

**ALPHABETICAL INDEX
TO THE COMMERCE CONTROL LIST**

This index is not an exhaustive list of controlled items.

Supplement No. 4 to Part 774 – Commerce Control List Order of Review
identifies the steps to follow when reviewing the Commerce Control List.

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Column, liquid-liquid exchange, for lithium amalgams	1B233.b.1
Combined cycle engines/components.....	9A011, 9A619
Combustion regulation devices, missile engines	9A118
Common channel signaling equipment/systems.....	5A991.c.8
Common channel signaling, technology for the development of equipment employing	5D001.c.5
Communications cable systems to detect surreptitious intrusion	5A003.a
Communication channel controllers	5A991.b.4.b
Communication equipment, airborne.....	7A994
Communication (mobile) equipment, assemblies and components.....	5A991.g
Communications interception devices, parts and accessories.....	5A980, 5D980 or 5E980
Communications Systems (underwater)	5A001.b.1
Compasses.....	8A609.y.5, 8A620.y.5, 8A992.j, 9A610.y.13
Compasses (gyro-astro) & other position or orientation deriving devices	7A004
Compasses (gyro-astro) & devices, other than those of 7A004.....	7A104
Complex programmable logic devices (CPLD).....	3A001.a.7, 3A991.d
Components made from Fluorinated compounds	1A001
Components/structures for spacecraft.....	9A010
Composite conductors, superconductive	1C005
Composite or laminate development software.....	1D002
Composite structures, as tubes.....	1A202
Composite structures or laminates	1A002
Composite (structural) production equipment, n.e.s.	1B999.e
Composite (structural) production equipment controlled by 1B999, software for.....	1D999
Composite materials, ceramic-ceramic	1C007.c.1.a
Composites production equipment	1B001
Composite structures for propulsion systems or space vehicles.....	9A110, 9A619.x
Composite structures for unmanned aerial vehicles	9A610.t
Composites (structural) production equipment.....	1B101
Compound rotary tables for machine tools.....	2B008.d

Description	ECCN Citation
Compound semiconductor integrated circuits	3A001.a.11
Compound semiconductor photocathodes	6A002.a.2.c.3
Compressors.....	9A619.x
Compressors, bellows-sealed scroll-type.....	2B233
Compressors, turboexpander.....	1B232
Compressors, turbo/centrifugal/axial flow.....	9A619.x
Computer, electronic assemblies & equipment & components	4A001, 4A003, 4A004 or 4A994
Computer, electronic components	4A101
Computer, electronic components	4A102
Computers, parts, components, accessories... for military applications, not on USML	3A611
Computer aided design (CAD) equipment for semiconductor devices or integrated circuits.....	3B991.b.2.c
Computer-aided-design (CAD) software for IC's & semiconductors.....	3D003
Computer interconnect equipment.....	4A003.g
Computer/assemblies/components, neural.....	4A004.b
Computer/assemblies/components, optical.....	4A004.c
Computers, electronic assemblies, and related equipment and components not controlled by 4A001 or 4A003	4A994
Computers, analog & analog ruggedized	4A101
Computers for fingerprint equipment	4A980
Computers, digital ruggedized	4A101
Computers/assemblies/components, systolic array.....	4A004.a
Computers, analog	4A001
Computers, digital	4A003
Computers, digital	4A004
Computers, digital.....	4A001
Computers, hybrid.....	4A102
Computers, parts, components ... for military application not on USML.....	4A611/3A611
Computers and electronic assemblies (hybrid), and specially designed components therefor.....	4A994.k
Computers, with extended operating temperature range	4A001.a.1
Computers, radiation hardened	4A001.a.2
Concealment and deception equipment (military), i.e. special paints, decoys, smoke or obscuration equipment and simulators	0A617
Concealed object detection equipment	2A984, 2D984 or 2E984
Condensers for use in nuclear reactors	2A290.a
Condensers or heat exchangers	2B350.d
Conductive polymers	1C001.c
Conductors, superconductive composite	1C005
Congo-Crimean hemorrhagic fever virus (a.k.a. Crimean-Congo hemorrhagic fever virus)	1C351.a.10
Connector backshells, electric	3A611.y.9

Description	ECCN Citation
Conotoxins	1C351.d.6
Construction equipment “specially designed” for military use	0A617.y.1
Contactors	3A611.y.27
Contagious bovine pleuropneumonia (<i>Mycoplasma mycoides subspecies mycoides</i> SC (small colony)).....	1C351.c.16
Containers, ISO intermodal containers for packing defense articles or “600 series” items	0A617.y.3
Containers, chemical.....	2B350.c
Containment devices (not enumerated under ECCN 1B608 or in USML Category IV or V) for the testing of high explosives or explosive devices	1B234
Containment facilities	2B352.a.1
Continuity of operation software	3D005
Continuous mixers	1B118
Control units for metallurgical melting & casting furnaces.....	2B227
Control systems, on-line development of gas turbine engines	9B002, 9B619.a
Controllable-pitch propellers	8A002.o.2.a
Controlled atmosphere melting & casting furnaces.....	2B227
Controlled environment (vacuum or inert gas) induction furnaces	2B226
Controlled nucleation thermal decomposition (CNTD) equipment.....	2B005.a.1.b
Controllers, machine tool (CNC).....	1B001.a
Controllers for high explosive handling robots	2B207
Controllers, robot	2B007
Conventional military steel helmets.....	1A613.y.1
Converter integrated circuits.....	3A001.a.5
Converters, frequency	3A225
Converters, frequency extender	3A001.b.7
Cooling fluids - electronic	1C006.d
Cooling fluids, fluorocarbon electronic	1C006.d
Cooling systems, freon and chilled water	1B999.d
Copper or phosphor bronze mesh packings	1A226
Copper metal vapor lasers.....	6A005.b
Coprocessor microcircuits	3A001.a.3 Note
Correlation-velocity sonar log equipment	6A001.b
Counter Improvised Explosive Device equipment	5A001.h
Coxiella burnetii.....	1C351.c.13
CR (Dibenz-(b,f)-1,4-oxazepine) (CAS 257-07-8)	1C607.a.4
Crime science laboratories, parts and accessories, nonmilitary mobile.....	9A980
Crimean-Congo hemorrhagic fever virus (a.k.a. Congo-Crimean hemorrhagic fever virus)	1C351.a.10
Cross (tangential) flow filtration equipment.....	2B352.d
Crossed-field amplifier tubes	3A001.b.1.b
Crucibles, liquid actinide resistant.....	2A225
Crucibles, tantalum	2A225.b or c

Description	ECCN Citation
Cryocoolers for optical sensors, space qualified.....	6A002.d.1
Cryocoolers for optical sensors, non-space qualified	6A002.d.2
Cryogenic and superconductive equipment, parts, components, accessories	9A620
Cryogenic and superconductive test equipment	9B620
Cryogenic and superconductive software	9D620
Cryogenic and superconductive technology	9E620
Cryptanalytic equipment and components, mass market.....	5A992
Cryptanalytic systems, equipment and components	5A004.a
Cryptographic activation token.....	5A002.b, 5D002.b, 5E002.b
Cryptographic enabling systems, equipment, integrated circuits, etc.....	5A002.b
Cryptographic enabling/activation software	5D002.b
Cryptographic enabling/activation technology	5E002.b
Cryptographic equipment and components, mass market	5A992
Cryptologic equipment, software for the development, production or use of, mass market ..	5D992
Cryptologic equipment and components, mass market.	5A992
Cryptographic systems, equipment and components for data confidentiality > 56 bits	5A002.a
Crystal pullers and furnaces.....	3B991.b.1.c
CS (o-Chlorobenzylidenemalononitrile or o-Chlorobenzalmalononitrile) (CAS 2698-41-1)	1C607.a.2
CTPB (Carboxy-terminated polybutadiene)	1C111.b.1
Cultivation chamber holding devices (including, <i>inter alia</i> , single-use cultivation chambers with rigid walls).....	2B352.b.2.b
Custom integrated circuits	3A001.a.2 or a.10
Cutting tool inserts, single diamond point	2B998.b
Cutting machines, gears	2B003
Cutting equipment for prepregs/preform production.....	1B101.d
CVD (Chemical vapor deposition) equipment	1B001.d.2
CVD (Chemical vapor deposition) equipment	2B005.a
CVD (Chemical vapor deposition) equipment	1B101.c.2
CVD (Chemical vapor deposition) furnaces, other than those controlled by 2B005.a, designed or modified for the densification of carbon-carbon composites	2B105
CW (Chemical warfare) precursors	1C350
Cyanogen chloride (506-77-4).....	1C355.b.1.b, 1E355.b.2
Cyber hacking systems, equipment and components	5A004
Cylinder wall lubrication technology, diesel engines	9E003.e.3
DACs (Digital-to-analog converters).....	3A001.a.5
DBRN (Data Based Referenced Navigation) system technology.....	7E004.a.7
DADE (1,1-diamino-2,2-dinitroethylene, FOX-7) (CAS 145250-81-3) ..List of Explosives Annex to Cat. 1	
Damping, flotation or lubricating fluids	1C006.c
Data acquisition systems for gas turbine engine development	9B002, 9B619.a

Description	ECCN Citation
Data (message) switching equipment, systems, components and assemblies	5A991.c.1
Data acquisition equipment for wind tunnels, automatic.....	9B005
Data Based Referenced Navigation (DBRN) systems for underwater navigation, technology	7E004.a.7
Datagram packet routing or switching equipment	5A991.c.3
Decanters, centrifugal	2B352.c
Decontamination equipment	1A004 or 1A995
Decontamination equipment (military) for toxicological agents	1A607.g
Deep-hole drilling machines	2B001.f
Defect, error or contaminant detection equipment for wafers or substrates	3B992.b.1
Deformable mirrors.....	6A004.a.1
Degassing equipment	2B350
DEGDN (diethylene glycol dinitrate).....	1C111.c.5
Demolition blocks.....	0A604.a
Depleted Uranium.....	1A290
Depth sounders.....	6A001.a.1
Design integration of guidance sets, software	7D103
Detection and protection equipment and components	1A004, 1A995, 2B351 or 2B352
Detection equipment (military) for toxicological agents	1A607.h
Detection equipment, seismic	6A999.a
Detection equipment, radiation.....	1A004, 1A995 or 1A999.a
Detection equipment, radiographic.....	1A999.b
Detection systems for explosives and detonators	1A004.d, 2A983, 2D983 or 2E983
Detection or location systems or transmitting and receiving arrays (acoustic)	6A001.a.1.b
Detectors, optical	6A002.a
Detectors, radiation hardened	6A102
Detectors, space-qualified solid state optical.....	6A002.a.1
Detonation cord.....	1A008 or 1C992.c
Detonator detection.....	2A983, 2D983 or 2E983
Detonators and multipoint initiation systems	3A229
Detonator firing sets, for multiple detonators of 3A232.....	1A007 or 3A229
Detonators, electric or non-electric.....	1C608.d or 1C992.e
Detonators, exploding bridge wire (EBW)	1A007
Detonators, exploding bridge (EB)	1A007
Detonators, exploding foil initiators (EB)	1A007
Detonators for military explosives.....	0A604
Detonators, slapper (electric).....	1A007
Deuterium fluoride-carbon dioxide (DF-CO2) lasers.....	6A005.d.5
Deuterium fluoride (DF) lasers	6A005.d.5
Di-isopropylamine	1C350.d.8
Diacetoxyscirpenol	1C351.d.7
Dials, indicator	3A611.y.26

