

**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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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 cable systems, secure .....	5A002.a.7
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
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.f

Description	ECCN Citation
Composites production equipment .....	1B001
Composite structures for propulsion systems or space vehicles .....	9A110, 9A619.x
Composites (structural) production equipment .....	1B101
Compound rotary tables for machine tools .....	2B008.c
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
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 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

Description	ECCN Citation
Congo-Crimean haemorrhagic fever virus (a.k.a. Crimean-Congo haemorrhagic fever virus) .....	1C351.a.5
Conotoxin .....	1C351.d.6
Construction equipment “specially designed” for military use .....	0A617.y.1
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
Continuous mixers .....	1B118
Contrarotating propellers .....	8A002.o.1.b
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
Converter integrated circuits.....	3A001.a.5
Converters, frequency .....	3A225
Converters, frequency extender .....	3A001.b.7
Cooling fluid (fluorocarbon electronic) development, production, or use technology.....	1E994
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
Coprocessors or accelerators, graphics .....	4A003.d
Correlation-velocity sonar log equipment .....	6A001.b
Counter-current solvent extractors.....	0B006.c
Counter Improvised Explosive Device equipment .....	5A001.h
Coxiella burnetii.....	1C351.c.13
Crime science laboratories, parts and accessories, nonmilitary mobile.....	9A980
Crimean-Congo haemorrhagic fever virus (a.k.a. Congo-Crimean haemorrhagic fever virus) .....	1C351.a.5
Critically safe tanks, nuclear fuel reprocessing .....	0B006.b
Cross-flow filtration equipment.....	2B352.d
Crossed-field amplifier tubes .....	3A001.b.1.b
Crucibles, liquid actinide resistant .....	2A225

Description	ECCN Citation
Crucibles, tantalum .....	2A225.b or c
Crude petroleum or shale oil.....	1C981
Cryocoolers for optical sensors, space qualified.....	6A002.d.1
Cryocoolers for optical sensors, non-space qualified .....	6A002.d.2
Cryptanalytic equipment or devices, digital .....	5A002.a.2
Cryptoanalytic equipment and components, n.e.s. ....	5A992
“Cryptographic activation” equipment .....	5A002.j
Cryptographic enabling systems, equipment, integrated circuits, etc.....	5A002.b
Cryptographic enabling software .....	5D002.d
Cryptographic enabling technology .....	5E002.b
Cryptographic equipment and components, n.e.s. ....	5A992
Cryptography equipment or devices, digital .....	5A002.a.1
Cryptography equipment or devices, analog .....	5A002.a.3
Cryptologic equipment, software for the development, production or use of .....	5D992
Cryptologic equipment and components, n.e.s. ....	5A992
Cryptologic equipment, technology for the development, production or use of .....	5E992
Crystal pullers and furnaces.....	3B991.b.1.c
CTPB (Carboxy-terminated polybutadiene) .....	1C111.b.1
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
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
Decanters, centrifugal .....	2B352.c
Decontamination equipment .....	1A004 or 1A995
Deep-hole drilling machines .....	2B001.f

Description	ECCN Citation
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
Dengue fever virus .....	1C351.a.6
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, 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.4
Diacetoxyscirpenol toxin .....	1C351.d.7
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
Diaphragms, made from fluoroelastomers.....	1A001.c
Diaphragm valves .....	2B350.g
Dibromotetrafluoroethane based damping or flotation fluids.....	1C006.c.1
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

Description	ECCN Citation
Dies, bellows-forming.....	2B228.c
Diesel engines, n.e.s.....	9A990
Diesel cycle engine, air independent .....	8A002.j
Diethyl ethylphosphonate .....	1C350.b.3
Diethyl methylphosphonite.....	1C350.b.4
Diethyl phosphite.....	1C350.c.1
Diethyl-N, N-dimethylphosphoramidate .....	1C350.b.5
Diethylaminoethanol.....	1C350.d.3
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
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.....	3A002a.5
Dimensional inspection or measuring systems or equipment not controlled by 2B006.....	2B996
Dimensional inspection machines.....	2B206
Dimensional inspection equipment/systems.....	2B006.a
Dimensional inspection equipment/systems.....	2B006.c



Description	ECCN Citation
Dimensional measuring equipment, instruments/systems .....	2B006.b
Dimethyl ethylphosphonate .....	1C350.b.10
Dimethyl methylphosphonate .....	1C350.b.11
Dimethyl phosphite .....	1C350.c.2
Dimethylamine.....	1C350.d.5
Dimethylamine hydrochloride .....	1C350.d.6
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.....	0A985
Disk drive (magnetic hard) development or production technology .....	4E993.c
Display, 3D (software for) .....	7D004.g
Disruptors.....	1A006.b
Dissolvers, for nuclear fuel .....	0B006.b
Distillation columns .....	2B350.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.7
Doppler laser interferometers (DLIs).....	6A225
Double seal valves .....	2B350.g
Drilling equipment .....	2B999.h
Drilling machines, deep-hole .....	2B001.f
Drone (military) production facilities .....	9B610.c
Dry etching equipment, anisotropic plasma.....	3B001.c

Description	ECCN Citation
Dye lasers.....	6A005.c
Dye lasers.....	6A205
Dynamic adaptive routing equipment.....	5A991.c.9
Dynamic wavefront (phase) measuring equipment.....	6A005.f.1
Dynamic adaptive routing software.....	5D991.a
E-beam welders.....	2B999.e
Earth moving equipment, large.....	2B999.h.2
Eastern equine encephalitis virus.....	1C351.a.8
EB-PVD (Electron beam physical vapor deposition) equipment.....	2B005.c
Ebola virus.....	1C351.a.9
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.....	0A985
Electric detonators, explosive.....	3A232a
Electric propulsion engines.....	8A002o.2.b
Electrical discharge machines, non wire feed (CNC).....	2B001.d
Electrical discharge machines (EDM) of the wire feed type.....	2B991.d.2
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
Electromagnetic interference (EMI) protection technology.....	7E102
Electromagnetic isotope separators.....	1B226
Electromagnetic pulse (EMP) protection, detectors.....	6A102
Electromagnetic pulse (EMP) protection technology, avionics.....	7E102
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

Description	ECCN Citation
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 cyclotron resonance (ECR) plasma dry etching equipment .....	3B001.c.1.b
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.1.c .....	2B006.b.1.d
Electronic cameras .....	6A003.a.5
Electric chairs.....	0A981
Electronic components.....	3A001
Electronic components.....	3A201
Electronic components.....	3A101
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
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
Electronically steerable antennae, phased array .....	5A001.d
Electroplating equipment .....	2B999.i
EMP/EMI protection technology, avionic systems .....	7E102
Encoders, rotary input shaft type .....	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

Description	ECCN Citation
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.b, or 9B610.b
Environmental chambers, capable of simulating flight conditions.....	9B106.a, 9B610.b
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.12
Erbium oxide (erbia) (Er <sub>2</sub> O <sub>3</sub> ) made/coated crucibles .....	2A225.a.4
Etching stored program controlled equipment.....	3B991.b.1.h
Ethers, as lubricating fluid .....	1C006.b.1
0-ethyl-2-diisopropylaminoethyl methylphosphonite (QL).....	1C350.a.1
Ethyl centralites .....	1C018.a
Ethyl phenyl urethane .....	1C018.e
Ethyl phosphinyl dichloride.....	1C350.b.12
Ethyl phosphinyl difluoride .....	1C350.b.13
Ethyl phosphonous dichloride.....	1C350.b.12
Ethyl phosphonous difluoride.....	1C350.b.13
Ethyl phosphonyl dichloride.....	1C350.b.14
Ethyl phosphonyl difluoride .....	1C350.a.2
Ethyl-NN-diphenylurea (ethyl unsymmetrical diphenylurea) .....	1C018.d
Ethyldiethanolamine (139-87-7).....	1C355.b.2.a
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.....	1A008 or 1C992.1
Explosives (military) production equipment .....	1B018.a

