

**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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Color center lasers.....	6A005.c.1, c.2 or c.3
Column, absorption or distillation	2B350.e
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).....	3A001.7.a, 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
Compound semiconductor integrated circuits	3A001.a.11

Description	ECCN Citation
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
Conotoxins	1C351.d.6

Description	ECCN Citation
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
Cryocoolers for optical sensors, space qualified.....	6A002.d.1

Description	ECCN Citation
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 enabling systems, equipment, integrated circuits, etc.....	5A002.b
Cryptographic enabling software	5D002.b
Cryptographic enabling 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
Damping, flotation or lubricating fluids	1C006.c
Data acquisition systems for gas turbine engine development	9B002, 9B619.a
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

Description	ECCN Citation
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-CO ₂) 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
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

Description	ECCN Citation
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
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

Description	ECCN Citation
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
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

Description	ECCN Citation
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
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

Description	ECCN Citation
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
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

Description	ECCN Citation
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 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

Description	ECCN Citation
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
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

Description	ECCN Citation
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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Description	ECCN Citation
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Herpesvirus (Suid herpesvirus 1; a.k.a. Pseudorabies virus, Aujeszky's disease)	1C351.a.51
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High explosive containment vessels, chambers, containers, and similar containment devices not enumerated under ECCN 1B608 or in USML Category IV or V	1B234
High power pulse shaping networks	3A999.c
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High-speed cameras and imaging devices and "components" therefore, "software" "specially designed" to enhance or release the performance characteristics of devices	

Description	ECCN Citation
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HIPS (Hot Isostatic Presses)	2B004
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Hydraulic fluids	1C996
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Description	ECCN Citation
Hydraulic fracturing items	0A998.b
Hydraulic fracturing ‘proppant,’ ‘fracking fluid,’ and chemical additives therefor	0A998.b.2
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Hydraulic stretch-forming machines and dies technology.....	2E003.c
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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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Image enhancement equipment.....	4A994.f
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Description	ECCN Citation
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Inertial navigation, systems/equipment/components	7A003
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Inertial reference Systems (IRS).....	7A003.c
Inertial sensors, optical fiber.....	6A002.d.3.a
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Description	ECCN Citation
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Information security software.....	5D002
Information security systems/equipment/devices/components.....	5A002
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Information security - test, inspection, and production equipment	5B002
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Infrared sensors, industrial	6A002.c
Infrared viewers (police model).....	9A980
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Injector (free electron laser photo) manufacturing or inspection equipment.....	6B995.a.2
Inorganic overlay coating application technology.....	2E003.f
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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
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Integrated circuit test equipment, microwave.....	3B002.c
Integrated circuit test equipment, for (truth table) testing	3B002.b
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Integrated circuits, compound semiconductor	3A001.a.11
Integrated circuits, custom.....	3A001.a.10
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Integrated circuits, radiation hardened.....	3A001.a.1
Integrated circuits and assemblies manufacturing equipment and systems.....	3B991.b
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Integrated circuits and assemblies inspection or testing equipment and systems.....	3B992.b
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Description	ECCN Citation
Integrated Navigation Systems, designed or modified for use in missiles	7A103.c
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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
Interrupters, ground fault circuit	3A611.y.18
Interstages for missiles	9A117
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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
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Isostatic presses, hot	2B204
Isostatic presses, hot	2B004
Isostatic presses, n.e.s.	2B999.a
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Description	ECCN Citation
James Webb Space Telescope (JWST) and “parts,” “components,” “accessories” and “attachments” that are “specially designed” for the JWST	9A004.u and .v
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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
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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
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Laser pointing devices for use on firearms that have focal plane array (visible wavelength only), technology for	0E504