Description	ECCN Citation
Dialkyl (Me, Et, n-Pr or i-Pr) N,N-dialkyl (Me, Et, n-Pr, or i-Pr)-phosphoramidates ..	1C355.a.2.c
Diamond cutting tool inserts, single point	2B998.b
Diamond film substrate development/production technology	3E003.d
Diaphragm valves	2B350.g
Dibromodimethyl ether (CAS 4497-29-4)	1C607.a.7
Dibromotetrafluoroethane based damping or flotation fluids.....	1C006.c.1
Dichlorodimethyl ether (ClCi) (CAS 542-88-1)	1C607.a.8
Die bonder, stored program controlled	3B991.b.3.a
Diesel engines for submarines	8A620.d
Diesel engines, nonmagnetic	8A609.b
Diesel engines (air-cooled) and engine blocks for armored vehicles.....	0A606.c
Dies, bellows-forming.....	2B228.c
Diesel engines, n.e.s.....	9A990
Diesel cycle engine, air independent	8A002.j
Diethyl chlorophosphite.....	1C350.d.5
Diethyl ethylphosphonate	1C350.b.3
Diethyl methylphosphonate	1C350.b.4
Diethyl methylphosphonite.....	1C350.b.5
Diethyl phosphite	1C350.c.1
Diethyl-N, N-dimethylphosphoramidate	1C350.b.6
Diethylamine.....	1C350.d.3
Diethylaminoethanol.....	1C350.d.4
Diethylene glycol dinitrate (DEGDN)	1C111.c.5
Diffusion bonding technology, metal working	2E003.b.1.b
Diffusion bonding technology/data, super alloys or Ti alloys.....	2E003.b.2.b
Diffusion bonding tools, dies, molds or fixtures.....	1B003
Digital array processors	3A001.a.3 Note
Digital computers.....	4A003
Digital computers.....	4A994.b
Digital computers, electronic assemblies & related equipment.....	4A003
Digital computers, electronic assemblies & related equipment.....	4A001
Digital computers, logic processors	4A003
Digital computers, ruggedized	4A101
Digital computers, signal processing	4A003
Digital computers, vector processors.....	4A003
Digital computer electronic assemblies, parallel processing	4A003.c
Digital computer systems	4A004
Digital computer systems	4A003.c
Digital computer systems	4A003.b
Digital computer systems.....	4A001
Digital coprocessors.....	3A001.a.3 Note
Digital differential analyzer, ruggedized	4A101

Description	ECCN Citation
Digital electronic control software for propulsion systems, aerospace test facilities or air breathing aero-engine test facilities.....	9D003, 9D619
Digital exchanges, telecommunication	5A991.c
Digital instrumentation data recorders	3A002.a.6
Digital signal processors	4A003
Digital time delay generators	3A999.e1
Digital-to-analog converter integrated circuits (DACs)	3A001.a.5
Digitally controlled radio receivers	5A001.b.5
Digitizers, waveform.....	3A002.h
Diisopropylaminoethanethiol hydrochloride	1C350.b.7
Dimensional inspection or measuring systems or equipment not controlled by 2B006 or 2B206.....	2B996
Dimensional inspection machines.....	2B206
Dimensional inspection equipment/systems	2B006.a
Dimensional inspection equipment/systems	2B006.c
Dimensional measuring equipment, instruments/systems	2B006.b
Dimethyl ethylphosphonate	1C350.b.12
Dimethyl methylphosphonate	1C350.b.13
Dimethyl phosphite	1C350.c.2
Dimethylamine.....	1C350.d.9
Dimethylamine hydrochloride	1C350.d.10
Dinitrogen tetroxide ()	1C111.a.3.b
Dinitrogen trioxide.....	1C111.a.3.a
Dinitrogen pentoxide	1C111.a.3.c
2,2' Dinitropropanol	1C018
Diodes, laser.....	6A005.d.1
Diortho tolyl-urethane.....	1C018.g
Diphenyl urethane.....	1C018.f
Direct view imaging equipment.....	6A002.c
Direct-acting hydraulic pressing technology for metal working	2E003.b.2.c
Direct Digital Synthesizer (DDS) integrated circuits	3A001.a.13
Direction finding equipment & components, surveillance	5A001.e
Direction finding equipment, parts & components, navigation, not controlled under 7A003 or 7A103	7A994
Direction finding systems, equipment & components, navigation (inertial)	7A003
Direction finding systems, equipment & components, navigation, not controlled under 7A003	7A103
Directional solidification casting control software	9D004.c
Directional solidification casting equipment	9B001.a, 9B619.a
Discharge type arms.....	0A503
Discrete microwave transistors	3A611.d
Discrete microwave transistor technology	3E611.b.4

Description	ECCN Citation
Display, 3D (software for)	7D004.g
Disruptors.....	1A006.b
Disruptors.....	1A006.b
Dissemination equipment (military) for riot control agents in 1C607.a.....	1A607.e
Distillation columns, hydrogen-cryogenic.....	1B228
Distillation towers, packings	1A226
Dive computers	8A992.j
Diver deterrent acoustic systems	8A002.r
DNAN (2,4-dinitroanisole) (CAS 119-27-7).....	Annex to Cat 1 “List of Explosives” 44
Dobrava-Belgrade virus.....	1C351.a.11
Doppler laser interferometers (DLIs).....	6A225
Double-door pass-through decontamination autoclaves.....	2B352.a.2.a
Double seal valves	2B350.g
Drilling equipment.....	2B999.h
Drilling machines, deep-hole	2B001.f
Drone (military) production facilities	9B610.c
Dummy rounds and blank rounds (unless linked or belted), not incorporating a lethal or non-lethal projectile(s)	EAR99
Dye lasers.....	6A005.c
Dye lasers.....	6A205
Dynamic adaptive routing equipment.....	5A991.c.9
Dynamic wavefront (phase) measuring equipment	6A004.f
Dynamic adaptive routing software	5D991.a
E-beam welders.....	2B999.e
Earth moving equipment, large.....	2B999.h.2
Eastern equine encephalitis virus.....	1C351.a.12
EB-PVD (Electron beam physical vapor deposition) equipment	2B005.c
Ebolavirus (includes all members of Ebolavirus genus).....	1C351.a.13
Eddy current test equipment for nuclear reactors	2A291.d
EDMs, non-wire feed types	2B001.d
EDMs, wire feed type	2B991d.1
Ejection seat mounted survival aids for military aircraft.....	9A610.y.6
Electric cattle prods.....	0A503
Electric detonators, explosive	3A232a
Electric fans	3A611.y.2
Electric propulsion engines.....	8A002o.2.b
Electrical contacts	3A611.y.19
Electrical discharge machines, non wire feed (CNC).....	2B001.d
Electrical discharge machines (EDM) of the wire feed type	2B991.d.2
Electrical guide pins.....	3A611.y.20
Electrically driven explosive detonators.....	3A232.a
Electro-optic materials	6C004

Description	ECCN Citation
Electro-optical device manufacturing equipment and systems.....	3B991.b Note
Electro-optical integrated circuits.....	3A001.a.6
Electrolysis cells, amalgam lithium isotope separation.....	1B233.b.3
Electrolytic cells for fluorine production.....	1B225
Electrolytic cells for fluorine production not controlled by 1B225.....	1B999.a
Electromagnetic interference (EMI) protection technology.....	7E102
Electromagnetic isotope separators.....	1B226
Electromagnetic pulse (EMP) protection, detectors.....	6A102
Electromagnetic pulse (EMP) protection technology, avionics.....	7E102
Electromagnetic pulse (EMP) recovery software.....	3D005
Electromagnetic radiation sensors, optical fiber.....	6A002.d.3.a
Electromagnetic signature reduction devices.....	1A101
Electromagnetic signature reduction materials.....	1C101
Electromagnetic underwater communications systems.....	5A001.b.1.b
Electromagnets, superconductive.....	3A201.b
Electromagnets, superconductive.....	3A001.e.3
Electron beam cutting machines (CNC).....	2B001.e.1.b
Electron beam equipment for mask making/semiconductor devices.....	3B001.f.2
Electron beam equipment for projection image transfer.....	3B991.b.2.g
Electron beam melting furnaces.....	2B227.b
Electron beam physical vapor deposition (EB-PVD) equipment.....	2B005.c
Electron beam sensitive resist materials.....	3C002.b
Electron beam systems, for probing semiconductor devices.....	3B992.b.5
Electron beam systems.....	3B991.b.1.j
Electron beam test systems.....	3B992.b.5
Electron bombardment mass spectrometers.....	3A233.d
Electron tube manufacturing equipment and components.....	3B991.a
Electron tube inspection or testing equipment and components.....	3B992.a
Electronic assemblies.....	4A003
Electronic assemblies and related equipment not controlled by 4A001 or 4A003.....	4A994
Electronic assemblies specially designed to provide feedback capability in systems controlled by 2B006.b.3.....	2B006.b.4
Electronic cameras.....	6A003.a.5
Electric chairs.....	0A981
Electrical connectors.....	3A611.y.1
Electronic components.....	3A001
Electronic components.....	3A201
Electronic components.....	3A101
Electronic components (military).....	3A611
Electronic components and materials inspection or testing equipment, components and accessories.....	3B992
Electronic components and materials manufacturing equipment.....	3B991

Description	ECCN Citation
Electronic components and materials manufacturing equipment, not controlled by 3B001.....	3C001
Electronic computers	4A994.a
Electronic computers & related equipment.....	4A001, 4A003, 4A004 or 4A994
Electronic computers & related equipment.....	4A101
Electronic computers & related equipment.....	4A102
Electronic cooling fluids	1C006.d
Electronic framing cameras	6A203.b.2
Electron sensing devices	6A002.a.2.a.2.b
Electronic streak cameras & streak tubes	6A003.a.3
Electronic streak cameras & streak tubes	6A203.b.1
Electrostatic Discharge (ESD) recovery software	3D005
Electronically steerable antennae, phased array	5A001.d
Electroplating equipment	2B999.i
EMP/EMI protection technology, avionic systems	7E102
EMP/ESD recovery software.....	3D005
Encoders, rotary input shaft type, and rings, discs or scales therefor.....	3A001.f
Encryption equipment, assemblies & components	5A002
Encryption hardware components.....	Cat 5 pt 2 Note 3 (b)
Encryption software	5D002
End effectors, robot.....	2B207
End effectors, robot.....	2B007
Energetic ionic materials.....	Annex to Cat 1 List of Explosives 48
Energy storage capacitors	3A001.e.2
Engines, diesel n.e.s.	9A990
Engines (marine), n.e.s.....	8A992.g
Engines (submarine), n.e.s.....	8A992.g
Engines (air breathing reciprocating or rotary internal combustion type)	9A012.b.4
Enterohaemorrhagic E. coli (EHEC)	1C351.c.17
Environmental chambers	1B018.b, 9B106, or 9B610.b
Environmental chambers, capable of simulating flight conditions.....	9B106, 9B610.b
Environmental test facilities for 7A611 (except 7A611.y) or guidance equipment	7B611
Epitaxial growth equipment.....	3B001.a
Epitaxial growth stored program controlled equipment	3B991.b.1.d
Epitaxial wafers, Cadmium telluride (CdTe).....	6C002.b
Epoxy resin matrix impregnated carbon fibers or filamentary materials	1C010.e Note 1
Equine morbillivirus (Hendra virus).....	1C351.a.18
Equipment (i.e., test, inspection, and production equipment) and related commodities “specially designed” for the “development,” “production,” repair, overhaul, or refurbishing of commodities enumerated or otherwise described in USML Category XVIII.....	6B619.a
Equipment (military) “specially designed” for the destruction of chemical warfare	