Description	ECCN Citation
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
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 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 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
Fibrous or filamentary material production equipment .....	1B001
Fibrous or filamentary material production equipment .....	1B101.c
Fibrous and filamentary materials development, production or use technology .....	1E994
Field programmable gate arrays (FPGA) .....	3A001.a.7
Field programmable logic arrays (FPLA) .....	3A001.a.7
Field programmable logic devices .....	3A001.a.7
Field programmable logic devices .....	3A991.c
Filament winding machines .....	1B001.a
Filament winding machines .....	1B101.a
Filament winding machines .....	1B201
Filling equipment, remotely controlled .....	2B350.f
Film type integrated circuits .....	3A001.a Note 2
Filter canisters .....	1A004 or 1A995
Filters, tunable band-pass .....	3A001.b.5

Description	ECCN Citation
Filters for clean rooms .....	3B991.b.4
Filters (fuel or oil) for gas turbine engines .....	9A619.y.4
Filters (hydraulic, fuel, oil, air) for ground vehicles .....	0A606.y.8
Filters, optical .....	6A994.a
Filters for hydraulic/oil/fuel systems in military aircraft .....	9A610.y.8
Filters for pneumatic/hydraulic/oil/fuel systems in submersible vessels .....	8A620.y.2
Filters for pneumatic/hydraulic/oil/fuel systems in surface vessels of war .....	8A609.y.2
Finger cuffs .....	0A983
Fingerprint analyzers, cameras and equipment .....	3A981
Fingerprint equipment, computers for .....	4A980
Fingerprinting powders, dyes, inks .....	1A985
Fingers, for surface effect vessels .....	8A002.k
Finishing machines, gear .....	2B003
Finishing machines, gear .....	2B003
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Firearms, muzzle-loading (black powder) .....	0A018.c
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Fireworks displays .....	1C608.j or 1C992.k
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Flanges, vacuum .....	2B999.k
Flares, non-irritant smoke .....	1A984
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Flash X-ray machines .....	3A999.c
Flexible rotor centrifugal balancing machines .....	2B229.a
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Flexible nozzles, thrust vector control sub-system .....	9A106.c
Flexible waveguide .....	3A991.h
Flight management system integration technology .....	7E104
Flight control servo valves .....	9A106.e
Flight control systems for missiles .....	7A116
Flight control systems for military UAVs or drones .....	9A610.w
Flight control systems - software .....	7D003.e and 7D004
Flight instrument systems, integrated .....	7A103.b
Flight instrument trainer, military .....	9A610.t
Flight control system development technology .....	7E004
Flight control actuator technology .....	7E004.a.5
Flow-forming machines .....	2B009
Flow-forming machines .....	2B109
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Flow-forming machines .....	2B999i

Description	ECCN Citation
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Fluoride glass (bulk) .....	6C994.a.2
Fluorinated silicone fluid .....	1C006.b.2
Fluorinated compounds, components .....	1A001
Fluorinated compounds, unprocessed .....	1C009
Fluorinated phosphazene elastomers .....	1C009.c
Fluorinated polyimide .....	1C009.b
Fluorine .....	1C999.f
Fluorine production (electrolytic cells).....	1B225
Fluorocarbon electronic cooling fluid development, production, or use technology .....	1E994
Fluorocarbon electronic cooling fluids .....	1C006.d
Fluorophosphate glass.....	6C004.e
Fluorocarbon electronic cooling fluids .....	1C006.d
Fluxgate magnetometer technology .....	6E003.f
Fly cutting machines .....	2B001.b.4 or 2B992.b
Fly-by-light flight control system software .....	7D003.e, 7D004.c, 0D521 No. 2
Fly-by-light technology .....	7E004.b
Fly-by-wire flight control system software.....	7D003.e, 7D004.c, 0D521 No. 2
Fly-by-wire systems for military UAVs or drones .....	9A610.w
Fly-by-wire systems for missiles .....	7A116
Fly-by-wire control system technology .....	7E004.b and 0E521 No. 6
Foam, syntactic for underwater use (in any stage of manufacture) .....	8C001 or 8A002.a.4
Foam mirror structures, lightweight .....	6A004.a.3
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Focal plane arrays, linear & 2D .....	6A002.a.3
Focal plane arrays, non-space qualified.....	6A002.a.3.g
Focal plane arrays, space qualified. ....	6A002.a.1.d
Focal-plane array performance determining equipment .....	3B992.b.4.c
Fogging or spraying systems, specially designed for fitting to aircraft, “lighter than air vehicles,” or “UAVs” .....	2B352.h.1
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Fording (water) kits for ground vehicles .....	0A606.e
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Framing cameras, mechanical.....	6A203.a.1
Framing tubes & solid state imaging devices .....	6A203.b.3
Framing cameras, electronic type .....	6A003.a.4
Francisella tularensis.....	1C351.c.14
Free electron laser magnet wiggler manufacturing or inspection equipment .....	6B995.a.1

Description	ECCN Citation
Free electron laser photo injector manufacturing or inspection equipment.....	6B995.a.2
Freeze drying equipment, steam sterilizable.....	2B352.e
Freon and chilled water cooling systems.....	1B999.d
Frequency agile (frequency hopping) radio equipment.....	5A001.b.3
Frequency agile systems.....	5A002.a.5
Frequency agile tubes.....	3A001.b.1
Frequency hopping development technology.....	5E001.b.4
Frequency analyzers (signal analyzers).....	3A002.c
Frequency changers.....	3A999.a
Frequency changers (converters or inverters).....	3A225
Frequency changers (a.k.a. converters or inverters) and generators, “software” “specially designed” for the “use” of.....	3D201
Frequency changers (a.k.a. converters or inverters) and generators, “software” “specially designed” to enhance or release the performance characteristics of equipment to meet or exceed the performance characteristics in ECCN 3A225.....	3D202
Frequency extenders, mixers/converters.....	3A001.b.7
Frequency network analyzers.....	3A002.e
Frequency standards, atomic.....	3A002.g
Frequency synthesized signal generators.....	3A002.d
Frequency synthesizer, electronic assemblies.....	3A001.b.11
Fuel oils.....	1C980
Fuel elements, (irradiated) reprocessing plant & equipment.....	0B006
Fuel element chopping or shredding machines.....	0B006.a
Fuel cell air independent power systems.....	8A002.j
Fuel lines and hoses for gas turbine engines.....	9A619.y.3
Fuel filters for gas turbine engines.....	9A619.y.4
Full Authority Digital Electronic Engine Control software.....	9D003, 9D619
Functional (truth table) testing equipment, for integrated circuits.....	3B002.b
Fungi, human and zoonotic pathogens and “toxins”.....	1C351.e
Fungi, plant pathogens.....	1C354.b
Furnaces.....	2B226
Furnaces, Chemical Vapor Deposition (CVD), other than those controlled by 2B005.a, designed or modified for the densification of carbon-carbon composites.....	2B105
Furnaces.....	2B227
Fused silica glass.....	6C004.e
GaAs photocathodes.....	6A002.a.2.c.3
GaInAs photocathodes.....	6A002.a.2.c.3
Galleys (military aircraft).....	9A610.y.9
Galleys (submersible vessels).....	8A620.y.3
Galleys (surface vessels of war).....	8A609.y.3
Gallium organo-metallic compounds.....	3C003
Gallium III/V compound substrates, hetero-epitaxial grown-multi-layer.....	3C001.c



