustic equipment, n.e.s., capable of detecting or locating underwater objects or features or positioning surface vessels or underwater vehicles; and specially designed components, n.e.s. . . .	Cat 6-32
6A992	Optical Sensors, not controlled by 6A002	Cat 6-32
6A993	Cameras not controlled by 6A003 or 6A203, as follows (see List of Items Controlled)	Cat 6-33
6A994	Optics, not controlled by 6A004	Cat 6-33
●6A995	“Lasers” (see List of Items Controlled).	Cat 6-34
6A996	“Magnetometers” not controlled by 6A006, “Superconductive” electromagnetic sensors, and specially designed components therefore, as follows (see List of Items Controlled)	Cat 6-36
6A997	Gravity meters (gravimeters) for ground use, n.e.s.	Cat 6-36
6A998	Radar systems, equipment and assemblies, n.e.s., (see List of Items Controlled), and specially designed components therefor.	Cat 6-37
6A999	Specific processing equipment	Cat 6-37
6B004	Optical equipment	Cat 6-37
6B007	Equipment to produce, align and calibrate land-based gravity meters with a static accuracy of better than 0.1 mgal	Cat 6-38
6B008	Pulse radar cross-section measurement systems having transmit pulse widths of 100 ns or less and specially designed components therefor	Cat 6-38
6B108	Systems, other than those controlled by 6B008, specially designed for radar cross section measurement usable for rockets, missiles, or unmanned aerial vehicles capable of achieving a “range” equal to or greater than 300 km and their subsystems.	Cat 6-39
6B995	Specially designed or modified equipment, including tools, dies, fixtures or gauges, and other specially designed components and accessories therefor	Cat 6-39
6C002	Optical sensor materials	Cat 6-39
6C004	Optical materials	Cat 6-40
6C005	Synthetic crystalline “laser” host material in unfinished form	Cat 6-41
6C992	Optical sensing fibers not controlled by 6A002.d.3 which are modified structurally to have a ‘beat length’ of less than 500 mm (high birefringence) or optical sensor materials not described in 6C002.b and having a zinc content of equal to or more than 6% by ‘mole fraction.’	Cat 6-41
6C994	Optical materials	Cat 6-42
6D001	“Software” specially designed for the “development” or “production” of equipment controlled by 6A004, 6A005, 6A008 or 6B008	Cat 6-42
6D002	“Software” specially designed for the “use” of equipment controlled by 6A002.b, 6A008 or 6B008	Cat 6-43
6D003	Other “software”	Cat 6-44
6D102	“Software” specially designed or modified for the “use” of goods controlled by 6A108.	Cat 6-45
6D103	“Software” that processes post-flight, recorded data, enabling determination of vehicle position throughout its flight path, specially designed or modified for “missiles”.	Cat 6-45
6D991	“Software” specially designed for the “development”, “production”, or “use” of equipment controlled by 6A002.e, 6A991, 6A996, 6A997, or 6A998.	Cat 6-46
6D992	“Software” specially designed for the “development” or “production” of equipment controlled by 6A992, 6A994, or 6A995	Cat 6-46
6D993	Other “software” not controlled by 6D003	Cat 6-46
6E001	“Technology” according to the General Technology Note for the “development” of equipment, materials or “software” controlled by 6A (except 6A991, 6A992, 6A994, 6A995, 6A996, 6A997, or 6A998), 6B (except 6B995), 6C (except 6C992 or 6C994), or 6D (except 6D991, 6D992, or 6D993)	Cat 6-47
6E002	“Technology” according to the General Technology Note for the “production” of equipment or materials controlled by 6A (except 6A991, 6A992, 6A994, 6A995, 6A996, 6A997 or 6A998), 6B (except 6B995) or 6C (except 6C992 or 6C994)	Cat 6-48
6E003	Other “technology”	Cat 6-49
6E101	“Technology” according to the General Technology Note for the “use” of equipment or “software” controlled by 6A002, 6A007.b and .c, 6A008, 6A102, 6A107, 6A108, 6B108, 6D102 or 6D103	Cat 6-50
6E201	“Technology”, not controlled by 6E001 or 6E002, according to the General Technology Note for the “use” of equipment controlled by 6A003.a.2, 6A003.a.3, 6A003.a.4; 6A005.a.2, 6A005.a.4, 6A005.b.2.b, 6A005.b.3.a, 6A005.b.4.b, 6A005.b.6.b, 6A005.c.1.b, 6A005.c.2.b, 6A005.d.3.c, or 6A005.d.4.c (as described in the license requirement note to 6A005); 6A202, 6A203, 6A205, 6A225 or 6A226.	Cat 6-51
6E991	“Technology” for the “development”, “production” or “use” equipment controlled by 6A991, 6A996, 6A997, or 6A998	Cat 6-51