Description	ECCN Citation
agents	1B607.a
Equipment and tooling “specially designed” for the “development,” “production,” repair, overhaul, or refurbishing of commodities controlled by 1A607.e, .f, .g, .h, or .j or by USML Category XIV(f)	1B607.c
Erbium oxide (erbia) (Er ₂ O ₃) made/coated crucibles	2A225.a.4
Etching stored program controlled equipment.....	3B991.b.1.h
Ethers, as lubricating fluid	1C006.b.1
Ethyl centralites	1C018.a
Ethyl chlorofluorophosphate.....	1C350.d.11
Ethyl dichlorophosphate	1C350.d.12
Ethyl difluorophosphate.....	1C350.d.13
Ethyl iodoacetate (CAS 623-48-3).....	1C607.a.14
Ethyl phenyl urethane	1C018.e
Ethyl phosphinyl dichloride.....	1C350.b.15
Ethyl phosphinyl difluoride	1C350.b.16
Ethyl phosphonous dichloride.....	1C350.b.15
Ethyl phosphonous difluoride	1C350.b.16
Ethyl phosphonyl dichloride	1C350.b.17
Ethyl-NN-diphenylurea (ethyl unsymmetrical diphenylurea)	1C018.d
Ethyldibromoarsine (CAS 683-43-2)	1C607.a.9
Ethyldiethanolamine (139-87-7).....	1C350.c.3
Evaporators for concentrated lithium hydroxide solution	1B233.b.4
Exchange columns, liquid-liquid for lithium amalgams.....	1B233.b.1
Exchanges, telecommunication.....	5A991.c
Excimer lasers.....	6A005.d.4
Execution of human beings, equipment for	0A981
Expert systems - integration systems technology	2E003.e
Exploding foil initiators (EFI)	1A007
Exploding bridge (EB) detonators	1A007
Exploding bridge wire (EBW) detonators	1A007
Explosive, high	1C239
Explosive/munitions environment handling robots	2B007.b
Explosive detection.....	1A004.d
Explosive detonator firing sets.....	1A007.a
Explosives or detonator detection equipment, software, or technology ..	2A983, 2D983 or 2E983
Explosive detonators, electric	1A007.b or 3A232
Explosive devices , charges, components - commercial.....	1C608, 1A008 or 1C992.1
Explosives (military) production equipment	1B018.a
Explosives (military) in charges for civil applications	1A008 or 1C608
FADEC (Full authority digital electronic engine control) software	9D003, 9D619
FADEC (Full authority digital electronic engine control) technology	9E003.h, 9E619
Fan blade (hollow) technology	9E003, 9E619

Description	ECCN Citation
Fans, electric	3A611.y.2
Fast Fourier Transform (FFT) processors.....	3A001.a.12
Fast switching function modules or assemblies.....	3A228.c
Fast fourier transform processors, acoustic signal processing.....	6A001.a.2.c
Fault tolerance FADEC software.....	9D003, 9E619
Fermenters (biological processing), and components designed for such fermenters	2B352.b
Fertilizers containing ammonium nitrate	1C997
Fiber, equipment for the production of.....	1B999
Fiber and filamentary material.....	1C010
Fiber and filamentary material.....	1C210
Fiber converting equipment, polymeric to carbon or silicon carbon	1B001.d.1
Fiber laser components	6A005.e.3
Fiber optic cable.....	5A001.c
Fiber optic gyro coil winding machines	7B003
Fiber optic magnetometers.....	6A006.c
Fiber optic hull penetrators/connectors.....	8A002.c
Fiber optic wave division multiplex equipment.....	5A991.b.5
Fiber preforms, metal coated, for fiber prepregs in 9C110.....	9C110
Fiber prepregs, resin impregnated, for items in 9A110	9C110
Fiber, rare-earth metal doped double-clad	6C005.b
Fiber reinforcement, production equipment	1B001.d
Fiber straining equipment	1B001.d.1
Fiber surface treatment equipment.....	1B101.d
Fibrous or filamentary materials.....	1C210
Fibrous or filamentary materials.....	1C010
Fibrous or filamentary materials, carbon	1A002.b.1
Fibrous and filamentary materials for use in composite structures	1C990
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Gas turbine blade, manufacturing or measuring equipment	9B001, 9B619
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Gas turbine blades, vanes or tip shroud casting equipment, tooling or fixtures	9B991, 9B619
Gas turbine brush seal production/test equipment.....	9B003, 9B619
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Gauges and indicators (analog cockpit).....	9A610.y.2
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Description	ECCN Citation
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Gravity meters (gravimeters) & components.....	6A107
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Helix traveling wave tubes (TWTs) technology.....	3E611.b.1
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Helminthosporium oryzae (Cochliobolus miyabeanus).....	1C354.b.2
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High energy storage capacitors.....	3A001.e.2
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Description	ECCN Citation
High-speed cameras and imaging devices and “components” therefore not controlled by ECCN 6A003	6A203
High-speed cameras and imaging devices and “components” therefore, “software” “specially designed” to enhance or release the performance characteristics of devices to meet or exceed the performance characteristics described in ECCN 6A203	6D201
High-vacuum service equipment	2B999.k
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Hinges for ground vehicles	0A606.y.11
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HIPS (Hot Isostatic Presses)	2B004
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Hog cholera virus (classical swine fever virus)	1C351.a.9
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Holographic sights that have focal plane array (visible wavelength only), technology for ...	0E504
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Honing machines, gear.....	2B003
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Hoses (brake) for ground vehicles	0A606.y.1
Hoses (cooling systems) for ground vehicles	0A606.v.7
Hoses (fuel) for gas turbine engines	9A619.y.3
Hoses (fuel and hydraulic) for military aircraft	9A610.y.10
Hoses (hydraulic system) for ground vehicles.....	0A606.y.10
Hoses for pneumatic/hydraulic/oil/fuel systems in surface vessels of war.....	8A609.y.2
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Description	ECCN Citation
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Hydraulic fluids	1C980
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Hydraulic forming equipment.....	2B999.b
Hydraulic fracturing items	0A998.b
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Hydraulic pressing, direct-acting technology	2E003.b.1.c
Hydraulic stretch-forming machines and dies technology.....	2E003.c
Hydrazine.....	1C111.d
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Hydrogen.....	1C980
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Hydrogen sulphide-water exchange tray columns.....	1B229
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Hydrophone arrays, towed acoustic.....	6A001.a.2.b
Hydrophone arrays (towed) acoustic data processing source code	6D003.a.2
Hydrophones	6A001.a.2.a
3-Hydroxy-1-methylpiperidine	1C350.d.15
Hydroxy-terminated polybutadiene (HTPB)	1C111.b.2
ICP/MS (Inductively coupled plasma mass spectrometers)	3A233.a
III/V and II/VI semiconductor materials purifying or processing equipment	3B991.b.1.b
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Identification plates for gas turbine engines	9A619.y.7
Igniters	1C608.e or 1C992.f
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Image enhancement equipment.....	4A994.f
Imaging devices	6A002
Imaging device manufacturing equipment and systems	3B991.b Note
Image intensifier tubes & components	6A002.a.2
Image intensifier tubes, direct view	6A002.c.1 or c.3
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Description	ECCN Citation
Imaging cameras with image intensifiers of 6A002a.2.a.....	6A003.b.3
Imaging cameras incorporating solid-state detectors specified by 6A002.a.1.....	6A003.b.5
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Impregnated cathodes for electronic tubes	3A001.b.1.c
Imprint lithography equipment	3B001.f.2
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Improvised Explosive Devices (IED) activation devices	5A001.h
IMU platform balance fixture	7B003 or 7B101
IMU platform tester	7B003 or 7B101
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Indium III/V compounds substrates.....	3C001.c
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Industrial process control hardware/systems designed for power industries controlled by 1B999, software for.....	1D999.a
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Inertial measurement equipment.....	7A003
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Inertial navigation, systems/equipment/components	7A003
Inertial navigation systems not controlled by 7A003 or 7A103	7A994
Inertial navigation system software, source code	7D002
Inertial reference Systems (IRS).....	7A003.c
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Description	ECCN Citation
Information security defeating, weakening or bypassing systems, equip. and components...	5A004
Information security equipment software, mass market	5D992
.....	
.....	
Information security equipment and components, mass market.....	5A992
Information security software	5D002
Information security systems/equipment/devices/components.....	5A002
Information security technology, mass market	5E992
Information security - test, inspection, and production equipment	5B002
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Infrared sensors, industrial	6A002.c
Infrared viewers (police model).....	9A980
Inhibited red fuming nitric acid (IRFNA).....	1C111.a.3.e
Initiation systems, single or multipoint (electric)	3A232.b
Injector (free electron laser photo) manufacturing or inspection equipment.....	6B995.a.2
Inorganic overlay coating application technology	2E003.f
Inorganic chemicals listed in Supp. No. 1 to part 754 produced or derived from the Naval Petroleum Reserves	1C980
Inorganic fibers & filamentary materials	1C010.c
Inspection equipment (linear-angular for hemishells)	2B006.d
Inspection equipment for composite materials	1B001.f
Inspection machines (dimensional), devices or systems, other than those in 2B006	2B206
International Space Station being developed, launched, and operated under the supervision of NASA and “parts,” “components,” “accessories” and “attachments” that are “specially designed” for the ISS.	9A004.w and .x
Instrumentation for gas turbine development	9B002, 9B619
Instrumentation for wind tunnels	9B005
Instrumentation systems, inertial navigation	7A003
Instrumentation cameras	6A003.a
Integrated circuit assembly equipment	3B991.b.3
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Integrated circuit test equipment, microwave	3B002.c
Integrated circuit test equipment, for (truth table) testing	3B002.b
Integrated circuit, masks	3B001.g, 6B002
Integrated circuits, compound semiconductor	3A001.a.11
Integrated circuits, custom	3A001.a.10
Integrated circuits, general purpose	3A001.a
Integrated circuits, microwave	3A001.b.2
Integrated circuits, radiation hardened.....	3A001.a.1
Integrated circuits and assemblies manufacturing equipment and systems.....	3B991.b
Integrated circuit and assembly testing equipment.....	3B992.b.4.b
Integrated circuit computer-aided-design (CAD) software	3D003

Description	ECCN Citation
Integrated circuits and assemblies inspection or testing equipment and systems.....	3B992.b
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Integrated Navigation Systems, designed or modified for use in missiles	7A103.c
Integrated Services Digital Network technology	5E991
Integrated system source code, avionic/mission systems	7D003.c
Integration software for expert systems	2E003.e
Integration technology for flight management systems.....	7E104
Intensity modulator	3A001.i
Intercepting systems and equipment, communications	5A001.f
Intercepting devices, communications.....	5A980
Interconnect equipment (Computer).....	4A003.g
Interconnection equipment.....	3B991.b.1.1
Interface equipment (military) for use in collecting or processing samples of chemical warfare agents.....	1A607.j
Interferometers, velocity (VISARs).....	6A225
Interlacing machines	1B001.c
Intermediate amplifier equipment.....	5A991.b Note a.3
International Space Station parts components accessories attachments	9A004.w-y
Interruption, ground fault circuit	3A611.y.18
Interstages for missiles.....	9A117
Intrinsic magnetic gradiometers.....	6A006.c.3
Inverse synthetic aperture radar (ISAR)	6A008.d
Inverters (Frequency changers or converters).....	3A225
Iodo acetone (CAS 3019-04-3).....	1C607.a.12
Ion beam equipment for mask making/semiconductor devices	3B001.f.2
Ion beam equipment for projection image transfer.....	3B991.b.2.g
Ion beam sensitive resist materials	3C002.b
Ion beam system, manufacturing, repairing, physical layout analysis and testing of masks or semiconductor devices.....	3B992.b.6
Ion implantation equipment	3B001.b
Ion implantation equipment	3B991.b.1.g
Ion implantation production equipment.....	2B005.b
Ion lasers	6A005.a
Ion or laser beam lithography mask or reticle fabrication equipment	3B991.b.2.d.2
Ion plating production equipment.....	2B005.g
Ion-enhanced diffusion equipment	3B991.b.1.g
ISDN development/production technology	5E991
Isolated live cultures	see Cultures
Isolators capable of use with biological agents.....	2B352.f.2
Isostatic presses, hot	2B104
Isostatic presses, hot	2B204
Isostatic presses, hot.....	2B004