Description	ECCN Citation
Gallium nitride (GaN) “substrates”, ingots, boules, or other preforms of those materials.....	3C005
Gallium selenide .....	6C004.b.5
Gallows .....	0A981
Gas centrifuge rotor assembly equipment.....	2B228.a
Gas krytron tubes .....	3A228.a
Gas or full face masks.....	1A004 or 1A995
Gas centrifuge rotor balancing equipment.....	2B229
Gas, manufactured, synthetic or natural liquid produced or derived from Naval Petroleum Reserves .....	1C984
Gas discharge & ion lasers.....	6A005.a
Gas and oil exploration equipment, software, and data .....	0A998
Gas lasers .....	6A005.a
Gas monitoring systems, toxic.....	2B351
Gas turbine aeroengines, civil non-certified/supersonic.....	9A001
Gas turbine blade, manufacturing or measuring equipment .....	9B001, 9B619
Gas turbine blade technology.....	9E003.a, 9E619
Gas turbine blades, vanes or tip shroud casting equipment, tooling or fixtures .....	9B991, 9B619
Gas turbine brush seal production/test equipment.....	9B003, 9B619
Gas turbine components, solid state joining equipment .....	9B004, 9B619
Gas turbine engine development systems/instrumentation.....	9B002, 9B619
Gas turbine engine development control systems or instrumentation .....	9B002, 9B619
Gas turbine engine propulsion systems assemblies/components.....	9A003, 9A619
Gas turbine engine technology.....	9E003, 9E619
Gas turbine engine development and use software.....	9D004, 9D619
Gas turbine engine monitoring system software.....	9D619.b.11
Gas turbine engines, parts and components, not controlled by 9A001 or 9A101 .....	9A991, 9A619
Gas turbine engines & assemblies/components, marine.....	9A002
Gas turbine test/flow modeling software .....	9D004.a, 9D619
Gas turbine (aero engine) test software .....	9D004.b, 9D619
Gaskets, made from fluoroelastomers.....	1A001.c
Gaskets, aircraft/aerospace use .....	1A001.a, 9A610.x
Gaskets, ground vehicles .....	0A606.y.9
Gaskets, vacuum .....	2B999.k
Gate silicon intensifier target (SIT) videcon tubes .....	6A203.b.3.b
Gateways & bridges.....	5A991.b.4.b
Gauges and indicators (analog cockpit).....	9A610.y.2
Gauges and indicators (submersible vessels).....	8A620.y.10
Gauges and indicators (surface vessels of war) .....	8A609.y.10
GDMS (Glow discharge mass spectrometers).....	3A233.b
Gear honing, shaving, grinding, cutting, and finishing machines .....	2B003

Description	ECCN Citation
Gearmaking and/or finishing machinery not controlled by 2B003 .....	2B993
Generator systems, neutron.....	3A231
Generators and other equipment for nuclear plants .....	2A290
Generators, digital time delay.....	3A999.e1
Generators, for ground vehicles.....	0A606.y.2
Generators, field – “specially designed for military use.....	0A617.y.4
Generators, high-current pulse for detonators .....	3A229
Generators, high-speed pulse .....	3A230
Generators, marx.....	3A999.c
Generators, portable electric .....	2A994
Genetically-modified microorganisms.....	1C353
Germanium, hetero-epitaxial grown multi-layer substrates.....	3C001.b
Gimbals, optical control.....	6A004.d.3
Glass fiber or filamentary materials.....	1C210.b
Glass fiber, for optical communications .....	5A001.c
Glass matrix reinforced composite materials.....	1C007.f
Glass preforms, for optical fiber production.....	5C991
Glass Windows, nuclear radiation shielding.....	1A227
Glass, high homogeneity.....	6C004.e.3
Global Navigation Satellite Systems (GNSS) ranging signals decryption software .....	7D005
Global positioning system (GPS) equipment & components .....	7A005, 7A105 or 7A994
Glove boxes .....	0B999
Gloves, protective .....	1A004 or 1A995
Glow discharge mass spectrometers (GDMS).....	3A233.b
GNSS (Global Navigation Satellite Systems) ranging signals decryption software .....	7D005
Goat pox virus.....	1C352.a.5
Gold (Au) metal vapor lasers.....	6A005.b
GPS equipment, other than those of 7A005 .....	7A105
GPS (Global positioning system) equipment/components .....	7A005
Gradiometers & components, gravity.....	6A007.c
Gradiometers & components, gravity.....	6A107
Gradiometers & components, magnetic.....	6A006
Graphics accelerators or graphics coprocessors .....	4A003.d
Graphics accelerator development or production technology .....	4E993.a
Graphite, fine grain recrystallized bulk .....	1C107.a
Graphite, bulk .....	1C107.a
Graphite, pyrolytic or fibrous reinforced.....	1C107.b
Graphite, nuclear-grade, not intended for use in a nuclear reactor.....	1C298
Gravimeters (Gravity meters) & components, gravity .....	6A007.a
Gravimeters (Gravity meters) & components, gravity .....	6A007.b
Gravimeters (Gravity meters) & components, gravity .....	6A107
Gravity meter (gravimeters) products & calibration equipment.....	6B007

Description	ECCN Citation
Gravity meters.....	6A997
Gravity gradiometers & components .....	6A007.c
Gravity meters (gravimeters) & components.....	6A007.b
Gravity meters (gravimeters) & components.....	6A007.a
Gravity meters (gravimeters) software .....	6D003.g
Gravity gradiometers & components .....	6A107
Gravity meters (gravimeters) & components.....	6A107
Gravity gradiometer software .....	6D003.g
Greases .....	1C980
Grenades, non-irritant smoke.....	1A984
Grinding machines (CNC) .....	2B991.d.1
Grinding machines, gear .....	2B003
Grinding machines .....	2B201.b
Grinding machines .....	2B001.c
Ground vehicles & related commodities.....	0A606
Guanarito virus.....	1C351.a.10
Guanidine nitrate.....	1C011.c or 1C608.m
GUDN (Guanylurea dinitramide) FOX-12 (CAS 217464-38-5) .....	Annex to Cat 1 List of Explosives 46
Guidance sets usable in missiles .....	7A117
Guillotines.....	0A981
Gun barrel rifling and broaching machines and tools therefor .....	2B018.e or f
Gun barrel trepanning machines .....	2B018.g
Gun boring and turning machines.....	2B018.h
Gun honing machines .....	2B018.i
Gun, immobilization .....	0A985
Gun jump screw lathes.....	2B018.j
Gun rifling machines.....	2B018.k
Gun, shotgun .....	0A984
Gun straightening presses .....	2B018.l
Gun, stun.....	0A985
Gyro dynamic balance stations .....	7B003 or 7B101
Gyro tuning test stations .....	7B003 or 7B101
Gyro run-in/motor test stations .....	7B003 or 7B101
Gyro evacuation/fill stations .....	7B003 or 7B101
Gyro-astro compasses & devices .....	7A104
Gyros & gyro components .....	7A102
Gyros.....	7A002
Gyroscope production/manufacturing/test equipment .....	7B003
Hafnium oxide (hafnia) (HfO <sub>2</sub> ) made/coated crucibles .....	2A225.a.5
Hafnium metal, alloys & compounds .....	1C231
Hafnium fluoride (HfF <sub>4</sub> ) glass .....	6C004.e