6E992	“Technology” for the “development” or “production” of equipment, materials or “software” controlled by 6A992, 6A994, or 6A995, 6B995, 6C992, 6C994, or 6D993	Cat 6-51
6E993	Other “technology”, not controlled by 6E003	Cat 6-52

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7A001	Accelerometers as follows (see List of Items Controlled), and specially designed components therefor.	Cat 7-1
7A002	Gyros or angular rate sensors, having any of the following characteristics (see List of Items Controlled), and specially designed components therefor.	Cat 7-2
7A003	Inertial Systems and specially designed components therefor.	Cat 7-2
7A004	Gyro-astro compasses, and other devices which derive position or orientation by means of automatically tracking celestial bodies or satellites, with an azimuth accuracy of equal to or less (better) than 5 seconds of arc.	Cat 7-4
7A005	Global navigation satellite systems (i.e. GPS or GLONASS) receiving equipment, and specially designed components therefor. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 7-4
7A006	Airborne altimeters operating at frequencies other than 4.2 to 4.4 GHz inclusive	Cat 7-4
7A008	Underwater sonar navigation systems, using Doppler velocity or correlation velocity logs integrated with a heading source, having a positioning accuracy of equal to or less (better) than 3% of distance traveled Circular Error Probable (CEP), and specially designed components therefore.	Cat 7-5
7A101	Accelerometers, other than those controlled by 7A001 (see List of Items Controlled), and specially designed components therefor.	Cat 7-5
7A102	All types of gyros, other than those controlled by 7A002, usable in rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km, with a rated "drift rate" "stability" of less than 0.5 degrees (1 sigma or rms) per hour in a 1 g environment and specially designed components therefor	Cat 7-6
7A103	Instrumentation, navigation equipment and systems, other than those controlled by 7A003, and specially designed components therefor.	Cat 7-6
7A104	Gyro-astro compasses and other devices, other than those controlled by 7A004, which derive position or orientation by means of automatically tracking celestial bodies or satellites and specially designed components therefor	Cat 7-7
7A105	Receiving equipment for Global Navigation Satellite Systems (GNSS) (e.g. GPS, GLONASS, or Galileo) having any of the following characteristics, and specially designed components therefor. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls See 22 CFR part 121)	Cat 7-8
7A106	Altimeters, other than those controlled by 7A006, of radar or laser radar type, designed or modified for use in "missiles". (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 7-8
7A107	Three axis magnetic heading sensors having <i>all</i> of the following characteristics, and specially designed components therefor.	Cat 7-8
7A115	Passive sensors for determining bearing to specific electromagnetic source (direction finding equipment) or terrain characteristics, designed or modified for use in "missiles". (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 7-9
7A116	Flight control systems (hydraulic, mechanical, electro-optical, or electro-mechanical flight control systems (including fly-by-wire systems) and attitude control equipment) designed or modified for "missiles". (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 7-9
7A117	"Guidance sets" capable of achieving system accuracy of 3.33% or less of the range (e.g., a "CEP" of 10 km or less at a range of 300 km). (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 7-9
7A994	Other navigation direction finding equipment, airborne communication equipment, all aircraft inertial navigation systems not controlled under 7A003 or 7A103, and other avionic equipment, including parts and components, n.e.s.	Cat 7-9
7B001	Test, calibration or alignment equipment specially designed for equipment controlled by 7A (except 7A994)	Cat 7-10
7B002	Equipment, as follows (see List of Items Controlled), specially designed to characterize mirrors for ring "laser" gyros.	Cat 7-10
7B003	Equipment specially designed for the "production" of equipment controlled by 7A (except 7A994)	Cat 7-11