Description	ECCN Citation
Isostatic presses, n.e.s.	2B999.a
Isotope separators, electromagnetic	1B226
James Webb Space Telescope (JWST) and “parts,” “components,” “accessories” and “attachments” that are “specially designed” for the JWST	9A004.u and .v
Jamming equipment	5A001.f.3
Japanese encephalitis virus	1C351.a.19
Jet engine lubricating oil	1C980
Jet vane, thrust vector control sub-systems.....	9A106.c
Jet engines/components, pulse	9A111
Jigs and fixtures for use in the manufacture of firearms, ordnance, and other stores and appliances for land, sea, or aerial warfare	2B018.n
Joule-Thomson self-regulating minicoolers	6A002.d.2.b.6
Joy sticks	3A611.y.4
Jumpers, electrical.....	3A611.y.24
Junin virus	1C351.a.20
Kerr or Pocket cells, electro-optical shuttering.....	6A203.b.3.c
Kick motors.....	9A004
Knobs	3A611.y.34
Krytron tubes, gas	3A228.a
Kyasanur Forest disease virus.....	1C351.a.21
Laboratories (mobile), crime science.....	9A980
Laguna Negra virus.....	1C351.a.22
Laminate or composite development software	1D002
Laminates & composite structures, organic metal or carbon.....	1A002
Laminates, rockets/propulsion systems/space vehicles	9A110
Land inertial navigation equipment	7A003
Land-based gravity meters production equipment.....	6B007
Laser acoustic detection equipment	6A005.a
Laser based linear position feedback units	2B006.b.2
Laser based measuring instruments	2B006.b.3.a
Laser beam cutting machines (CNC).....	2B001.e.1.c
Laser beam equipment for mask making/semiconductor devices	3B001.f.2
Laser beam lithography mask or reticle fabrication equipment.....	3B991.b.2.d.2
Laser beam systems, for probing semiconductor devices.....	3B992.b.5
Laser communication technique technology	5E001.b.2
Laser diagnostic equipment	6A005.f.2
Laser diodes	6A005.d.1
Laser diodes designed for telecommunication.....	5A991.b Note b.4
Laser, fiber (components)	6A005.e.3
Laser gyro mirror characterization equipment.....	7B102
Laser microphone.....	6A005.g
Laser pointing devices for use on firearms	0A504.f

Description	ECCN Citation
Laser pointing devices for use on firearms that have focal plane array (visible wavelength only), technology for	0E504
Laser radar altimeters.....	7A106
Laser radar or Light Detection & Ranging (LIDAR) equipment	6A008.j
Laser radar systems.....	6A108
Laser ring gyro test equipment	7B002
Laser, technology	6E003.e
Laser welding machines.....	2B999.c
Lasers	6A005
Lasers	6A205
Lasers	6A995
Lasers for direct write on wafers	3B991.b.2.h
Lassa virus	1C351.a.23
Lathes (CNC).....	2B001.a
Latches for ground vehicles.....	0A606.y.11
Launch support equipment.....	9A115, 9A610.f
Launch vehicle components/structures	9A010, 9A610.x
Lavatories for military aircraft.....	9A610.y.11
Lavatories for submersible vessels	8A620.y.4
Lavatories for surface vessels of war.....	8A609.y.4
LAX-112 (3,6-diamino-1,2,4,5-tetrazine-1,4-dioxide).....	Annex to Cat 1 List of Explosives 47.b
Leg irons	0A982
Lenses for radiation hardened TV cameras	6A203.d
Lidar equipment (Laser radar)	6A008.j
Life jackets.....	8A992.i
Life rafts for military aircraft.....	9A610.y.12
Light gas guns(Multistage) systems	2B232
Light systems, fuses, and components, for ground vehicles.....	0A606.y.12
Light systems, Stroboscopic	8A992.c
Light systems, underwater	8A002.g
Light systems, underwater	8A002.d.2
Lights, underwater	8A992.j
Lights, search	0A617.y.1 and .y.2
Lightweight composite or foam mirror structures	6A004.a.3
Lightweight monolithic mirrors.....	6A004.a.2
Lightweight turbofan/turbojet engines.....	9A101, 9A619.a
Line terminating equipment.....	5A991.b Note a.2
Linear displacement measuring systems containing a laser	2B006.b.3.a, 2B206.c
Linear position feedback units or sensors	2B006.b.2
Linear measuring equipment/instruments.....	2B006.b.3
Linear focal plane arrays	6A002.a.3
Linear-angular inspection equipment for hemishells.....	2B006.d

Description	ECCN Citation
Liquid oxidizers, various nitrous oxides.....	1C608.m, 1C111.a.3
Liquid or water jet cutting machines (CNC).....	2B001.e.1.a
Liquid lasers.....	6A005.c
Liquid propellant tanks	9A103
Liquid rocket propulsion systems & components.....	9A106
Liquid rocket propulsion systems & components.....	9A006
Liquid rocket propulsion systems	9A005
Liquid, slurry and gel propellant control systems.....	9A106.d
Liquid propellant rocket engines	9A105
Liquid-liquid exchange columns, for lithium amalgams	1B233.b.1
Lithium metal, alloys, compounds, mixtures, products or devices.....	1C233
Lithium isotope separation facilities, plant and equipment	1B233
Lithium amalgam electrolysis cells	1B233.b.3
Lithium amalgam pumps	1B233.b.2
Lithograph templates	3B001.i
Lithography equipment, imprint.....	3B001.f.2
Lithography equipment, mask making for semiconductor wafer-processing	3B001.f
Lithography mask or reticle fabrication equipment.....	3B991.b.2.d.2
Lithography software	3D003
Location & object detection systems or transmitting and receiving arrays, acoustic ..	6A001.a.1.b
Logic arrays, field programmable (FPLA)	3A001.a.8
Logic processors and assemblies	4A003
Louping ill virus.....	1C351.a.24
Low Light Level (LLL) camera software	6D003
Lubricating materials	1C006.b
Lubricating oil.....	1C980
Lujo virus.....	1C351.a.25
Lumpy skin disease virus.....	1C351.a.26
Lymphocytic choriomeningitis virus	1C351.a.27
Lyssavirus (including rabies virus and all other members of the Lyssavirus genus)	1C351.a.40
Machine tools, E-beam	2B001.e.1.b
Machine tools, laser	2B001.e.1.c
Machine tools, numerically controlled	2B001
Machine tools, numerically controlled	2B201
Machine tools, numerically controlled and using a Magnetorheological finishing (MRF) process.....	2B002
Machine tools, numerically controlled, optical finishing	2B002
Machine tools, water/other liquid jet	2B001.e.1.a
Machine tool assemblies, units or inserts	2B998
Machine tool components and assemblies for 2B006 & 2B007 equipment.....	2B008
Machine tool cutting tools	2B008
Machine tools for generating optical quality surfaces	2B992

Description	ECCN Citation
Machine tools for grinding (CNC).....	2B001.c
Machine tools for grinding (CNC).....	2B201.b
Machines for milling (CNC).....	2B001.b
Machines for milling (CNC).....	2B201.a
Machine tools for turning, grinding, and milling	2B991.d.1
Machines for turning (CNC).....	2B001.a
Machine tool rotary position feedback units.....	2B006.c
Machine tool spindles	2B008.d
Machining centers (CNC).....	2B201
Machining centers (CNC).....	2B001
Machupo virus	1C351.a.28
Magnaporthe oryzae (Pyricularia oryzae).....	1C354.b.6
Magnesium (high purity)	1C228
Magnesium alloy, powder or particulate form	1C002.c.1.e
Magnesium alloys	1C002.b.5
Magnesium, metal and alloys of.....	1C011.a
Magnesium oxide (MgO) made or coated crucibles.....	2A225.a.6
Magnesium metal particulate.....	1C111.a.2.a.4
Magnetic alloy strips.....	1C003.c
Magnetic anomaly detection software	6D003.f.2
Magnetic bearings (suspension).....	2A001.c
Magnetic compensation systems for magnetic and underwater electric field sensors	6A006.d
Magnetic compensation systems software.....	6D003.f.1
Magnetic disk storage	3A002.a.6
Magnetic and Electric Field Sensors “software”	6D003.f
Magnetic gradiometers.....	6A006.c
Magnetic gradiometers, intrinsic	6A006.c.2
Magnetic metals	1C003
Magnetically enhanced, sputtering equipment	3B991.b.1.f
Magnetometers.....	6A006
Magnetometers not controlled by 6A006	6A996.a
Magnetometer systems.....	6A006
Magnetostrictive alloys.....	1C003.b
Mandrels for rotor assembly, bellows forming.....	2B228.a
Mandrels, bellows-forming	2B228.c
Mandrels (precision) for filament winding machines.....	1B201
Manganin gauges, pressure.....	6A226.a
Manifolds (air, fuel, oil) for gas turbine engines	9A619.y.8
Manipulators, remote	2B225
Manipulators, for submersibles	8A002.i
Manned, tethered submersible vehicles	8A001.a

Description	ECCN Citation
Manned, untethered submersible vehicles	8A001.b
Manufactured gas and synthetic natural gas produced or derived from	
Naval Petroleum Reserves	1C984
Map cases for military aircraft	9A610.y.28
Maraging steel	1C116
Maraging steel	1C216
Marburgvirus (includes all members of Marburgvirus genus)	1C351.a.29
Marine acoustic systems	6A001.a
Marine boiler	8A992.1
Marine engines and parts (both inboard and outboard, n.e.s.)	8A992.g
Marine gas turbine engines	9A002
Marine, terrestrial acoustic equipment	6A991
Marx generators	3A999.c
Mask, gas or full face	1A004 or 1A995
Mask or reticle altering holders or equipment	3B991.b.2.d.3
Mask or reticle fabrication equipment	3B991.b.2.d
Mask or reticles or pellicles, stored program controlled inspection equipment	3B991.b.2.e
Mask software	3D003
Mask substrate blanks	3B001.j
Masks	8A992.i
Masks, integrated circuits of 3A001	3B001.g
Masks, for optical sensors	6B002
Masks, mask substrates, mask-making equipment	3B991.b.2
Mass spectrometers & ion sources (UF6 enrichment plant)	3A233
Mass spectrometers, n.e.s.	3A999.b
Materials for reduced electromagnetic reflectivity	1C101
Materials “specially designed” for ground vehicles and related commodities controlled by 0A606 and not elsewhere specified on USML	0C606
Materials “specially designed” for surface vessels of war and related commodities controlled by 8A609	8C609
Miscellaneous materials “specially designed” for military use	0C617
Matrix, organic	1A002.b
MCT (HgCdTe) crystals & epitaxial wafers	6C002.b
Measurement equipment, radiation	1A999.a
Measurement equipment, underwater velocity	6A001.b
Measuring instruments or systems, dimensional	2B006
Measuring and analysis equipment	3B992.b.2
Measuring systems (linear displacement) containing a laser	2B006.b.1.c, 2B206.c
Mechanical cameras, framing	6A003.a.1, 2 or 3
Mechanical caps	3A611.y.29
Mechanical plugs	3A611.y.30
Mechanical-seal or inflatable-seal walkthrough doors	2B352.a.2.c