Description	ECCN Citation
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
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Lights, underwater	8A992.j
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Lightweight turbofan/turbojet engines.....	9A101, 9A619.a
Line terminating equipment.....	5A991.b Note a.2
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Linear position feedback units or sensors	2B006.b.2
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Description	ECCN Citation
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Liquid rocket propulsion systems & components.....	9A106
Liquid rocket propulsion systems & components.....	9A006
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Lithium amalgam electrolysis cells	1B233.b.3
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Lithography equipment, mask making for semiconductor wafer-processing	3B001.f
Lithography mask or reticle fabrication equipment.....	3B991.b.2.d.2
Lithography software	3D003
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Logic processors and assemblies	4A003
Louping ill virus.....	1C351.a.24
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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
Machine tools for grinding (CNC).....	2B001.c

Description	ECCN Citation
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
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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
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Magnetic compensation systems software.....	6D003.f.1
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Magnetometers.....	6A006
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Magnetostrictive alloys.....	1C003.b
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Mandrels, bellows-forming	2B228.c
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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.l
Marine engines and parts (both inboard and outboard, n.e.s.)	8A992.g
Marine gas turbine engines	9A002
Marine, terrestrial acoustic equipment	6A991
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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, 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
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Metal coated fiber preforms	9A110
Metal coated fiber preforms for fiber prepreps in 9C110	9C110
Metal or carbon matrix	1A002.b
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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

Description	ECCN Citation
Microbiological disposal technology.....	1E351
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
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Microwave integrated circuit test equipment.....	3B002.c
Microwave integrated circuits.....	3A001.b.2
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Microwave or millimeter wave components	3A001.b
Microwave or millimeter wave components software.....	3D001
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Microwave “monolithic integrated circuits” (MMIC) power amplifiers.....	3A611.c, 3A001.b.2
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Microwave power amplifiers	3A001.b.8
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Microwave test receivers	3A002.f
Microwave wave components.....	3A001.b
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MIG welders	2B999.d
Military commodities.....	0A919
Military components	3A611

Description	ECCN Citation
Military construction equipment.....	0A617.y
Military electronics (equipment, end items, systems)	3A611
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

Description	ECCN Citation
Molecular beam epitaxial growth equipment	3B991.b.1.e
Molecular beam mass spectrometers	3A233.e
Molybdenum alloy fibers.....	1C010.c Note 2
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

Description	ECCN Citation
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
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
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Name plates and identification plates	3A611.y.33
Nanocrystalline alloy strips.....	1C003.c
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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 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

Description	ECCN Citation
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
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.....	1C018.1
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).....	1C992.1
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
N,N-Dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidic dihalides	1C355.a.2.b
N-Nonanoylmorpholine, (MPA) (CAS 5299-64-9).....	1C607.a.6
Noise reduction equipment for vessels, acoustic mounts	8A002.o.3.a
Noise cancellation systems for vessels, active.....	8A002.o.3.b
Noise reduction systems for vessels, active.....	8A002.o.3.b
Non-destructive inspection equipment	1B001.f
Non-destructive test inspection equipment, rocket motor	9B007
Non-fluorinated polymeric substances	1C008
Non-fluorinated polymeric manufactures	1A003
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Resistors, fixed.....	3A611.y.23
Restraint devices (electronic monitoring).....	3A981
Restraint devices, law enforcement, including leg irons, shackles, and handcuffs; straight jackets, stun cuffs; shock belts; shock sleeves,	