7B101	"Production equipment", and other test, calibration, and alignment equipment, other than that described in 2B119 to 2B122, 7B003, and 7B102, designed or modified to be used with equipment controlled by 7A001 to 7A004 or 7A101 to 7A104.	Cat 7-11
7B102	Equipment, other than those controlled by 7B002, designed or modified to characterize mirrors, for laser gyro equipment, as follows (see List of Items Controlled).	Cat 7-12
7B103	Specially designed "production facilities" for equipment controlled by 7A117 (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)	Cat 7-12
7B994	Other equipment for the test, inspection, or "production" of navigation and avionics equipment	Cat 7-12

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7D001	“Software” specially designed or modified for the “development” or “production” of equipment controlled by 7A (except 7A994) or 7B (except 7B994).	Cat 7-13
7D002	“Source code” for the “use” of any inertial navigation equipment including inertial equipment not controlled by 7A003 or 7A004, or Attitude and Heading Reference Systems (AHRS) (except gimbaled AHRS)	Cat 7-13
7D003	Other “software”	Cat 7-14
7D101	“Software” specially designed or modified for the “use” of equipment controlled by 7A001 to 7A006, 7A101 to 7A107, 7A115, 7A116, 7B001, 7B002, 7B003, 7B101, 7B102, or 7B103.	Cat 7-15
7D102	Integration “software”, as follows (See List of Items Controlled).	Cat 7-15
7D103	“Software” specially designed for modelling or simulation of the “guidance sets” controlled by 7A117 or for their design integration with “missiles”. (This entry is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)	Cat 7-16
7D994	“Software”, n.e.s., for the “development”, “production”, or “use” of navigation, airborne communication and other avionics	Cat 7-16
7E001	“Technology” according to the General Technology Note for the “development” of equipment or “software” controlled by 7A (except 7A994), 7B (except 7B994) or 7D (except 7D994).	Cat 7-16
7E002	“Technology” according to the General Technology Note for the “production” of equipment controlled by 7A (except 7A994) or 7B (except 7B994).	Cat 7-17
7E003	“Technology” according to the General Technology Note for the repair, refurbishing or overhaul of equipment controlled by 7A001 to 7A004.	Cat 7-17
7E004	Other “technology”	Cat 7-18
7E101	“Technology”, according to the General Technology Note for the “use” of equipment controlled by 7A001 to 7A006, 7A101 to 7A107, 7A115 to 7A117, 7B001, 7B002, 7B003, 7B101, 7B102, 7B103, or 7D101 to 7D103.	Cat 7-19
7E102	“Technology” for protection of avionics and electrical subsystems against electromagnetic pulse (EMP) and electromagnetic interference (EMI) hazards, from external sources	Cat 7-20
7E104	Design “Technology” for the integration of the flight control, guidance, and propulsion data into a flight management system, designed or modified for “missiles”, for optimization of rocket system trajectory. (This entry is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)	Cat 7-20
7E994	“Technology”, n.e.s., for the “development”, “production”, or “use” of navigation, airborne communication, and other avionics equipment.	Cat 7-20
8A001	Submersible vehicles and surface vessels	Cat 8-1
8A002	Systems, equipment and components, as follows (see List of Items Controlled).	Cat 8-2
8A018	Items on the Wassenaar Arrangement Munitions List.	Cat 8-7
8A918	Marine boilers	Cat 8-7
8A992	Vessels, marine systems or equipment, not controlled by 8A001, 8A002 or 8A018, and specially designed parts therefor	Cat 8-8
8B001	Water tunnels, having a background noise of less than 100 dB (reference 1 µPa, 1 Hz) in the frequency range from 0 to 500 Hz, designed for measuring acoustic fields generated by a hydro-flow around propulsion system models.	Cat 8-9
8C001	Syntactic foam designed for underwater use	Cat 8-9
8D001	“Software” specially designed or modified for the “development”, “production” or “use” of equipment or materials controlled by 8A (except 8A018 or 8A992), 8B or 8C.	Cat 8-10
8D002	Specific “software” specially designed or modified for the “development”, “production”, repair, overhaul or refurbishing (re-machining) of propellers specially designed for underwater noise reduction	Cat 8-10
8D992	“Software” specially designed or modified for the “development”, “production” or “use” of equipment controlled by 8A992	Cat 8-11