Description	ECCN Citation
Media access units	5A991.b Note a.12
Medical countermeasures equipment (military) for use against chemical warfare agents	1A607.k
Medical facilities for submersible vessels	8A620.y.6
Medical facilities for surface vessels of war	8A609.y.6
Melting furnaces	2B227.b
Mercury amalgam pumps	1B233.b.2
Mercury cadmium telluride crystals & epitaxial wafers	6C002.b
MERS-related coronavirus (Middle East respiratory syndrome-related coronavirus) ...	1C351.a.30
Metal alloy powders or particulate form	1C002.c
Metal alloy particulate	1C111.a.2.a.4
Metal alloys	1C002.b
Metal alloys, aluminum or titanium	1C202
Metal alloys, beryllium	1C230
Metal alloys, boron	1C011.b
Metal alloys, hafnium	1C231
Metal alloys, lithium	1C233
Metal alloys, powder and material production systems and components	1B002
Metal alloys, tungsten	1C226
Metal alloys, tungsten or molybdenum	1C117
Metal alloys, zirconium	1C234
Metal coated fiber preforms	9A110
Metal coated fiber preforms for fiber prepreps in 9C110	9C110
Metal or carbon matrix	1A002.b
Metal embrittlement agents	0A617
Metal-organic compounds, aluminum/gallium/indium	3C003
Metal particulate	1C011
Metal powder production equipment	1B102
Metal vapor lasers	6A005.b
Metal working process tools, die & fixture technology	2E003.b.1
Metal working manufacturing processes technology	2E003.b
Metallo-organic or polymeric materials	1C007.e
Metallurgical melting & casting furnaces	2B227
Metals or carbon coated fibers	1C010.e
Metals with high initial relative (magnetic) permeability	1C003.a
Methyl benzilate	1C350.d.16
Methyl centralites	1C018.a
Methyl chlorofluorophosphate	1C350.d.17
Methyl dichlorophosphate	1C350.d.18
Methyldiethanolamine (105-59-9)	1C355.b.2.b
Methyl difluorophosphate	1C350.d.19
Microbiological disposal technology	1E351

Description	ECCN Citation
Microchannel plates, image intensifier tubes.....	6A002.a.2
Microcomputer microcircuits.....	3A001.a.3
Microcontroller microcircuits	3A001.a.3
Microcyclus ulei (syn. Dothidella ulei)	1C354b.3
Microcystins (Cyanginosins)	1C351d.9
Microelectronic circuits (e.g., integrated circuits and micro-circuits) rated, certified, or otherwise specified or described as meeting or exceeding all the characteristics in 9A515.d and that are “specially designed” for defense articles, “600 series” items, or items controlled by 9A515	9A515.d
Microelectronic circuits (e.g., integrated circuits and micro-circuits) that are rated, certified, or otherwise specified or described as meeting or exceeding all the characteristics in 9A515.e and that are “specially designed” for defense articles controlled by USML Category XV or items controlled by 9A515.....	9A515.e
Microfluorination ion sources.....	3A233.f
Micromachined Angular Rate Sensors	7A994
Microorganisms, genetically modified	1C353
Microphones	3A611.y.6
Microprocessor microcircuits	3A001.a.3
Microprocessor microcircuits above 530 MTOPS development/production technology.....	3E002.g
Microwave amplifiers, solid state.....	3A001.b.4
Microwave frequency extenders, mixers/converters	3A001.b.7
Microwave integrated circuit test equipment.....	3B002.c
Microwave integrated circuits.....	3A001.b.2
Microwave modules.....	3A001.b.2
Microwave or millimeter wave components	3A001.b
Microwave or millimeter wave components software.....	3D001
Microwave or millimeter wave components technology.....	3E001
Microwave “monolithic integrated circuits” (MMIC) power amplifiers.....	3A611.c, 3A001.b.2
Microwave Monolithic Integrated Circuit (MMIC) power amplifier technology	5E001.d or .e, 3E611.b.3, 3E001
Microwave power amplifiers	3A001.b.8
Microwave power modules (MPM).....	3A001.b.9
Microwave transistors (discrete).....	3A001.b.3
Microwave test receivers	3A002.f
Microwave wave components.....	3A001.b
Middle East respiratory syndrome-related coronavirus (MERS-related coronavirus) ...	1C351.a.30
MIG welders	2B999.d
Military commodities.....	0A919
Military components	3A611
Military construction equipment.....	0A617.y
Military electronics (equipment, end items, systems)	3A611

Description	ECCN Citation
Military explosive production equipment.....	1B018.a
Military ferries, bridges and pontoons.....	0A617
Military flame throwers with an effective range less than 20 meters.....	0A602.b
Military harbor entrance detection devices (magnetic, pressure, and acoustic).....	8A620
Military helmet.....	0A018
Military training equipment.....	0A614
Military vehicles.....	0A606
Military vehicle fording kits.....	0A606
Military vehicle self-launching bridge components.....	0A606
Millimeter wave components.....	3A001.b
Milling machines, (CNC) with two or more coordinated axes.....	2B001.b
Milling machines, (CNC) with two or more coordinated axes.....	2B201.a
Milling machines (CNC).....	2B991.d.1
Mills, fluid energy.....	1B119
Mining equipment.....	2B999.h
Mirror assemblies/segments, space assembly.....	6A004.c.3
Mirror characterization equipment, reflectometers.....	7B102.b
Mirror structures, lightweight foam or composite type.....	6A004.a.3
Mirrors, actively cooled or heat pipe cooled.....	6A005.e.1
Mirrors, beam steering.....	6A004.a.4
Mirrors, cockpit for military aircraft.....	9A610.y.15
Mirrors, optical.....	6A005.e.2
Mirrors, optical.....	6A004.a
Missile engine combustion regulation devices.....	9A118
Missile (usable) guidance sets.....	7A117
Missile telemetry.....	5A101
Missile modeling, simulation & integration software.....	9D103
Mixed Oxides of Nitrogen (MON).....	1C111.a.3.d
Mixers, batch.....	1B117
Mixers, continuous.....	1B118
Mixers, frequency extenders.....	3A001.b.7
Mobile communications equipment, assemblies and components.....	5A991.g
Modeccin.....	1C351.d.10
Modeling/simulation of guidance sets, software.....	7D103
Modems.....	5A991.b.2
Modular time interval meter.....	3A999.e2
Modules, microwave.....	3A001.b.2
Modules/assemblies, fast switching function.....	3A228.c
Molecular beam epitaxial growth equipment using gas sources.....	3B001.a.3
Molecular beam epitaxial growth equipment.....	3B991.b.1.e
Molecular beam mass spectrometers.....	3A233.e
Molybdenum alloy fibers.....	1C010.c Note 2

Description	ECCN Citation
Molybdenum & tungsten metals & alloys	1C117
Monel equipment including valves, piping, tanks and vessels	2B999.f
Monel plate	1C999.c
Monitoring equipment, radiation	1A999.a
Monitoring systems, toxic gas	2B351
Monkeypox virus	1C351.a.31
Monolithic integrated circuits	3A001.a Note 2
Monolithic integrated circuit repair or trimming laser equipment.....	3B991.b.1.m
Monolithic Microwave Integrated Circuit (MMIC) amplifiers	3A001.b.12
Monospectral imaging sensors.....	6A002.b
Motion control boards for machine tools.....	2B991.b
Motion simulators or rate tables	2B120
Multi-chamber central wafer handling systems.....	3B001.e
Multi-channel interval meter.....	3A999.e2
Multichip modules	3A611.h, y.16
Multi-data-stream processing equipment, development or production technology for	4E993
Multi-element detector arrays	6A002.a.3
Multi-layer hetero-epitaxial material substrates & wafers.....	3C001
Multi-layer masks (with phase shift layer), for integrated circuits.....	3B001.h
Multichip integrated circuits	3A001.a Note 2
Multichip modules	3A611.h, y.16
Multilevel security capability, equipment.....	5A002.d
Multimode optical fiber & cables, high tensile strength.....	5A001.c
Multiple-seal pumps.....	2B350.i
Multiplex equipment.....	5A991.b Note a.7
Multipoint initiation systems	3A232.b
Multipoint restraint devices	0A982
Multispectral imaging sensors	6A002.b
Multistage light gas gun systems	2B232
Multi-walled piping incorporating a leak detection port	2B350.h
Murray Valley encephalitis virus.....	1C351.a.32
Mycoplasma capricolum subspecies capripneumoniae ("strain F38").....	1C351.c.15
Mycoplasma mycoides subspecies mycoides SC (small colony) (a.k.a. contagious bovine pleuropneumonia).....	1C351.c.16
N,N Diethylacetamidine	1C350.d.20
N,N-Diethylbutanamidine.....	1C350.d.21
N,N-Diethylformamidine.....	1C350.d.22
N,N-Diethylisobutanamidine	1C350.d.23
N,N-Diethylpropanamidine	1C350.d.24
N,N-diisopropyl-beta-aminoethane thiol	1C350.b.8
N,N-diisopropyl-(beta)-amino ethanol	1C350.b.9

Description	ECCN Citation
N,N-diisopropyl-beta-aminoethyl chloride.....	1C350.b.10
N,N-diisopropyl-(beta)-aminoethyl chloride hydrochloride.....	1C350.b.11
N,N-Diisopropylbutanamidine.....	1C350.d.25
N,N-Diisopropylformamidine.....	1C350.d.26
N,N-Dimethylacetamidine.....	1C350.d.27
N,N-Dimethylbutanamidine.....	1C350.d.28
N,N-Dimethylformamidine.....	1C350.d.29
N,N-Dimethylisobutanamidine.....	1C350.d.30
N,N-Dimethylpropanamidine.....	1C350.d.31
N,N-Dipropylacetamidine.....	1C350.d.32
N,N-Dipropylbutanamidine.....	1C350.d.33
N,N-Dipropylformamidine.....	1C350.d.34
N,N-Dipropylisobutanamidine.....	1C350.d.35
N,N-Dipropylpropanamidine.....	1C350.d.36
NBC (Nuclear, biological and chemical) detection system software.....	1D003
NBC (Nuclear, biological and chemical) detection system libraries or parametric technical databases.....	1E002.g
NN-Diphenylurea (unsymmetrical diphenylurea).....	1C018.b
Name plates and identification plates.....	3A611.y.33
Nanocrystalline alloy strips.....	1C003.c
Natural gas liquids and derivatives produced or derived from Naval Petroleum Reserves.....	1C983
Navigation, airborne comm. & other avionics equip. technology.....	7E004, 7E994
Navigation, airborne communication and other avionics software.....	7D004, 7D994
Navigation/avionics equipment, systems, parts, components ... for military.....	7A611, 3A611
Navigation direction finding equipment.....	7A004-7A008, 7A103-7A105, 7A994
Navigation Satellite Systems ranging signals decryption software.....	7D005
Navigation systems, equipment & components, inertial.....	7A103
Navigation systems, equipment & components, inertial.....	7A003
Navigation systems, equipment, parts ... for military not on USML.....	7A611/3A611
Navigation systems, underwater sonar.....	7A008
NDT (non-destructive test) inspection equipment (3D).....	1B001.f
NDT (non-destructive test) inspection equipment.....	9B007
Neodymium lasers.....	6A005.d.6
Neodymium lasers.....	6A205.f
Nets (submarine or torpedo).....	8A620.e
Network analyzers.....	3A002.e
Network access controllers contained in computer equipment.....	4A994.i
Network access controllers contained in telecommunications.....	5A991.b.4.a
Neural computers/assemblies/components.....	4A004.b
Neural network integrated circuits.....	3A001.a.9
Neutron generator systems & tubes.....	3A231