Description	ECCN Citation
multipoint restraint devices, restraint chairs	0A982
Reticles, integrated circuits of 3A001	3B001.g
Reticles and designs	3B991.b.2
Reticle sights	0A504.d
Reticle sights that have focal plane array (visible wavelength only), technology for	0E504
Rhenium and alloys containing rhenium	1C241
Rheostats	3A611.y.8
Ricin	1C351.d.11
Rickettsia prowazekii	1C351.c.17
Rift Valley fever virus	1C351.a.42
Rigid-walled, single-use cultivation chambers	2B352.b.2.b
Rinderpest virus	1C351.a.43
Ring laser gyro mirror characterizing equipment	7B002
Ring Magnets	0A999
Riot control agents and tear gases	1C607.a
Robot end-effectors	2B207
Robot end-effectors	2B007
Robot controllers for high explosive handling	2B207
Robot controllers	2B007
Robots not controlled by 2B007 or 2B207	2B997
Robots, specially designed to operate at high altitudes	2B007.d
Robots, explosive/munitions environment handling	2B007.b
Robots, radiation hardened	2B007.c
Robots with real time 3D image processing or scene analysis	2B207
Robots specially designed for underwater use	8A002.h
Rocio virus	1C351.a.44
Rocket fuels	1C111
Rocket/rocket motor, test benches/stands	9B117
Rocket engines, solid propellant	9A107
Rocket motors, hybrid	9A109
Rocket nozzles	9A106.b
Rocket stages, other than those of 9A005/7/9, 9A105/107/109	9A119
Rocket motor inspection equipment	9B007
Rockets, sounding	9A104
Roller bearings, solid	2A001.a
Rollers for prepregs/preform production	1B101.d
Rotary position feedback units	2B006.c
Rotor assembly mandrels, bellows forming	2B228.a
Rotor centrifugal balancing machines	2B229
Rotor components, tooling for manufacture	9B009
Rotor fabrication/assembly equipment	2B228.a

Description	ECCN Citation
Rotor forming mandrels, precision	2B209.b
Rotor straightening equipment or systems.....	2B228.b
Routers, telecommunications.....	5A991.c.10
Ruby lasers.....	6A995.c
Russian Spring-Summer encephalitis virus (Tick-borne encephalitis virus).....	1C351.a.53
S-parameter test/measurement equipment	3B002.a
S20 and S25 photocathodes	6A002
Sabia virus.....	1C351.a.45
Safety cabinets, capable of biological use	2B352.f.2
Saint Louis (St. Louis) encephalitis virus.....	1C351.a.50
Salmonella enterica subspecies enterica serovar Typhi (Salmonella typhi).....	1C351.c.18
Salvage systems, ocean.....	8A001.e
Saps.....	0A978
SARS-related coronavirus (SARS-CoV).....	1C351.a.47
Satellite communication equipment technology.....	5E001.b.1
Satellite receivers	7A005
Satellite receivers, other than those of 7A005	7A105
Satellites, commercial communications.....	9A004, 9A515
SAW (Surface Acoustic Wave) devices	3A001.c.1
Saxitoxin	1C351.d.12
Scanning cameras & systems.....	6A003.b.2
Scatterometers.....	7B002.a
Scatterometers, to characterize mirrors for laser gyro equipment	7B102.a
Sclerophthora rayssiae var. zae	1C354.b.8
Scramjet engines/components.....	9A011
Scuba gear.....	8A992.h
SDH (Synchronous Digital Hierarchy) technology	5E001.b.4
SDH (Synchronous Digital Hierachy) technology	5E991.a.2
Sealers (semi-automatic or automatic hot cap) for ceramic microcircuit packages.....	3B991.b.3.c
Seal-less pumps.....	2B350.i
Seals, aircraft/aerospace use	1A001.a, 9A610.x
Search lights.....	0A617.y.5
Seats, seat assemblies, seat supports, and harnesses – for ground vehicles.....	0A606.y.14
Security equipment, information	5A002
Security equipment, information, software.....	5D002
Security imaging equipment	2A984, 2D984 or 2E984
Security scanning equipment	2A984, 2D984 or 2E984
Segmented mirrors, assembly in space	6A004.c.3
Seismic detection equipment	6A999.a
Semiconductor, test equipment.....	3B002