8E001	“Technology” according to the General Technology Note for the “development” or “production” of equipment or materials controlled by 8A (except 8A018 or 8A992), 8B or 8C	Cat 8-11
8E002	Other “technology”	Cat 8-11
8E992	“Technology” for the “development”, “production” or “use” of equipment controlled by 8A992	Cat 8-12
9A001	Aero gas turbine engines incorporating any of the “technologies” controlled by 9E003.a	Cat 9-1
9A002	Marine gas turbine engines with an ISO standard continuous power rating of 24,245 kW or more and a specific fuel consumption not exceeding 0.219 kg/kWh in the power range from 35 to 100%, and specially designed assemblies and components therefor.	Cat 9-1
9A003	Specially designed assemblies and components, incorporating any of the “technologies” controlled by 9E003.a, for gas turbine engine propulsion systems	Cat 9-2
9A004	Space launch vehicles and “spacecraft”	Cat 9-2

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9A005	Liquid rocket propulsion systems containing any of the systems or components controlled by 9A006. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-4
9A006	Systems and components specially designed for liquid rocket propulsion systems. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-4
9A007	Solid rocket propulsion systems. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-4
9A008	Components specially designed for solid rocket propulsion systems. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-4
9A009	Hybrid rocket propulsion systems. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-4
9A010	Specially designed components, systems and structures for launch vehicles, launch vehicle propulsion systems or "spacecraft". (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-4
9A011	Ramjet, scramjet or combined cycle engines and specially designed components therefor. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-4
●9A012	Non-military "unmanned aerial vehicles," ("UAVs"), associated systems, equipment and components, as follows.. . . .	Cat 9-4
9A018	Equipment on the Wassenaar Arrangement Munitions List	Cat 9-5
9A101	Turbojet and turbofan engines (including turbocompound engines), other than those controlled by 9A001, as follows (see List of Items Controlled).	Cat 9-6
9A103	Liquid propellant tanks specially designed for the propellants controlled in ECCNs 1C011, 1C111 or other liquid propellants used in "missiles". (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-6
9A104	Sounding rockets, capable of a range of at least 300 km. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-7
9A105	Liquid propellant rocket engines. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-7
9A106	Systems or components, other than those controlled by 9A006, usable in "missiles", as follows (see List of Items Controlled), and specially designed for liquid rocket propulsion systems.	Cat 9-7
9A107	Solid propellant rocket engines, usable in rockets with a range capability of 300 Km or greater, other than those controlled by 9A007, having total impulse capacity equal to or greater than 8.41×10^5 Ns, but less than 1.1×10^6 Ns. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-8
9A108	Solid rocket propulsion components, other than those controlled by 9A008, usable in rockets with a range capability of 300 Km or greater. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-8
9A109	Hybrid rocket motors, usable in rockets with a range capability of 300 Km or greater, other than those controlled by 9A009, and specially designed components therefor. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-8
9A110	Composite structures, laminates and manufactures thereof, other than those controlled by entry 9A010, specially designed for use in "missiles" or the subsystems controlled by entries 9A005, 9A007, 9A105.a, 9A106 to 9A108, 9A116, or 9A119.	Cat 9-8
9A111	Pulse jet engines, usable in rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300km, and specially designed components therefor. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121.)	Cat 9-8
9A115	Apparatus, devices and vehicles, designed or modified for the transport, handling, control, activation and launching of rockets, missiles, and unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-9