Description	ECCN Citation
Neutronic calculations/modeling, software for.....	0D999.a
Newcastle disease virus	1C351.a.33
Nickel alloy.....	1C002.b.1
Nickel alloy/powder or particulate form	1C002.c.1.a
Nickel aluminides	1C002.a.1
Nickel electroplating equipment.....	2B999.i
Nickel metal (made from powder).....	1C240
Nickel powder.....	1C240
Night vision devices.....	6A002.a.2, 6A003.b.3, 6A003.b.4, 6A202 or 6A203
Night vision technology.....	6E002 or 6E101
Niobium alloys.....	1C002.b.2
Niobium alloy/powder or particulate form	1C002.c.1.b
Nipah virus	1C351.a.34
3-Nitroaza-1,5 pentane diisocyanate.....	1C018.l
Nitric acid.....	1C999.e
Nitrided niobium-titanium-tungsten alloy crucibles.....	2A225.a.7
2-Nitrodiphenylamine.....	1C111.c.3 or 1C018.h
Nitrogen dioxide (dinitrogen tetroxide).....	1C111.a.3.b
Nitroglycerin (in medicinal form).....	1C992.l
Nitroguanidine	1C011.d
P-Nitromethylaniline.....	1C018.i
N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethyl-2-chlorides and corresponding protonated salts	1C355.a.2.d
N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-ols and corresponding protonated salts	1C355.a.2.e
N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-thiols and corresponding protonated salts	1C355.a.2.f
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Scatterometers.....	7B002.a
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Sealers (semi-automatic or automatic hot cap) for ceramic microcircuit packages.....	3B991.b.3.c
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Semiconductor devices manufacturing equipment and systems.....	3B991.b
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Sensors, optical	6A002
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Signal tracking development/use technology, laser.....	5E001.b.2
Signature suppression devices, treatments & fittings	1C001
Signature (electromagnetic) reduction devices	1C001
Signature (electromagnetic) reduction devices	1A101
Signature suppression devices, treatments & fittings	1A101
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Silicon microcircuits	3A001.a
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Sodium cyanide.....	1C350.d.44
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Sodium (Na) metal vapor lasers.....	6A005.b
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Software, adaptive control	2D002.b.2
Software, adaptive control	2D992.a
Software, dedicated, for toxic gas monitoring systems and their dedicated detecting components controlled by 2B351	2D351
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Software, for coordinating function of multiple subsystems for use in missiles	9D105
Software, for potable electric generator development or production	2D994
Software for Nuclear materials, facilities and equipment.....	0D001
Software, numerical control.....	2D002 and 2D003
Software, real time processing in machine tools	2D002.b
Software, real time processing equipment operating systems	4D993.c
Software, recovery of source code.....	5D001.c.2
“Software” specially designed or modified for the “development”, “production” or “use” of items controlled by 2A290 or 2A291	2D290
“Software” specially designed or modified for the “development”, “production” or “use” of equipment controlled by 2A983	2D983
“Software” specially designed or modified for the “development”, “production” or “use” of equipment controlled by 2B991, 2B993, or 2B996, 2B997, and 2B998.....	2D991
“Software” specially designed or modified for the “development”, “production” or “use” of items controlled by 2A992 or 2A993	2D993
“Software” “specially designed” for ground vehicles and related commodities controlled by 0A606, 0B606, or 0C606	0D606
“Software” “specially designed” for commodities controlled by 0A617, “equipment” controlled by 0B617, or materials controlled by 0C617	0D617
“Software” specially designed for the “development” of the equipment controlled by 3A003.....	3D004
“Software” “specially designed” for the “development,” “production,” operation, failure analysis or anomaly resolution of commodities controlled by 9A515.d	9D515.d
“Software” “specially designed” for the “development,” “production,” operation, failure analysis or anomaly resolution of commodities controlled by 9A515.e	9E515.e
Solar cells, cell-interconnect-coverglass (CIC) assemblies, solar panels, and solar arrays (space qualified)	3A001.e.4 or 3A991
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Description	ECCN Citation
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Solid state imaging devices.....	6A203.b.3
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Solid-state pulsed power switching thyristor devices and thyristor modules	3A001.g
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Sonar processing equipment	6A001.a.2.b
Sonar log equipment	6A001.b
Sonar, Side Scan Sonar (SSS) designed for seabed imaging.....	6A001.a.1.a.3
Sonar, Synthetic Aperture Sonar (SAS) designed for seabed imaging.....	6A001.a.1.a.3
Sonar, underwater navigation system	7A008
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SONET (Synchronous Optical Network) technology.....	5E001.b.4
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Sounding rockets.....	9A104
Source code automatic generation software	4D993.b
Source code, development of avionic goods as specified.....	7D004
Source code recovery software	5D001.c.2
Space launch vehicles	9A004.g
Space probes	9A515
Space-qualified focal plane arrays	6A002. a.1.d
Space-qualified or radiation hardened photovoltaic arrays	3A001.e.1.c
Space-qualified solid state detectors.....	6A002.a.1
Space-qualified optical components	6A004.c
Spacecraft.....	9A515
Spacecraft buses.....	9A515
Spacecraft on-board systems.....	9A515
Spacecraft payloads	9A515
Spacecraft and related commodities	9A004 or 9A515
Spacecraft components	9A515 or 9A010
Spacecraft inertial navigation equipment/components	7A003
Spark-gaps, triggered	3A228.b

Description	ECCN Citation
Speakers	3A611.y.11
Spectrometry analytical instruments.....	3A999.f
Spherical or spheroidal aluminum powder	1C111.a.1
Spiked batons	0A983
Spin forming machines	2B009
Spin forming machines	2B209
Spin forming machines	2B9991
Spin forming machines capable of flow-forming functions	2B209
Spin forming machines combining spin-forming and flow-forming function.....	2B009
Spindle assemblies	2B998.a
Spindle assemblies, machine tools.....	2B008.d
Spray booms or arrays of aerosol generating units, specially designed for fitting to aircraft, lighter than air vehicles,” or “UAVs”	2B352.i.2
Spray cooling thermal management systems	3A003
Spray-drying equipment capable of drying toxins or pathogenic microorganisms	2B352.f
Spraying or fogging systems, specially designed for fitting to aircraft, “lighter than air vehicles,” or “UAVs”	2B352.i.1
Spraying production equipment, plasma with controlled atmosphere.....	2B005.d
Spread spectrum development technology techniques	5E001.b.4
Spread spectrum radio equipment.....	5A001.b.3
Spread spectrum spreading code generation.....	5A002.e
Sprytron tubes, vacuum	3A228.a
Sputter deposition production equipment	2B005.e
Sputtering equipment, magnetically enhanced	3B991.b.1.f
SQUIDs (Superconducting quantum interference devices)	6A006.a.1
St. Louis encephalitis virus	1C351.a.50
Staging mechanisms for missiles	9A117
Stainless steel plate	1C999.b
Staphylococcus aureus enterotoxins, hemolysin alpha toxin, and toxic shock syndrome toxin (formerly known as Staphylococcus enterotoxin F).....	1C351.d.14
‘Star trackers’ and components therefor	7A004
Statistical multiplex equipment.....	5A991.b Note a.7
Steam sterilizable freeze drying equipment.....	2B352.e
Steel, maraging	1C216
Steel, maraging	1C116
Steel, Titanium-stabilized duplex stainless (Ti-DSS).....	1C118
Steel plate, stainless	1C999.b
Stealth materials, coatings and treatments for signature suppression.....	0C617.a
Step & repeat equipment, semiconductor wafer processing.....	3B001.f.1
Stirling cycle engine, air independent.....	8A002.j.4
Storage phosphor image plates	1A999.b
Storage tanks, containers, receivers (chemical, with total internal volume greater	

Description	ECCN Citation
than 100 L) and prefabricated repair assemblies therefor	2B350.c
Stored program controlled (SPC) switching equipment	5A991.c
Stored program controlled (SPC) switching equipment, equipment for the development of equipment employing	5B001.b
Stored program controlled (SPC) switching equipment, software for the development of equipment employing	5D001.d
Stored program controlled (SPC) switching equipment, technology for the development of equipment employing	5E001.c
Stored program controlled equipment controlled by 3B, software for use of	3D002
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Straight jackets	0A982
Strap down/gimbal inertial navigation systems or equipment	7A003
Streak cameras, mechanical type	6A203.a.2
Streak cameras, mechanical or electronic	6A003.a.3
Streak tubes, electronic streak cameras	6A203.b.1
Streak cameras, electronic type	6A203.b.1
Striplines to provide low inductance path to detonators	3A234
Stroboscopic light systems	8A992.c
Structural composites production equipment	1B101
Structures and composite structures, laminate, and manufacturers for missiles	9A110
Stun guns	0A503
Stun cuffs	0A982
Submarine diesel engines	8A620.d
Submarine engines, n.e.s.	8A992.g
Submarine nets	8A620.e
Submarine vessel positioning systems, acoustic	6A001.a.1.d
Submersible systems	8A992.e
Submersible vessels, cargo and transport	8A620
Submersible vessels, military	8A620
Submersible vessels, oceanographic and associated commodities	8A620
Submersible vehicles operation software (unmanned)	8D999
Submersible vehicles/vehicle systems, equipment, or components (non-military)	8A002.a
Submersible vehicles/vehicle systems or equipment (non-military)	8A001
Substrate development/production technology, diamond film	3E003.d
Substrates, for X-ray masks	3B991.b.2.b.2
Substrates, hard surface coated	3B991.b.2.b.1
Substrates, multi-layer hetero-epitaxial materials	3C001
Substrates, semiconductor with resist coating	3C002
Substrates with at least one epitaxial layer of silicon carbide, gallium nitride, aluminum nitride or aluminum gallium nitride	3C006

Description	ECCN Citation
Suid herpesvirus 1 (Aujeszky's disease; Pseudorabies virus)	1C351.a.51
Suits, protective.....	1A004, 1A995 or 2B352.f.1
Sulphur dichloride.....	1C350.c.7
Sulphur monochloride.....	1C350.c.8
Supercomputers, see Computers	
Superconducting quantum interference devices (SQUIDs).....	6A006.a.1
Superconductive composite conductor	1C005
Superconductive gates, current switching.....	3A001.d.1
Superconductive electrical equipment	9A620.b
Superconductive electromagnetic sensors	6A996.b
Superconductive electromagnets or solenoids	3A201.b
Superconductive electromagnets or solenoids	3A001.e.3
Superconductive devices or circuits.....	3A001.d
Superconductive quantum interference devices (SQUIDs)	6A006.a.1
Superconductive propulsion engines	8A002.o.2.c
Superconductive electromagnetic sensors	6A996
Superconductive electronic device technology.....	3E003.c
Superplastic forming technology, metal working	2E003.b.1.a
Superplastic forming tools, dies, molds or fixtures	1B003
Superplastic forming technology/data, Al/Ti/Super alloys.....	2E003.b.2.a
Surface acoustic wave devices.....	3A001.c.1
Surface coating & processing equipment	2B005
Surface effect vehicles technology	8E002.c.1, c.2
Surface finishing equipment	3B991.b.1.k
Surface irregularity measuring equipment/instruments	2B006.c
Surface skimming (shallow bulk) acoustic wave devices.....	3A001.c.1
Surface vessel positioning systems, acoustic.....	6A001.a.1.d
Surface vessels & components.....	8A609
Surface vessels of war and related commodities	8A609
Surface wave radar, high frequency.....	3A611.e
Surreptitious interception devices.....	5A980
Surreptitious interception systems and equipment	5A001.f
Surreptitious interception systems and equipment, software for	5D001 or 5D980
Surreptitious interception systems and equipment, technology for	5E001 or 5E980
Survey equipment, surface vessel.....	6A001.a.1.a.1
Survey equipment, underwater	6A001.a.1.a.2
Survey systems or transmitting and receiving arrays, bathymetric	6A001.a.1.b
Swine fever virus (African)	1C351.a.2
Swine fever virus (Hog cholera virus)	1C351.a.9
Swine vesicular disease virus (Porcine enterovirus type 9).....	1C351.a.52
Switch fabric development/production technology	5A991.c.10
Switches, filtered and unfiltered mechanical	3A611.y.21