Description	ECCN Citation
Semiconductor compound photocathodes	6A002.a.2.c.3
Semiconductor components, extended temperature range.....	3A001.a.2
Semiconductor component design software, computer-aided-design	3D003
Semiconductor device discrete testing equipment.....	3B992.b.4.a
Semiconductor device inspection or testing equipment and systems	3B992.b
Semiconductor device or material manufacturing equipment	3B001
Semiconductor devices manufacturing equipment and systems.....	3B991.b
Semiconductor lasers	6A005.d.1
Semiconductor materials purifying or processing equipment	3B991.b.1.b
Semiconductor probing systems, electron & laser beam	3B002.d
Sensing devices (electronic)	6A002.a.2.a.2.b
Sensing elements, hydrophone	6A001.a.2.a
Sensing fibers, optical (not controlled by 6A002)	6C992
Sensor materials, optical	6C002
Sensors, direction finding systems (passive)	7A115
Sensors, industrial infrared	6A002.a
Sensors, linear position feedback unit	2B006.b.2
Sensors, Micromachined Angular Rate	7A994
Sensors, multispectral imaging	6A002.b
Sensors, optical	6A992
Sensors, optical	6A002
Sensors, pressure (manganin & quartz)	6A226
Sensors, radiation hardened	6A102
Sensors, superconductive electromagnetic	6A996
Seoul virus	1C351.a.46
Separation mechanisms for missiles	9A117
Separators, centrifugal (biological).....	2B352.c
Separators, electromagnetic isotope.....	1B226
Servo valves, gel propellant control systems	9A106.d
Severe acute respiratory syndrome-related coronavirus (SARS-related coronavirus) ...	1C351.a.47
Shackles	0A982
Shaft encoders (rotary input type), and rings, discs or scales therefor	3A001.f
Shaving machines, gear	2B003
Sheeppox virus (Sheep pox virus)	1C351.a.48
Shields, police.....	0A979
Shiga toxins (shiga-like toxins, verotoxins, and verocytotoxins)	1C351.d.13
Shiga toxin producing Escherichia coli (STEC) of serogroups O26, O45, O103, O104, O111,O121, O145, O157, and other shiga toxin producing serogroups	1C351.c.19
Shigella dysenteriae	1C351.c.20
Ship vessel positioning systems, acoustic.....	6A001.a.1.d
Shims for gas turbine engines.....	9A619.y.6

Description	ECCN Citation
Shock batons	0A503
Shock belts	0A982
Shock shields	0A503
Shock sleeves	0A982
Shock tubes	1C608.b or 1C992.c
Shoes, protective	1A004 or 1A995
Shot pistols or shotguns with shoulder stock removed and pistol grip attached	0A502
Shortwave radio technology	5E001.c.4.c
Shotgun shells	0A505.c
Shotgun shell manufacturing equipment	0B505
Shotgun shells, buckshot.....	0A502
Shotgun shells, technology for the development or production of	0E502
Shotguns, barrel length 18 inches or over.....	0A502
Shotguns made in or before 1898	EAR99
Shotgun trigger mechanisms, magazines, magazine extension tubes, receivers.....	0A502
Shrink fit machines for rotor fabrication/assembly	2B228.a
Side Scan Sonar & Synthetic Aperture Sonar (SAS) designed for seabed imaging... 6A001.a.1.a.3	
Sidelooking airborne radar (SLAR).....	6A008.d
Sights and sighting devices for firearms	0A504
Sights and sighting devices for firearms that have focal plane array (visible wavelength), technology for	0E504
Signal processor microcircuits	3A001.a.3 Note
Signal generators, frequency synthesizer based.....	3A002.d
Signal analyzers	3A002.c
Signal processing devices, acousto-optic.....	3A001.c.3
Signal processing equipment, sonar.....	6A001.a.1.d
Signal processing equipment	4A994.f
Signal processing equipment, general purpose digital.....	4A003
Signal processing equipment, hydrophone arrays	6A001.a.2.c
Signal (information bearing) reducing systems, equipment and components	5A003.b
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
Silicon carbide (SiC) substrate blanks	6C004.d
Silicon, hetero-epitaxial grown multi-layer substrates	3C001.a
Silicon microcircuits	3A001.a
Silicone carbide wafers or semiconductor substrates, ingots, boules or preforms	3C005.a
Silicon-on-sapphire integrated circuits	3A001.a Note 2