Description	ECCN Citation
Hair type absorbers .....	1C001.a Note 1.a
Handcuffs .....	0A982
Handling equipment for propellants and their constituents .....	1B115
Handling systems, semiconductor wafers .....	3B001.e
Hantaan virus .....	1C351a.11
Harbor entrance detection devices for submersible vessels .....	8A620.c
Hard surface coated substrates .....	3B991.b.2.b.1
Harnesses, complete .....	9A992, 9A610.h
Heading sensors, towed hydrophones .....	6A001.a.2.b.4
Heading sensors .....	6A001.a.2.d
Heat exchangers for use in nuclear reactors .....	2A290.a
Heat exchangers & condensers .....	2B350.d
Heat pipe cooled mirrors .....	6A005.e.1
Helicopter system development technology .....	7E004.c
Helicopter power transfer system technology .....	9E003.d, 9E610
Helium, enriched .....	1C232
Helium refrigeration units .....	1B231.b.1
Helium .....	1C980
Helium-3 .....	1C232
Helix Tubes .....	3A001.b.1.a.4
Helmet, military .....	1A613.c and .y.1
Helminthosporium oryzae (Cochliobolus miyabeanus) .....	1C354.b.2
Hemishell dimensional inspection equipment/systems .....	2B006.c
Hendra virus (Equine morbillivirus) .....	1C351.a.12
Hetero-epitaxial grown multi-layer substrates .....	3C001
Hetero-structure semiconductor technology .....	3E003.b
High energy storage capacitors .....	3A001.e.2
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
High voltage capacitors .....	3A999.c
High voltage triggers .....	3A999.c
High-speed pulse generators .....	3A230
High-speed cameras .....	6A003
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
High-velocity gun systems .....	2B232
Hinges for ground vehicles .....	0A606.y.11

Description	ECCN Citation
HIPS (Hot Isostatic Presses) .....	2B204
HIPS (Hot Isostatic Presses) .....	2B004
HIPS (Hot Isostatic Presses) .....	2B104
Hogcholera virus (swine fever virus).....	1C352.a.7
Holding or storage vessels, critically safe & resistant to nitric acid .....	0B006.e
Hollow cylinder centrifugal balancing machines .....	2B229.b
Holographic sights .....	0A987
Honing machines, gear .....	2B003
Honing machines, gear.....	2B003
Hopping code generation capability, equipment with .....	5A002.a.5
Horses by sea .....	0A980
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
Hoses (pneumatic) for ground vehicles .....	0A606.y.13
Hot isostatic presses (HIPS) .....	2B204
Hot isostatic densification technology/data, Al/Ti/Superalloys.....	2E003.b.2.d
Hot isostatic presses (HIPS).....	2B004
Hot cap sealers (semi-automatic or automatic) for ceramic microcircuit .....	3B991.b.3.c
Hot cell manipulators .....	2B225
Hot cells .....	0B999
Hot isostatic presses (HIPS) .....	2B104
Hovercraft .....	8A001
HT-2 toxin.....	1C351.d.8
HTPB (Hydroxy-terminated polybutadiene) propellant additive .....	1C111.b.2
Hull penetrators/connectors, fiber optic.....	8A002.c
Human pathogens and “toxins” .....	1C351
Hybrid integrated circuits .....	3A001.a Note 2
Hybrid rocket propulsion systems .....	9A009
Hybrid computers & components .....	4A001
Hybrid computers and electronic assemblies.....	4A994.k
Hybrid computers .....	4A102
Hybrid computer electronic systems/electronic assemblies .....	4A001.a
Hybrid rocket motors and components .....	9A109
Hydraulic fluids .....	1C006.a
Hydraulic fluids .....	1C980
Hydraulic fluids .....	1C996
Hydraulic forming equipment.....	2B999.b
Hydraulic fracturing items .....	0A998.b

Description	ECCN Citation
Hydraulic fracturing ‘proppant,’ ‘fracking fluid,’ and chemical additives therefor .....	0A998.b.2
Hydraulic pressing, direct-acting technology .....	2E003.b.1.c
Hydraulic stretch-forming machines and dies technology.....	2E003.c
Hydrazine .....	1C111.d
Hydrides of Antimony, arsenic & phosphorus .....	3C004
Hydrocarbon oils, synthetic .....	1C996
Hydroclave temperature, pressure or atmosphere regulation technology.....	1E103
Hydrodynamic calculations/modeling, software for.....	0D999.c
Hydrofoil vessels .....	8A001.h
Hydrofoils .....	8A002.m
Hydrogen.....	1C980
Hydrogen cyanide (74-90-8).....	1C355.b.1.c
Hydrogen fluoride.....	1C350.d.7
Hydrogen fluoride (HF) lasers .....	6A005.d.5.a
Hydrogen isotope storage & purification systems .....	1B231.b.2
Hydrogen refrigeration units.....	1B231.b.1
Hydrogen sulphide-water exchange tray columns .....	1B229
Hydrogen-cryogenic distillation columns.....	1B228
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.8
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
III/V compound substrates, gallium or indium.....	3C001.c
Identification plates for gas turbine engines .....	9A619.y.7
Igniters .....	1C608.e or 1C992.f
Image enhancement, digital equipment .....	4A003
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
Image transfer equipment .....	3B991.b.2
Imaging cameras .....	6A003.b
Imaging cameras with focal plane arrays of 6A002.a.3.....	6A003.b.4
Imaging cameras with image intensifiers of 6A002.a.2.a.....	6A003.b.3
Imaging cameras incorporating solid-state detectors specified by 6A002.a.1.....	6A003.b.5
Imaging devices .....	6A203.b.3
Imaging equipment, visible & infrared.....	6A002.c
Imaging sensors, multispectral and monospectral .....	6A002.b

Description	ECCN Citation
Immobilization guns and projectiles.....	0A985
Immunotoxins and vaccines.....	1C991
Impregnated cathodes for electronic tubes .....	3A001.b.1.c
Imprint lithography equipment .....	3B001.f.2
Improvised explosive devices (specially designed or modified disposal equipment , components, and accessories) .....	1A006
Improvised Explosive Devices (IED) activation devices .....	5A001.h
IMU platform balance fixture .....	7B003 or 7B101
IMU platform tester .....	7B003 or 7B101
IMU stable element handling fixture .....	7B003 or 7B101
Incinerators designed to destroy the chemicals controlled by 1C350.....	2B350.j
Independent (air) power systems underwater .....	8A002.j
Indicator heads designed/modified for use with balancing machines in 2B119.a.....	2B119.b
Indium organo-metallic compounds .....	3C003
Indium III/V compounds substrates.....	3C001.c
Induction coil magnetometers.....	6A006.c
Induction furnace, controlled environment inert gas .....	2B226
Induction furnace, vacuum.....	2B226
Inductively coupled plasma mass spectrometers (ICP/MS) .....	3A233.a
Industrial process control hardware/systems designed for power industries.....	1B999.c
Industrial process control hardware/systems designed for power industries controlled by 1B999, software for.....	1D999.a
Inert gas environment induction furnaces.....	2B226
Inertial Measurement Equipment.....	7A003.c
Inertial measurement equipment.....	7A003
Inertial measurement unit tester (IMU module) .....	7A003, 7B003 or 7B101
Inertial navigation, systems/equipment/components .....	7A103.a
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
Inertial sensors, optical fiber.....	6A002.d.3.a
Inflatable boats and components.....	8A992.f
Inflation cartridges .....	8A992.i
Influenza virus .....	1C351.b.1
Information security equipment software .....	5D992
Information security technology support software .....	5D002.b
Information security equipment and components, n.e.s. ....	5A992
Information security software .....	5D002
Information security systems/equipment/devices/components.....	5A002
Information security technology .....	5E992
Information security - test, inspection, and production equipment .....	5B002