9A116	Reentry vehicles, usable in "missiles", and equipment designed or modified therefor. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-9
9A117	Staging mechanisms, separation mechanisms, and interstages therefor, usable in "missiles". (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-9

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9A118	Devices to regulate combustion usable in engines which are usable in rockets with a range capability greater than 300 Km or greater, controlled by 9A011 or 9A111. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-9
9A119	Individual rocket stages, usable in rockets with a range capability greater than 300 Km or greater, other than those controlled by 9A005, 9A007, 9A009, 9A105, 9A107 and 9A109. (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-9
9A120	Complete unmanned aerial vehicles, not specified in 9A012, having all of the following	Cat 9-9
9A980	Nonmilitary mobile crime science laboratories; and parts and accessories, n.e.s.	Cat 9-10
9A990	Diesel engines, n.e.s., and tractors and specially designed parts therefor, n.e.s.	Cat 9-10
9A991	“Aircraft”, n.e.s., and gas turbine engines not controlled by 9A001 or 9A101 and parts and components, n.e.s.	Cat 9-11
9A992	Complete canopies, harnesses, and platforms and electronic release mechanisms therefor, except such types as are in normal sporting use.	Cat 9-12
9B001	Specially designed equipment, tooling and fixtures, as follows (see List of Items Controlled), for manufacturing gas turbine blades, vanes or tip shroud castings	Cat 9-12
9B002	On-line (real time) control systems, instrumentation (including sensors) or automated data acquisition and processing equipment, specially designed for the “development” of gas turbine engines, assemblies or components incorporating “technologies” controlled by 9E003.a.	Cat 9-13
9B003	Equipment specially designed for the “production” or test of gas turbine brush seals designed to operate at tip speeds exceeding 335 m/s, and temperatures in excess of 773 K (500°C), and specially designed components or accessories therefor.	Cat 9-13
9B004	Tools, dies or fixtures for the solid state joining of “superalloy”, titanium or intermetallic airfoil-to-disk combinations described in 9E003.a.3 or 9E003.a.6 for gas turbines	Cat 9-13
9B005	On-line (real time) control systems, instrumentation (including sensors) or automated data acquisition and processing equipment, specially designed for use with any of the following wind tunnels or devices	Cat 9-14
9B006	Acoustic vibration test equipment capable of producing sound pressure levels of 160 Db or more (referenced to 20 µPa) with a rated output of 4 kW or more at a test cell temperature exceeding 1,273 K (1,000°C), and specially designed quartz heaters therefor	Cat 9-14
9B007	Equipment specially designed for inspecting the integrity of rocket motors using non-destructive test (NDT) techniques other than planar X-ray or basic physical or chemical analysis.	Cat 9-15
9B008	Transducers specially designed for the direct measurement of the wall skin friction of the test flow with a stagnation temperature exceeding 833 K (560°C)	Cat 9-15
9B009	Tooling specially designed for producing turbine engine powder metallurgy rotor components capable of operating at stress levels of 60% of ultimate tensile strength (UTS) or more and metal temperatures of 873 K (600°C) or more	Cat 9-16
9B010	Equipment specially designed for the production of “UAVs” and associated systems, equipment and components controlled by 9A012.	Cat 9-16
9B105	Wind tunnels for speeds of Mach 0.9 or more, usable for rockets, missiles, or unmanned aerial vehicles capable of achieving a “range” equal to or greater than 300 km and their subsystems.. . . .	Cat 9-16
●9B106	Environmental chambers usable for rockets, missiles, or unmanned aerial vehicles capable of achieving a “range” equal to or greater than 300 km and their subsystems, as follows (see List of Items Controlled) . . .	Cat 9-17
9B115	Specially designed “production equipment” for the systems, sub-systems and components controlled by 9A004 to 9A009, 9A011, 9A101, 9A104 to 9A109, 9A111, 9A116 to 9A119.	Cat 9-17
9B116	Specially designed “production facilities” for the systems, sub-systems, and components controlled by 9A004 to 9A009, 9A011, 9A012, 9A101, 9A104 to 9A109, 9A111, 9A116 to 9A119.	Cat 9-18