Description	ECCN Citation
Silicone fluid, fluorinated	1C006.b.2
Silver gallium selenide (AgGaSe ₂)	6C004.b.2
Silylated resists for semiconductor lithography	3C002.d
Simulators for nuclear reactors	2A291.b
Simultaneous initiation arrangements or systems, single & multipoint	3A232.b
Single crystal casting control software	9D004.c
Single crystal casting equipment	9B001.a, 9B619
Single crystals	6C002.b
Single mode optical fiber & cable	5A991
Single point diamond turning techniques, technology	6E003.d.2
Single-element & focal plane arrays, space-qualified	6A002.e
Single-use cultivation chambers with rigid walls	2B352.b.2.b
Sin Nombre virus	1C351.a.49
Skin friction transducers, wall	9B008
Slapper detonators (Electric).....	1A007 or 3A232.a.3
Slug guns.....	0A502
Slurries and emulsions, commercial prefabricated	1C608.h
Slurry propellant control systems	9A106.d
Smoke bombs.....	1A984
Smoke detector for military aircraft.....	9A610.y.27
Sodium azide.....	1C992.1
Sodium bifluoride	1C350.d.43
Sodium cyanide.....	1C350.d.44
Sodium fluoride	1C350.d.45
Sodium hexafluorosilicate	1C350.d.46
Sodium (Na) metal vapor lasers.....	6A005.b
Sodium sulfide	1C350.d.47
<i>Software, see product group D for controls in each category</i>	
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
Software, electronic devices	2D002
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”,	

Description	ECCN Citation
“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
Solenoids.....	3A611.y.10
Solenoids, superconductive.....	3A001.e.3
Solenoids, superconductive	3A201.b
Solid propellant rocket engines.....	9A107
Solid rocket propulsion systems	9A007
Solid rocket propulsion system, components.....	9A008
Solid rocket propulsion system, components.....	9A108
Solid state cameras.....	6A003.b.1
Solid state joining equipment, tools/dies/fixtures	9B004
Solid state imaging devices.....	6A203.b.3
Solid-state imaging devices	6A002
Solid-state pulsed power switching thyristor devices and thyristor modules	3A001.g
Solid state lasers, tunable.....	6A005.c
Solid state microwave amplifiers.....	3A001.b.4
Solid-state power semiconductor switches, diodes, or 'modules'	3A001.h
Sonar, active individual	6A001.a.1.e
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

Description	ECCN Citation
Sonar signal processing equipment.....	6A001.a.1.d Note a
SONET (Synchronous Optical Network) technology.....	5E001.b.4
SONET (Synchronous Optical Network) technology.....	5E991.a.2
Sounding rocket use software	9D101
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
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

Description	ECCN Citation
Spread spectrum radio equipment.....	5A001.b.3
Spread spectrum spreading code generation.....	5A002.e
Spryttron 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 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
Stored program controlled crystal pullers.....	3B991.b.1.c.2
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

Description	ECCN Citation
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
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

Description	ECCN Citation
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
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

Description	ECCN Citation
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
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

Description	ECCN Citation
“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
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
Teschen 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

Description	ECCN Citation
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
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

Description	ECCN Citation
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
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

Description	ECCN Citation
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 spraytron	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
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

Description	ECCN Citation
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
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 vehicle operation software	8D999
Unmanned tethered submersible vehicles.....	8A001.c
Unmanned untethered submersible vehicles.....	8A001.d
Uranium, depleted.....	1A290

Description	ECCN Citation
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 sprytron 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
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

Description	ECCN Citation
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
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 (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

Description	ECCN Citation
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
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

Description	ECCN Citation
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.