Description	ECCN Citation
Infrared detectors, industrial space qualified .....	6A002.a.1
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.c
Inspection equipment for composite materials .....	1B001.f
Inspection machines (dimensional), devices or systems, other than those in 2B006 .....	2B206
Instruction generators for machine tools - technology .....	2E003.d
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
Integrated circuit, Direct Digital Synthesizer (DDS).....	3A001.a.13
Integrated circuit test equipment, microwave.....	3B002.c
Integrated circuit test equipment, for (truth table) testing .....	3B002.b
Integrated circuit, masks .....	3B001.g
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
Integrated circuits and assemblies inspection or testing equipment and systems.....	3B992.b
Integrated flight instrument systems/components .....	7A103.b
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
Intercepting systems and equipment, communications .....	5A001.f
Intercepting devices, communications.....	5A980
Interconnect equipment (Computer).....	4A003.g
Interconnection equipment.....	3B991.b.1.1



Description	ECCN Citation
Interferometers, velocity (VISARs).....	6A225
Interlacing machines .....	1B001.c
Intermediate amplifier equipment.....	5A991.b Note a.3
Interstages for missiles.....	9A117
Intrinsic magnetic gradiometers.....	6A006.c.3
Inverse synthetic aperture radar (ISAR) .....	6A008.d
Inverters (Frequency changers or converters).....	3A225
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
Ion-exchange processing equipment.....	0B006.c
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
Isostatic presses, n.e.s. ....	2B999.a
Isotope separators, electromagnetic .....	1B226
Jamming equipment .....	5A001.f.3
Japanese encephalitis virus .....	1C351.a.13
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
Junin virus.....	1C351.a.14
Kerr or Pocket cells, electro-optical shuttering.....	6A203.b.3.c
Kick motors.....	9A004
Krytron tubes, gas .....	3A228.a
Kyasanur Forest virus .....	1C351.a.15
Laboratories (mobile), crime science.....	9A980

Description	ECCN Citation
Laguna Negra virus.....	1C351.a.16
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 .....	2B008.a
Laser based measuring instruments .....	2B006.b.1.c
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 gyro mirror characterization equipment.....	7B102
Laser microphone.....	6A005.g
Laser pointing devices for use on firearms .....	0A987
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 fever virus .....	1C351.a.17
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.c
Lidar equipment (Laser radar) .....	6A008.j

Description	ECCN Citation
Life jackets.....	8A992.i
Life rafts for military aircraft.....	9A610.y.12
Lift fans, for surface effect vessels .....	8A002.1
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
Light-weight reduction gearing, marine transmissions.....	8A002.o.1.d
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 voltage displacement transformer (LVDT) based instruments .....	2B006.b.1.b.1
Linear position feedback units or sensors .....	2B008.a
Linear measuring equipment/instruments.....	2B006.b.1
Linear focal plane arrays .....	6A002.a.3
Linear-angular inspection equipment for hemishells.....	2B006.c
Liquid oxidizers, various nitrous oxides.....	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 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

Description	ECCN Citation
Logic processors and assemblies .....	4A003
Louping ill virus.....	1C351.a.18
Low Light Level (LLL) camera software .....	6D003
Lubricating materials .....	1C006.b
Lubricating oil.....	1C980
Lujo virus .....	1C351.a.19
Lumpy skin disease virus.....	1C352.a.16
LVDT (Linear voltage displacement transformer) based instruments .....	2B006.b.1.b.1
Lymphocytic choriomeningitis virus .....	1C351.a.20
Lyssavirus (including rabies virus and all other members of the Lyssavirus genus) .....	1C352.a.8
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
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 instruction generators - development technology.....	2E003.d
Machine tool rotary position feedback units.....	2B008.b
Machine tool spindles .....	2B008.c
Machining centers (CNC).....	2B201
Machining centers (CNC).....	2B001
Machupo virus .....	1C351.a.21
Magnaporthe oryzae (Pyricularia oryzae).....	1C354.b.6
Magnesium (high purity) .....	1C228
Magnesium alloy, powder or particulate form .....	1C002.b.1.e
Magnesium alloys .....	1C002.a.2.e
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

Description	ECCN Citation
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 confinement plasma dry etching equipment .....	3B001.c.1.a
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 hard disk drive development or production technology .....	4E993.c
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
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
Marburg virus.....	1C351.a.22
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
Marx generators .....	3A999.c
Mask, gas or full face.....	1A004 or 1A995
Mask or reticle altering holders or equipment .....	3B991.b.2.d.3

Description	ECCN Citation
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
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
Mechanical cameras, framing .....	6A003.a.1, 2 or 3
Media access units .....	5A991.b Note a.12
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
Metal alloy powders or particulate form .....	1C002.b
Metal alloy particulate .....	1C111.a.2.a.4
Metal alloys .....	1C002.a
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 preregs in 9C110 .....	9C110

Description	ECCN Citation
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 centralites.....	1C018.a
Methyldiethanolamine (105-59-9).....	1C355.b.2.b
Methyl phosphinyl dichloride .....	1C350.b.15
Methyl phosphinyl difluoride .....	1C350.b.16
Methyl phosphonous dichloride.....	1C350.b.15
Methyl phosphonous difluoride .....	1C350.b.16
Methyl phosphonyl dichloride .....	1C350.b.17
Methyl phosphonyl difluoride (DF).....	1C350.a.3
Methyl benzilate.....	1C350.d.9
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 (Cyanginosin).....	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
Microprocessor microcircuits .....	3A001.a.3
Microprocessor microcircuits above 530 MTOPS development/production technology.....	3E002.g

Description	ECCN Citation
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 Circuit (MMIC) power amplifier technology .....	5E001.d or .e
Microwave power modules (MPM).....	3A001.b.9
Microwave transistors (discrete).....	3A001.b.3
Microwave test receivers .....	3A002.f
Microwave wave components.....	3A001.b
MIG welders .....	2B999.d
Military construction equipment.....	0A617.y
Military explosive production equipment.....	1B018.a
Military ferries, bridges and pontoons .....	0A617
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
Military commodities.....	0A919
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 control equipment, phased array/segment.....	6A004.d.4
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



Description	ECCN Citation
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 toxin .....	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
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
Monkey pox virus .....	1C351.a.23
Monolithic integrated circuits.....	3A001.a Note 2
Monolithic integrated circuit repair or trimming laser equipment.....	3B991.b.1.m
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
Multi-data-stream processing equipment, development or production technology for .....	4E993.b
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
Multilevel security capability, equipment.....	5A002.a.6
Multimode optical fiber & cables, high tensile strength.....	5A001.c
Multiple-seal pumps.....	2B350.i
Multiplex equipment.....	5A991.b Note a.7

Description	ECCN Citation
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.24
Mycoplasma capricolum subspecies capripneumoniae ("strain F38").....	1C352.b.1.b
Mycoplasma mycoides subspecies mycoides SC (small colony) (a.k.a. contagious bovine pleuropneumonia).....	1C352.b.1.a
N,N-diisopropyl-beta-aminoethane thiol .....	1C350.b.6
N,N-diisopropyl-(beta)-amino ethanol .....	1C350.b.8
N,N-diisopropyl-beta-aminoethyl chloride.....	1C350.b.9
N,N-diisopropyl-(beta)-aminoethyl chloride hydrochloride.....	1C350.b.7
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
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, 0E521 No. 6
Navigation, airborne communication and other avionics software ....	7D004, 7D994, 0D521 No. 2
Navigation direction finding equipment .....	7A004-7A008, 7A103-7A105, 7A994
Navigation systems, equipment & components, inertial .....	7A103
Navigation systems, equipment & components, inertial .....	7A003
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
Neutronic calculations/modeling, software for.....	0D999.a
Newcastle disease virus .....	1C352.a.9
Nickel alloy.....	1C002.a.2.a
Nickel alloy/powder or particulate form .....	1C002.b.1.a