9B117	Test benches and test stands for solid or liquid propellant rockets, motors or rocket engines	Cat 9-18
9B990	Vibration test equipment and specially designed parts and components, n.e.s.	Cat 9-19
9B991	Specially designed equipment, tooling or fixtures, not controlled by 9B001, as described in the List of Items Controlled, for manufacturing or measuring gas turbine blades, vanes or tip shroud castings	Cat 9-19
9C110	Resin impregnated fiber prepregs and metal coated fiber preforms therefor, for composite structures, laminates and manufactures specified in 9A110, made either with organic matrix or metal matrix utilizing fibrous or filamentary reinforcements having a “specific tensile strength” greater than 7.62 x 104 m and a “specific modulus” greater than 3.18 x 106 m.	Cat 9-20
9D001	“Software” specially designed or modified for the “development” of equipment or “technology” controlled by 9A (except 9A018, 9A990 or 9A991), 9B (except 9B990 or 9B991) or 9E003.	Cat 9-20
9D002	“Software” specially designed or modified for the “production” of equipment controlled by 9A (except 9A018, 9A990, or 9A991) or 9B (except 9B990 or 9B991).	Cat 9-21

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9D003	“Software” specially designed or modified for the “use” of full authority digital electronic engine controls (FADEC) for propulsion systems controlled by 9A (except 9A018, 9A990 or 9A991) or equipment controlled by 9B (except 9B990 or 9B991), as follows (see List of Items Controlled)	Cat 9-21
9D004	Other “software”	Cat 9-22
9D018	“Software” for the “use” of equipment controlled by 9A018.	Cat 9-23
9D101	“Software” specially designed or modified for the “use” of commodities controlled by 9B105, 9B106, 9B116, or 9B117.	Cat 9-23
9D103	“Software” specially designed for modelling, simulation or design integration of “missiles”, or the subsystems controlled by 9A005, 9A007, 9A105.a, 9A106, 9A108, 9A116 or 9A119. (This entry is subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-23
9D104	“Software” specially designed and modified for the “use” of equipment controlled by 9A001, 9A005, 9A006.d, 9A006.g, 9A007.a, 9A008.d, 9A009.a, 9A010.d, 9A011, 9A012 (for MT controlled items only), 9A101, 9A105, 9A106.c and .d, 9A107, 9A108.c, 9A109, 9A111, 9A115.a, 9A116.d, 9A117, or 9A118 . . .	Cat 9-24
9D105	“Software” that coordinates the function of more than one subsystem, specially designed or modified for “use” in “missiles.” (These items are subject to the export licensing authority of the U.S. Department of State, Directorate of Defense Trade Controls. See 22 CFR part 121)	Cat 9-24
9D990	“Software”, n.e.s., for the “development” or “production” of equipment controlled by 9A990 or 9B990	Cat 9-24
9D991	“Software”, for the “development” or “production” of equipment controlled by 9A991 or 9B991.	Cat 9-25
9E001	“Technology” according to the General Technology Note for the “development” of equipment or “software” controlled by 9A001.b, 9A004 to 9A012, 9B (except 9B990 or 9B991), or 9D (except 9D990 or 9D991).	Cat 9-25
9E002	“Technology” according to the General Technology Note for the “production” of equipment controlled by 9A001.b, 9A004 to 9A011 or 9B (except 9B990 or 9B991).	Cat 9-26
●9E003	Other “technology” as follows.	Cat 9-26
9E018	“Technology” for the “development”, “production”, or “use” of equipment controlled by 9A018	Cat 9-30
●9E101	“Technology” according to the General Technology Note for the “development”, “production”, or “use” of commodities or software controlled by 9A012, 9A101, 9A104 to 9A111, 9A115 to 9A119, 9C110, 9D101, 9D103, 9D104 or 9D105.	Cat 9-30
9E102	“Technology” according to the General Technology Note for the “use” of space launch vehicles specified in 9A004, or commodities or software controlled by 9A005 to 9A012, 9A101, 9A104 to 9A111, 9A115 to 9A119, 9B105, 9B106, 9B115, 9B116, 9B117, 9D101, 9D103, 9D104 or 9D105.	Cat 9-31
9E990	“Technology”, n.e.s., for the “development” or “production” or “use” of equipment controlled by 9A990 or 9B990	Cat 9-31
9E991	“Technology”, for the “development”, “production” or “use” of equipment controlled by 9A991 or 9B991	Cat 9-31
9E993	Other “technology” not described in 9E003	Cat 9-32