Description	ECCN Citation
Switching devices, modules or assemblies	3A228
Switching equipment, stored program controlled	5A991.c
Synchronous Digital Hierarchy (SDH) technology	5E001.b.4
Synchronous Digital Hierarchy (SDH) technology	5E991.a.2
Synchronous Optical Network technology (SONET).....	5E001.b.4
Synchronous Optical Network technology (SONET).....	5E991.a.2
Synchytrium endobioticum.....	1C354.b.9
Synthetic Aperture Sonar (SAS) designed for seabed imaging	6A001.a.1.a.3
Syntactic foam, underwater use	8C001
Synthetic crystalline laser host material	6C005
Synthetic diamond material	6C004.f
Synthetic aperture radar (SAR).....	6A008.d
Systolic array computers/assemblies/components	4A004.a
T-2 toxin.....	1C351.d.15
Tanks, austenitic stainless steel.....	2B999.n
Tanks, chemical storage (capacity greater than 100 L)	2B350.c
Tanks, monel.....	2B999.f
Tanks, stainless steel.....	2B999.g
Tank turret rings and sprockets induction hardening machines.....	2B018.m
Tank turret bearing grinding machines	2B018.s
Tantalum crucibles coated with tantalum carbide/nitride/boride.....	2A225.c
Tantalum made or lined crucibles.....	2A225.b
Tape designed for testing recording equipment of entry 3A002a.....	3A002.a
Tape bonders, stored program controlled equipment	3B991.b.3.b
Tape recording equipment	3A002.a
Tape-laying machines	1B101.b
Tape-laying machines	1B001.b
Tar sands	1C981
Tear gas.....	1A984
Tear gases and riot control agents	1C607.a
<i>Technology, see product group E for controls for each category.</i>	
Technology, airborne equipment	7E004.a
Technology, development of frequency hopping techniques	5E001.b.4
Technology, development of spread spectrum techniques	5E001.b.4
Technology, “development,” “production,” or “use” of “software” controlled by ECCN 3D201 or 3D202.....	3E202
Technology, diamond substrate film.....	3E003.d
Technology, for commodities controlled by 8A609, 8B609, or 8C609, or “software” controlled by 8D609	8E609
Technology, for ground vehicles and related commodities in 0A606, 0B606, 0C606 or software in 0D606.....	0E606
Technology, for items controlled by 0A617, 0B617, 0C617, 0D617.....	0E617

Description	ECCN Citation
Technology, for items controlled by 8A620, 8B620 or 8D620	8E620
Technology, gas turbine engine components.....	9E003.c, 9E619
Technology, gas turbine engine components.....	9E003.a, 9E619
Technology, helicopter power transfer systems.....	9E003.d, 9E619
Technology, hetero-structure semiconductor development.....	3E003.b
Technology, high output type diesel engines.....	9E003.e
Technology, integration software for expert systems	2E003.e
Technology, “production” or “use” of “software” controlled by ECCN 6D201	6E202
“Technology” specially designed or modified for the “development”, “production” or “use” of equipment controlled by 2A983, or the “development” of software controlled by 2D983.....	2E983
Technology “required” for the “development” or “production” of commodities controlled by ECCN 6A002.f - ROICs	6A002.f
“Technology” “required” for the “development,” “production,” operation, failure analysis or anomaly resolution of commodities controlled by 9A515.d.....	9E515.d
“Technology” “required” for the “development,” “production,” failure analysis or anomaly resolution of commodities controlled by 9A515.e	9E515.e
Technology, superconductive electronic device	3E003.c
Technology, tilt rotor/wing power transfer systems development.....	9E003.d, 9E610.a
Technology, vacuum microelectronic device	3E003.a
TEGDN (Triethylene glycol dinitrate) propellant additive	1C111.c.2
Telecommunications equipment	5A001
Telecommunications equipment, parts, components for a military application	5A611, 3A611
Telecommunications equipment, high and low temperature tolerant.....	5A991.a
Telecommunication equipment not controlled by 5A001	5A991
Telecommunications equipment/system software	5D001.c.1
Telecommunications interception equipment	5A001.f
Telecommunication monitoring equipment.....	5A001.f
Telecommunication test, inspection and production equipment	5B001
Telecommunications test equipment.....	5B991
Telecommunications transmission equipment, equipment for the development of equipment employing	5B001.b
Telecommunications transmission equipment, software for the development of equipment employing	5D001.d
Telecommunications transmission equipment, technology for the development of equipment employing	5E001.c
Telemetry & telecontrol equipment for missiles.....	5A101
Television cameras (radiation hardened), or lenses therefor	6A203.d
Television cameras, underwater.....	8A002.d.1.b
Television cameras, underwater.....	8A002.d.1
Television cameras, underwater	8A002.d.1.a
Television cameras, underwater.....	8A992.a.2

Description	ECCN Citation
Television systems (camera, lights, monitoring and signal transmission equipment), remote operation with submersible vehicle	8A992.a.1
Tellurium (Te).....	6C002.a
Tempest type equipment.....	5A003.b
Tension stretchers for prepregs/preform production	1B101.d
Terminal interface equipment.....	4A994.i
Terrestrial, marine acoustic equipment.....	6A991
Terrestrial equipment, specially designed for spacecraft.....	9A515
Teschin disease virus (Porcine Teschovirus)	1C351.a.38
Test benches/stands, for rockets/motors/rocket engines.....	9B117
Test, calibration or alignment equipment for equipment controlled by 7A.....	7B001
Test equipment - propellants and their constituents	1B115
Test equipment - specially designed for testing finished or unfinished semiconductor devices.....	3B002
Test facilities and equipment “specially designed” for military certification, qualification, or testing of commodities controlled by 1A607.e, .f, .g, .h, or .j or by USML XIV(f), except for XIV(f)(1).....	1B607.b
Test, inspection, and production commodities for military electronics.....	3B611
Test models for defense articles.....	0A617
Test receivers, microwave	3A002.f
Test tape designed for recording equipment of entry 3A002a.....	3A002.a
Testing equipment, for electronic components.....	3B992.b.4
Test, inspection, development and production equipment for Category 5 items.....	5B
Tetrazines.....	Annex to Cat 1 List of Explosives 47
Tetrodotoxin.....	1C351.d.16
TEX (4,10-Dinitro-2,6,8,12-tetraoxa-4, 10- diazaisowurtzitane)	Annex to Cat 1 List of Explosives 45
Thallium arsenic selenide (Tl ₃ AsSe ₃ or TAS)	6C004.b.3
Thecaphora solani	1C354.b.11
Thermal batteries	9A604
Thermal ionization mass spectrometers (TIMS).....	3A233.c
Thermal sensors, optical fiber.....	6A002.d.3
Thermoplastic liquid crystal copolymers.....	1C008.b
Thermoset resin impregnated materials	1C210.c
Thio-ethers, as lubricating fluids	1C006.b.1
Thiodiglycol.....	1C350.b.22
Thionyl chloride.....	1C350.c.9
Thrust tabs, thrust vector control subsystems	9A106.c
Thrust vector control sub-system.....	9A106.c
Thrusters, satellites	9A515
Thulium-YAG (Tm:YAG) lasers.....	6A005.c.1, c.2 or c.3
Thulium-YSGG (Tm:YSGG) lasers	6A005.c.1, c.2 or c.3

Description	ECCN Citation
Thumbcuffs	0A983
Thumbscrews	0A983
Thumbwheels	3A611.y.22
Thyristor devices and modules, solid-state pulsed power switching	3A001.g
Tick-borne encephalitis virus (Far Eastern subtype, formerly known as Russian Spring-Summer encephalitis virus)	1C351.a.53
Tick-borne encephalitis virus (Siberian subtype, formerly known as West Siberian virus)	1C351.b.3
Tilletia indica	1C354.b.10
Tilt rotor/tilt wing power transfer system technology	9E003.d, 9E610.a
Tilting spindles for machine tools.....	2B009.c
Time delay general, electronic equipment for	3A999.e
Time interval measurement, electronic equipment for	3A999.e
Time or frequency domain processing & correlation equipment	6A001.a.2.c
TIMS (Thermal ionization mass spectrometers).....	3A233.c
Tires (aircraft).....	9A610.y.1
Tires (ground vehicles), except run flat	0A606.15
Titanium alloys	1C002.b.3
Titanium alloys, as tubes/solid forms/forgings	1C202.b
Titanium alloy/powder or particulate form	1C002.c.1.c
Titanium aluminides	1C002.a.2
Titanium-based alloys.....	1C002.b.3
Titanium doped sapphire laser host material	6C005.a
Titanium-sapphire (Ti: Al ₂ O ₃) lasers	6A005.c.1, c.2 or c.3
Titanium-stabilized duplex stainless steel 9Ti-DSS).....	1C118
TMETN (trimethylolethane trinitrate)	1C111.c.4
Tooling and equipment “specially designed” for the “development,” “production,” repair, overhaul, or refurbishing of commodities controlled by 1A607.e, .f, .g, .h, or .j or by USML Category XIV(f)	1B607.c
Tooling for powder metallurgy rotor component manufacture	9B009
Torpedo nets.....	8A620.e
Torquemeter assembly software	9D619.b.9
Torture, specially designed implements of	0A983
Touchpads	3A611.y.28
Tow-placement machines	1B001.g, 1B101.a
Towed acoustic hydrophone arrays	6A001.a.2.b
Toxic gas monitors and monitoring systems	2B351
Toxins	1C350, 1C351, 1C355 or 1C395
Trackballs.....	3A611.y.12
Tracking radar.....	6A008.1.1
Tracking systems, precision	6A108.b.1
Tracking systems	6A008.1

Description	ECCN Citation
Tractors and parts.....	9A990
Transceivers, radio.....	5A001.b.2 through 10
Transceivers, radio.....	5A991.b.6 or 7
Transcoders (translation encoders).....	5A991.b Note a.6
Transducers, wall skin friction.....	9B008
Transducers, acoustic projectors.....	6A001.a.1.c
Transformers, electric.....	3A611.y.13
Transient recorders (Waveform digitizers).....	3A002.h or 3A992.g
Transistor test equipment, S-parameter measurement.....	3B002.a
Transistors, microwave.....	3A001.b.3, 3A611.d
Translation encoders (transcoders).....	5A991.b Note a.6
Transmission fluids, automatic.....	1C980
Transmission equipment.....	5A991.b
Transmission equipment for Improvised Explosive Devices (IED).....	5A001.h
Transmissions for tracked combat vehicles.....	0A606.d
Transmit/receive or transmit modules, transmit/receive MMICs or transmit MMICs....	3A001.b.12
Transmit/receive or transmit module technology.....	3E611.b.2, 3E001
Transmultiplex equipment.....	5A991.b Note a.9
Transport, handling, activation, and launch equipment.....	9A115
Traveling wave tubes (TWTs), industrial.....	3A001.b.1.a
Tributyl phosphate.....	1C999.d
Triethanolamine.....	1C350.c.10
Triethanolamine hydrochloride.....	1C350.d.48
Triethyl phosphite.....	1C350.c.11
Triethylene glycol dinitrate (TEGDN).....	1C111.c.2
Triggered spark-gaps.....	3A228.b
Triggers, high voltage.....	3A999.c
Tri-isopropyl phosphite.....	1C350.d.49
Trimethyl phosphite.....	1C350.c.12
Tritium, compounds & mixtures.....	1C235
Tritium plant or facilities equipment.....	1B231.b
Tritium production recovery, extraction & concentration handling facilities or plant.....	1B231.a
Tritium targets for production of tritium and related development and production technology.....	1A231
Tubes, gas krytron.....	3A228.a
Tubes, vacuum sprytron.....	3A228.a
Tunable band-pass filters.....	3A001.b.5
Tunable lasers.....	6A005.c
Tunable lasers, solid state.....	6A005.c.1, c.2 or c.3
Tungsten alloys.....	1C004
Tungsten alloy, parts.....	1C226