Description	ECCN Citation
Nickel aluminides .....	1C002.a.1.a
Nickel based alloys .....	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.a.2.b
Niobium alloy/powder or particulate form .....	1C002.b.1.b
Nipah virus .....	1C351.a.25
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
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
Non-irritant smoke flares, canisters, grenades and charges .....	1A984
Non-linear optical materials .....	6C004.c
Non-planar absorbers .....	1C001.a Note 1.b
Non-tunable continuous wave (CW) lasers .....	6A005.a or 6A995.e
Non-tunable pulsed lasers .....	6A005.b or 6A995.d
Non-tunable solid state lasers .....	6A005a or b or 6A995.f
Nozzles, for producing pyrolytically derived materials .....	1B116
Nozzles, rocket motor (liquid) .....	9A106.b
Nuclear material handling and processing equipment .....	2A291

Description	ECCN Citation
Nuclear materials, facilities, and equipment software .....	0D001
Nuclear plant commodities, parts and accessories.....	2A291.d
Nuclear reactor, eddy current test equipment .....	2A291.d
Nuclear reactor equipment.....	2A291
Nuclear reactor, simulators .....	2A291.b
Nuclear reactor, ultrasonic test equipment.....	2A291.d
Nuclear reactors fuel element (irradiated) reprocessing plant/equipment .....	0B006
Nuclear technology for the development, production or use of nuclear materials, facilities, and equipment .....	0E001
Numerical control for machine tools - software .....	2D002 and 2D003
Numerical control for machine tools - technology .....	2E003.d
Numerical control units for machine tools and numerically controlled machine tools, n.e.s.....	2B991
Numerically controlled machine tools .....	2B290
Numerically controlled machine tools that can be equipped with electronic devices for simultaneous contouring control.....	2B991.c
O-ring for ground vehicles.....	0A606.y.9
Object detection and location systems or transmitting and receiving arrays (acoustic).....	6A001.a.1.b
Ocean salvage systems.....	8A001.e
Off highway wheel tractors.....	9A990
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Oil lines and tubes for military gas turbine engines .....	9A619.y.2
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Oil, lubricating, cutting, or quenching.....	1C980
Oils, distillate fuel.....	1C980
Omsk haemorrhagic fever virus.....	1C351.a.26
On-highway tractors.....	9A990
Operating systems for real time processing equipment, software .....	4D993.c
Operating system software for real time processing equipment.....	4D993.c
Optical absorption materials, low .....	6C994.a
Optical components, space-qualified .....	6A004.c
Optical components for lasers.....	6A005.e
Optical components for lasers.....	6A004.b
Optical computers .....	4A004.c
Optical control equipment.....	6A004.d
Optical detectors, radiation hardened .....	6A102
Optical detectors & sensors .....	6A002
Optical element inspection or testing equipment and components.....	3B992.a
Optical element manufacturing equipment and components.....	3B991.a

Description	ECCN Citation
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Optical equipment.....	6A005.f
Optical equipment.....	6B004
Optical equipment other than optical surface scattering measurement equipment.....	6B004.b
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Optical fabrication technologies .....	6E993.a
Optical fiber characterization equipment.....	5A991.b Note b.3
Optical fiber couplers or connectors for underwater use .....	8A002.c
Optical fiber & accessories, communications.....	5A001.c
Optical fiber preforms.....	6C994.b
Optical fiber preforms.....	5C991
Optical fibers/fiber cable, sensing.....	6A002.d.3
Optical fiber sensing elements, hydrophones .....	6A001.a.2.a.2
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Optical integrated circuits.....	3A001.a.6
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Optical materials, with non-linear characteristics.....	6C004.b.3
Optical mirrors (reflectors) .....	6A004.a
Optical mirrors (reflectors) .....	6A005.e.2
Optical sensing fibers not controlled by 6A002 .....	6C992
Optical Sensors .....	6A992
Optical sensor cryocoolers.....	6A002.d.1
Optical sensors - flight control systems - technology.....	7E004
Optical sensors, optical fiber.....	6A002.d.3
Optical sensor materials.....	6C002
Optical sighting devices for firearms.....	0A987
Optical surface coating/treatment technology .....	6E003.d.1
Optical switching equipment .....	5A991.c.10.c
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Optics .....	6A994
Optics, (optical components) .....	6A004
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Organic fibers & filamentary materials .....	1C010.a
Organic matrix .....	1A002.a
Organo-metallic compounds.....	3C003
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Description	ECCN Citation
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Oscilloscopes (high-speed) .....	3A002.a.7
Oscilloscopes (analog and digital) .....	3A292
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PABXs (Private Automatic Branch exchanges) .....	5A991.c
Packet switching equipment .....	5A991.c.10
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Particle accelerators .....	1B999.b
Particle flow detection microphone .....	6A005.g
Passenger seats for military aircraft.....	9A610.y.16
Particle measuring systems employing lasers.....	3B992.b.7
Passive coherent location systems or equipment .....	5A001.g
Passive sensors, direction finding systems .....	7A115
Passive acoustic systems.....	6A001.a.1.d
Pathogens, genetically modified microorganisms .....	1C353.a
Pathogens, animal .....	1C352
Pathogens, human .....	1C351
Pathogens, plant .....	1C354
Pathogens, zoonotic .....	1C351
PBAA (Polybutadiene-acrylic acid) .....	1C111.b.3
PBAN (Polybutadiene-acrylic acid-acrylonitrile).....	1C111.b.4
PEEK (Polyether ether ketone).....	1C998
PEK (Polyether ketone) .....	1C998
PEKEKK (Polyether ketone ether ketone ketone).....	1C998
PEKK (Polyether ketone ketone).....	1C998
1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (382-21-8) (PFIB) .....	1C355.a.1.a
Perfluoroaliphatic-ethers, monomeric or polymeric .....	1C006.d.1.a
Perfluoroalkanes .....	1C006.d.1.d
Perfluorocycloalkanes.....	1C006.d.1.c
Perfluoropolyalkylether-triazines, monomeric or polymeric.....	1C006.d.1.a
Performance improvement software, navigation systems .....	7D003.a
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Peronosclerospora philippinensis (a.k.a. Peronosclerospora sacchari).....	1C354.b.7
Peste des petits ruminants virus .....	1C352.a.10
Petroleum products produced or derived from Naval Petroleum Reserves .....	1C982
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PFIB (1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (382-21-8) .....	1C355.a.1.a
Phased array antennae (in radar).....	6A008.e

Description	ECCN Citation
Phased array/segment mirror control equipment .....	6A004.d.4
Phased array antennae (in radar).....	5A001.d
Phased array antennae .....	5A991.f
Phenylene, as lubricating fluids .....	1C006.b.1
Phoma glycinicola (formerly Pyrenochaeta glycinis) .....	1C354.b.12
Phosgene: Carbonyl dichloride (75-44-5).....	1C355.b.1.a
Phosphate glass .....	6C004.e
Phosphor bronze or copper mesh packings.....	1A226
Phosphor image plates, storage.....	1A999.b
Phosphorus hydrides .....	3C004
Phosphorus oxychloride.....	1C350.c.3
Phosphorus pentachloride .....	1C350.c.4
Phosphorus pentasulphide.....	1C350.d.10
Phosphorus trichloride .....	1C350.c.5
Photo-enhanced CVD equipment .....	3B991.b.1.i
Photo-enhanced diffusion equipment .....	3B991.b.1.g
Photo-optical step and repeat cameras .....	3B991.b.2.d.1
Photocathodes .....	6A002.a.2.c
Photographic still cameras, underwater .....	8A001.e
Photographic still cameras, for underwater use.....	8A992.b
Photomultiplier tubes .....	6A202
Photovoltaic arrays, space qualified or radiation hardened .....	3A001.e.4
Physics-based simulation “software” specially designed for the “development” of lithographic, etching or deposition processes .....	3D003
Piezoelectric polymer & copolymer, made from vinylidene fluoride materials.....	1A001.b
Piezoelectric sensing elements, hydrophones .....	6A001.a.2.a.2.b
Pinacolone.....	1C350.d.11
Pinacolyl alcohol.....	1C350.b.18
Piping, austenitic stainless steel.....	2B999.n
Piping, fittings and valves of or lined with stainless steel, copper-nickel alloy or other alloy steel .....	2A292
Piping, monel .....	2B999.f
Piping, multi-walled incorporating a leak detection port.....	2B350.h
Piping, stainless steel .....	2B999.g
Piping, vacuum .....	2B999.k
Pitch-impregnated fibers .....	1C010.e
Planar absorbers .....	1C001.a Note 1, c or d
Plant pathogens, bacteria or fungi.....	1C354
PLAs (Programmable Logic Arrays).....	3A001.a.8
Plasma atomization & melting furnaces .....	2B227.b
Plasma dry etching equipment.....	3B001.c

Description	ECCN Citation
Plasma-enhanced CVD (PECVD) equipment .....	3B991.b.1.i
Plasma enhanced or plasma assisted CVD production equipment .....	2B005.a.1.c
Plasma spraying production equipment, with controlled atmosphere .....	2B005.d
Platforms, complete .....	9A992, 9A610.h
Platinized catalysts .....	1A225
Plutonium metal production systems .....	0B006.g
Plutonium nitrate conversion systems .....	0B006.f
Pocket cell electro-optical shuttering .....	6A203.b.3.c
Police helmets and shields .....	0A979
Polyarylene ketones .....	1C008.d
Polybiphenylenethersulphone .....	1C008.f
Polybromotifluoroethylene .....	1C006.c.3
Polybutadiene-acrylic acid (PBAA) .....	1C111.b.3
Polybutadiene-acrylic acid-acrylonitrile (PBAN) .....	1C111.b.4
Polycarbosilazanes .....	1C007.e.3
Polychlorotrifluoroethylene .....	1C006.c.2
Polycrystalline alumina fibers .....	1C010.c Note 1
Polycrystalline silicon and materials production equipment .....	3B991.b.1.a
Polydiorganosilanes, precursor for silicon carbide .....	1C007.e.1
Polyether ketone ether ketone ketone (PEKEKK) .....	1C998
Polyether ketone (PEK) .....	1C998
Polyether ether ketone (PEEK) .....	1C998
Polyether ketone ketone (PEKK) .....	1C998
Polyetherimides, fibrous & filamentary materials composed of .....	1C010.d.1.a
Polygraphs .....	3A981
Polymeric or metallo-organic materials .....	1C007.e
Polymeric substances .....	1C111.b
Polymeric substances, non-fluorinated .....	1C008
Polymeric substances, non-fluorinated .....	1C998
Polysilazanes, precursor for silicon nitride .....	1C007.e.2
Polythiophene .....	1C001.c.3
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Porcine herpes virus (Aujeszky' disease) .....	1C352.a.6
Porous nickel metal .....	1C240
Portable electric generator development or production software .....	2D994
Portable electric generators .....	2A994
Positioning equipment/components, global .....	7A005
Positioning equipment .....	7A105
Positioning systems, acoustic .....	6A001.a.1.d
Positioning tables or rate tables .....	2B120
Positioning tables or rate tables .....	2B121



Description	ECCN Citation
Positive resists for semiconductor lithography .....	3C002.a.1
Post-flight data processing software .....	6D103
Potassium cyanide .....	1C350.d.12
Potassium bifluoride .....	1C350.d.14
Potassium fluoride .....	1C350.d.13
Potassium hydrogen fluoride see potassium bifluoride .....	1C350.d.14
Potassium titanil arsenate (KTA) .....	6C004.b.1
Potato Andean latent tymovirus (Andean potato latent virus) .....	1C354.c.1
Powassan virus .....	1C351.a.28
Powder metallurgy rotor component manufacturing equipment .....	9B009
Power generating equipment, nuclear reactor .....	0A002
Power supplies, direct current high power (dc) .....	3A226
Power supplies, direct current high-voltage .....	3A227
Power systems, air independent, for underwater use .....	8A002.j
Power transmission shaft systems, marine .....	8A002.o.1
Power transmission shaft systems, marine .....	8A002.o.1.e
Precision mandrels for filament winding machines .....	1B201
Precision rotor forming mandrels .....	2B209.b
Precision tracking systems, usable for missiles .....	6A108.b
Precursors for toxic chemical agents .....	1C350
Preform production equipment .....	1B101.d
Preforms, metal coated, for fiber preregs in 9C110 .....	9C110
Preforms production equipment .....	1B001
Preforms production equipment, n.e.s. ....	1B999.e
Preforms production equipment controlled by 1B999, software for .....	1D999.b
Preforms, fibrous or filamentary materials .....	1C010.e
Preforms, glass for optical fibers .....	5C991
Preforms for space vehicles (metal coated fiber) .....	9A110
Preforms, fibrous or filamentary materials .....	9A110
Preforms, metal coated fiber (for propulsion systems) .....	9A110
Prepreg production equipment .....	1B001.e
Prepreg production equipment .....	1B101.d
Prepregs production equipment, n.e.s. ....	1B999.e
Prepregs production equipment controlled by 1B999, software for .....	1D999.b
Prepregs, fibrous or filamentary materials .....	1C010.e
Prepregs, resin impregnated fiber, for 9A110 items .....	9C110
Prepregs production equipment .....	1B001
Prepregs, when impregnated with phenolic or epoxy resins .....	1C010.e Note 2
Prepregs, fibrous or filamentary materials .....	9A110
Presses, hot isostatic .....	2B204
Presses, hot isostatic .....	2B104

Description	ECCN Citation
Presses, hot isostatic.....	2B004
Presses, hot isostatic n.e.s. ....	2B999.a
Pressure transducers.....	2B230
Pressure regulators, air cylinders, hoses, valves and backpacks.....	8A992.h
Pressure sensors, manganin & quartz .....	6A226
Primary cells and secondary cells .....	3A001.e.1.a or 3A991.j
Printed circuit boards for numerical control units, machine tools or feed back devices .....	2B998.c
Private automatic branch exchanges (PABXs).....	5A991.c
Probing (test) systems, semiconductor devices .....	3B002.d
Process control instrumentation, for reprocessing plant.....	0B006.d
Process control hardware/systems designed for power industries.....	1B999
Process control hardware/systems designed for power industries controlled by 1B999, software for .....	1D999.a
Process control systems for use in nuclear reactor equipment .....	2A290.b
Process control systems for use in nuclear material handling and processing equipment.....	2A291.a
Processing equipment for bay or bottom cable systems .....	6A001.a.2.e.3
Processors, digital array.....	3A001.a.3 Note
Processors, digital signal.....	3A001.a.3 Note
Processors, digital signal.....	4A003
Processors, digital array.....	4A003
Production facilities, reentry vehicles.....	9B116
Production equipment, propulsion systems & components.....	9B115, 9B619
Production equipment, reentry vehicles.....	9B115
Production facilities, rockets/propulsion systems.....	9B116
Profilometers.....	7B002.b
Program proof and validation software for real time processing equipment.....	4D993
Programmable gate & logic arrays (FPGA's & FPLA's), field.....	3A001.a.7
Programmable & logic arrays (FPGA's & FPLA's), field .....	3A001.a.8
Programming controls for filament winding machines .....	1B201
Projectile accelerators .....	2B232
Projection image transfer equipment .....	3B991.b.2.g
Projection telescopes, laser diagnostics .....	6A005.f.4
Projectors, acoustic .....	6A001.a.1.c
Proppant .....	0A998.b.2
Prolifometers, to characterize mirrors for laser gyro equipment .....	7B102.c
Propellant additives and agents.....	1C111.c
Propellants and constituent materials .....	1C111
Propellant control systems .....	9A106.d
Propellant (liquid) production equipment and components.....	1B115