Description	ECCN Citation
Tungsten carbide, parts	1C226
Tungsten & molybdenum metal & alloys	1C117
Tungsten, parts	1C226
Turbines for use in nuclear reactors	2A290.a
Turbines, aero gas engines, test software.....	9D004.b, 9D619
Turbines, gas aero engines	9A001, 9A619.a
Turbo prop engines	9A619.a
Turbocompound engines.....	9A101
Turboexpanders and turboexpander-compressors	1B232
Turbofan & turbojet engines, lightweight.....	9A101, 9A619
Turboprop engine systems specially designed for items controlled by 9A012	9A102.a
Turning machines for optical quality surfaces.....	2B992.a
Turning machines (CNC).....	2B991.d.1
Turning machines.....	2B201.c
Turning machines (CNC).....	2B001.a
TV cameras (radiation-hardened), or lenses therefor	6A203.d
TV cameras, radiation-hardened, not specified in 6A203	6A999.b
Two dimensional focal plane arrays	6A002.a.3
TWTs (Traveling Wave Tubes)	3A001.b.1.a
UAVs (non-military).....	9A012.a
UAV (military) production facilities	9B610.c
Ultra high temperature ceramic composites	1C107.d.3
Ultrasonic test equipment for nuclear reactors	2A291.d
Underwater breathing apparatus, self-contained.....	8A992.h
Underwater cameras, photographic	8A002.d, e or f
Underwater camera equipment, n.e.s.....	8A992.d
Underwater communications systems.....	5A001.b.1
Underwater ElectroMagnetic Receivers (UEMR)	6A006.e
Underwater ElectroMagnetic Receivers (UEMR) software	6D003.f.3 or f.4
Underwater electric field sensors.....	6A006.b
Underwater lights.....	8A992.j
Underwater noise reduction technology	8E002
Underwater (propeller) noise reduction software	8D002
Underwater propulsion equipment.....	8A992.j
Underwater rebreathing apparatus	8A620.f
Underwater robots, computer controlled	8A002.h
Underwater sonar navigation systems	7A008
Underwater systems or equipment and parts, not controlled by 8A002	8A992
Underwater television cameras	8A992.a.2
Underwater vehicles, industrial	8A001
Underwater velocity measurement equipment.....	6A001.b
Underwater vessel positioning systems, acoustic	6A001.a.1.d

Description	ECCN Citation
Underwater vision systems	8A002.d
Underwater vision systems	8A992.a
Unmanned aerial vehicles, not specified in 9A102	9A120, 9A610
Unmanned aerial vehicles and associated systems, production equipment	9B010, 9A610
Unmanned aerial vehicles, associated equipment, systems, and components	9A012.b, 9A610
Unmanned air vehicle systems (UAVs) Non-military	9A012.a
Unmanned submersible vehicles	8A001.c.1
Unmanned submersible vehicle operation software	8D999
Unmanned tethered submersible vehicles	8A001.c.2
Unmanned untethered submersible vehicles	8A001.c.1
Uranium, depleted	1A290
Uranium titanium alloys	1C004
Urine collection bags/pads/cups/pumps for military aircraft	9A610.y.21
Vaccines and immunotoxins	1C991
Vacuum electronic devices	3A001.b
Vacuum furnaces	2B226
Vacuum furnaces	2B227
Vacuum induction furnaces	2B226
Vacuum induction furnace, power supplies	2B226
Vacuum melting, remelt & casting furnaces	2B227
Vacuum microelectronic device development/production technology	3E003.a
Vacuum pumps	2B231
Vacuum pumps	2B350.i
Vacuum pumps, bellows-sealed scroll-type	2B233
Vacuum tubes, electronic microwave	3A001.b.1
Vacuum sphytrion tubes	3A228.a
Vacuum valves, piping, flanges, gaskets	2B999.k
Valves, austenitic stainless steel	2B999.n
Valves, bellows seal	2A226
Valves, bellows	2B350.g
Valves (check) for hydraulic and pneumatic systems in military aircraft	9A610.y.4
Valves, double-seal	2B350.g
Valves, of or lined with stainless steel, copper-nickel alloy or other alloy steel (not having the characteristics of valves controlled by 2B350.g)	2A992
Valves, diaphragm	2B350.g
Valves, monel	2B999.f
Valves, multiple seal incorporating a leak detection port	2B350.g
Valves, non-return (check)	2B350.g
Valves, stainless steel	2B999.g
Valves, vacuum	2B999.k
Vapor sterilizable freeze drying equipment	2B352.e
Variola virus	1C351.a.54

Description	ECCN Citation
Vector processing unit technology.....	3E002
Vector processors/assemblies	4A003
Vehicle position determination software	6D103
Vehicles, “specially designed” for a military use	0A606.a
Vehicles, unarmed, off-road, and armored	0A606.b.1
Velocity interferometers (VISARs)	6A225
Velocity measurement equipment, underwater.....	6A001.b
Venezuelan equine encephalitis virus	1C351.a.55
Ventilated full or half (protective clothing) suits.....	2B352.f.1
Verocytotoxin producing E. coli (VTEC)	1C351.c.17
Verotoxin	1C351.d.13
Vesicular stomatitis virus.....	1C351.a.56
Vessels, austenitic stainless steel	2B999.n
Vessel positioning systems, acoustic	6A001.a.1.d
Vessel noise reduction equipment	8A002.o.3
Vessels, marine	8A001, 8A609, 8A620
Vessels, marine systems or equipment	8A992
Vessels, monel	2B999.f
Vessels, stainless steel	2B999.e
Vests, bulletproof & bullet resistant	1A005
Vibration test equipment, acoustic.....	9B006
Vibration test equipment, parts and components.....	9B990
Vibration test equipment using digital control techniques	2B116
Vibrio cholerae.....	1C351.c.21
Video cameras incorporating solid state sensors	6A003.b.1
Vinylidene fluoride copolymers, components of.....	1A001
virulans, fungi (Colletotrichum kahawae)	1C354.b.1
Virus protection software, mass market.....	5D992
Viruses	1C351 or 1C353
Viruses, animal pathogens	1C351.a
Viruses, human pathogens	1C351.a or .b
Viruses, plant pathogens	1C354.c
Viscous software, 2D or 3D engine flow modeling.....	9D004.a
Viscumin (Viscum album lectin 1).....	1C351.d.17
Vision systems, underwater	8A992.a
Vision systems, underwater	8A002.d
Voice print identification and analysis equipment and parts	3A980
Volkensin	1C351.d.18
Wafer handling systems, semiconductor	3B001.e
Wafer processing, semiconductor manufacture	3B001.e
Wafer probing equipment	3B992.b.3
Wafer production align and expose equipment	3B991.b.2.f

Description	ECCN Citation
Wafers, semiconductor with function determined	3A001.a
Wafers, comprising multiple epitaxially grown layers	3C001
Wall skin friction transducers	9B008
War implement machinery, equipment, gear, and specially designed parts and accessories therefor	2B018
Water cannon systems for riot or crowd control, and “parts” and “components” “specially designed” therefor	0A977
Water cannon systems “software” “specially designed” for the “development,” “production” or “use” of commodities controlled by 0A977.....	0D977
Water cannon systems “technology” “required” for the “development” or “production” of commodities controlled by 0A977.....	0E977
Water (deep) fording kits for ground vehicles.....	0A606.e
Water jet cutting machines (CNC).....	2B001.e.1.a
Water jet (pumpjet) propulsion systems	8A002.p
Waterplane area vessels (small).....	8E002.c.4
Water tanks (potable) and accessories for military aircraft	9A610.y.17
Water tanks (potable) and accessories for submersible vessels.....	8A620.y.7
Water tanks (potable) and accessories for surface vessels of war	8A609.y.7
Water tunnels, propulsion model acoustic field measurement	8B001
Water-hydrogen sulphide exchange tray columns	1B229
Wave division multiplex equipment	5A991.b.5
Waveform digitizers (Transient recorders).....	3A002.h
Wax pattern preparation equipment, ceramic shell	9B991.e
Weaving machines	1B001.c
Weight belts	8A992.i
Welders, MIG	2B999.d
Welders, E-beam.....	2B999.e
Welding machines, laser	2B999.c
Western equine encephalitis virus	1C351.a.57
Western red cedar, logs and timber.....	1C988
Wet-spinning equipment for refractory ceramics	1B101.c.3
Wet-spinning equipment for refractory ceramics	1B001.d.3
Wetsuits.....	8A992.i
Wide-swath bathymetric survey systems.....	6A001.a.1
Wigglers (free electron laser magnet) manufacturing or inspection equipment.....	6B995.a.1
Wind tunnel aero-model technology.....	9E003.b.1
Wind tunnel, control systems.....	9B005
Wind tunnels, usable for missiles	9B105
Winding machines, fiber optic gyro coil.....	7B003
Windows, glass for nuclear radiation shielding.....	1A227
Windows (ground vehicle), except those for armored vehicles	0A606.y.16
Windshield water and wiper systems for military aircraft.....	9A610.y.22

Description	ECCN Citation
Wing folding system software	0D521 No. 3
Wing folding system technology	9E003.j
Work stations, as computers having a CTP above 260 Mtops	4A003.b
X-ray converters.....	1A999.b
X-ray equipment for projection image transfer	3B991.b.2.g
X-ray generators, radiographic	3A201.c
X-ray machines, flash	3A999.c
X-ray (non planar) inspection equipment, rocket motors	9B007
Xanthomonas albilineans	1C354.a.1
Xanthomonas axonopodis pv. citri (Xanthomonas campestris pv, citri A) (Xanthomonas campestris pv. citri).....	1C354.a.2
Xanthomonas oryzae.....	1C354.a.3
Xanthomonas oryzae pv. oryzae (syn. Pseudomonas campestris pv. oryzae)	1C354.a.3
Yellow fever virus.....	1C351.a.58
Yersinia pestis	1C351.c.22
Yttrium oxide (yttria) (Y ₂ O ₃), crucibles made or coated	2A225.a.8
Zinc germanium biphosphide	6C004.b.4
Zinc germanium diphosphide	6C004.b.4
Zinc germanium phosphide.....	6C004.b.4
Zinc selenide (ZnSe), substrate blanks	6C004.a
Zinc sulphide (ZnS), substrate blanks.....	6C004.a
Zirconium fluoride (ZrF ₄) glass	6C004.e
Zirconium metal particulate	1C111.a.2.a.1
Zirconium metal, alloy, compounds, or manufacturers	1C234
Zirconium oxide (zirconia) (ZrO ₂) made/coated crucibles	2A225.a.9
Zoonotic pathogens and “toxins”	1C351

Note: Prior to October 15, 2013, the CCL contained certain ECCNs that were only included as cross references to items subject to the export control regulations administered by the Nuclear Regulatory Commission. ECCNs formerly listed on the CCL that, as of October 15, 2013 were subject to the export licensing authority of the Nuclear Regulatory Commission at 10 CFR part 110 are: 0A001, 0B001, 0B002, 0B003, 0B004, 0B005, 0B006, 0C001, 0C002, 0C004, 0C005, 0C006, 0C201 and 1C012. See Section § 774.1(b) for additional information.