Description	ECCN Citation
Propellant (liquid) test and handling equipment and components.....	1B115
Propellant (solid) production equipment and components .....	1B117
Propellers and systems used with reciprocating engines for military aircraft .....	9A610.y.25
Propeller blades or propfans composite technology .....	9E003.b.2, 9E610.y
Propeller noise reduction technology.....	8E002.a
Propeller noise reduction software.....	8D002
Propellers, contrarotating .....	8A002.o.1.b
Propellers, water screw .....	8A002.o.1
Propulsion equipment, nuclear.....	0A002
Propulsion systems/components, production equipment.....	9B115, 9B619
Propulsion systems, rocket.....	9A005
Propulsion equipment, underwater .....	8A992.j
Propulsion system components/structures, launch-vehicle.....	9A010
Propulsion system composite components/structures.....	9A110, 9A619.x
Propulsion system use software .....	9D101, 9D610.a
Propulsion systems, rocket.....	9A009
Propulsion systems, rocket.....	9A007
Propulsive substances .....	1C111.a
Protective and detection equipment .....	1A004, 1A995 or 2B351
Protective clothing, Independently ventilated.....	2B352.g.1
Protective suits, gloves, shoes.....	1A004, 1A995 or 2B352.g.1
Proximity focused image intensifier tubes.....	6A203.b.3.a
<i>Pseudomonas mallei</i> ( <i>Burkholderia mallei</i> ).....	1C351.c.5
<i>Pseudomonas pseudomallei</i> ( <i>Burkholderia pseudomallei</i> ) .....	1C351.c.6
Psychological stress analysis equipment .....	3A981
Public Address (PA) systems for military aircraft.....	9A610.y.18
Public Address (PA) systems for submersible vessels .....	8A620.y.1
Public Address (PA) systems for surface vessels of war.....	8A609.y.1
<i>Puccinia graminis</i> ssp. <i>graminis</i> var. <i>graminis</i> / <i>Puccinia graminis</i> ssp. <i>graminis</i> var. <i>stakmanii</i> ( <i>Puccinia graminis</i> [syn. <i>Puccinia graminis</i> f. sp. <i>tritici</i> ]).....	1C354.b.4
<i>Puccinia striiformis</i> (syn. <i>Puccinia glumarum</i> ).....	1C354.b.5
Pulsating Chemical Vapor Deposition production equipment.....	2B005.a.1.a
Pulse amplifiers.....	3A999.c
Pulse excited Q switched neodymium-doped lasers.....	6A205.f
Pulse generators, high-current for detonators .....	3A229
Pulse generators, high-speed .....	3A230
Pulse jet engines/components .....	9A111
Pulse radar cross-section measurement systems & components .....	6B008
Pulse shaping networks, high power.....	3A999.c
Pulsed electron accelerators.....	3A201.c
Pumpjet propulsion systems .....	8A002.p

Description	ECCN Citation
Pumps, high pressure .....	0A998.b.3
Pumps, liquid propellant .....	9A106.d
Pumps, lithium amalgam .....	1B233.b.2
Pumps, mercury or lithium amalgam.....	1B233.b.2
Pumps, multiple-seal.....	2B350.i
Pumps, potassium amide in liquid ammonia .....	1B230
Pumps, seal-less .....	2B350.i
Pumps, vacuum.....	2B231
Pumps, vacuum.....	2B350.i
Pumps designed for industrial service .....	2B999.j
Pumps designed to move molten metals by electromagnetic force .....	2A293
Pyrolitic deposition nozzles .....	1B116
Pyrolitic deposition systems (“isostatic presses”, other than those controlled by 2B004) .....	2B104
Pyrolitic deposition systems (chemical vapor deposition furnaces, other than those controlled by 2B005.a).....	2B105
Pyrolitic deposition systems, for rocket nozzles and reentry vehicle nose tips .....	2B117
Pyrolitically derived materials production technology .....	1E104
Pyrolized carbon-carbon components.....	1A102
Pyrolized carbon-carbon materials .....	1C102
Pyrolysis equipment, for rocket nozzles and reentry vehicle nose tips (“isostatic presses”, other than those controlled by 2B004) .....	2B104
Pyrolysis equipment, for rocket nozzles and reentry vehicle nose tips (chemical vapor deposition furnaces, other than those controlled by 2B005.a) .....	2B105
Pyrolysis equipment, for rocket nozzles and reentry vehicle nose tips (other than those controlled by 2B004, 2B005.a, 2B104, or 2B105) .....	2B117
Pyrolysis process control equipment, for “isostatic presses”, other than those controlled by 2B004 .....	2B104
Pyrolysis process control equipment, for chemical vapor deposition furnaces, other than those controlled by 2B005.a.....	2B105
Pyrolysis process control equipment (other than those controlled by 2B004, 2B005.a, 2B104, or 2B105).....	2B117
Pyrotechnic articles, dual use.....	1A984
Pyrotechnic devices, commercial.....	1C608.j or 1C992.k
QRS11-00100-100/101 Micromachined Angular Rate Sensors.....	7A994
Q-switched lasers .....	6A005.a or b
Q-switched lasers .....	6A205.f
Quadrature-amplitude-modulation (QAM) based radio equipment operating above level 4.....	5A991.b.7.a
Quadrature-amplitude- modulation (QAM) based radio equipment operating above level 16 .....	5A991.b.7.b

Description	ECCN Citation
Quadrature-amplitude-modulation (QAM) based radio equipment .....	5A991.b.7
Quadrature-amplitude-modulation (QAM) based radio equipment, equipment for the development of .....	5B001.b.4.a
Quadrature-amplitude-modulation (QAM) based radio equipment, software for the development of .....	5D001.d.4.a
Quadrature-amplitude-modulation (QAM) based radio equipment, technology for the development of .....	5E001.c.4.a
Quantum cryptography .....	5A002.a.9
Quartz pressure sensors/transducers .....	6A226.b
3-Quinuclidinol .....	1C350.b.19
3-Quinuclidone .....	1C350.d.15
Rabies virus (and all other members of the Lyssavirus genus) .....	1C352.a.8
Radar cross section measurement systems, missile .....	6B108
Radar systems & components .....	6A008
Radar altimeters .....	7A106
Radar software .....	6D003.h
Radar systems, employing signal processing .....	6A008.h
Radial ball bearings .....	2A101
Radiation detection, monitoring and measurement equipment .....	1A999.a
Radiation hardened detectors .....	6A002
Radiation hardened detectors .....	6A102
Radiation hardened designed (or rated) robots .....	2B007.c
Radiation hardened electronic computers .....	4A001.a.2
Radiation hardened integrated circuits .....	3A001.a.1, 9A515.d or 9A515.e
Radiation hardened sensors .....	6A002
Radiation hardened TV cameras .....	6A203.d
Radiation hardened TV cameras not specified in 6A203 .....	6A999.b
Radiation transport calculations/modeling, software for .....	0D999.b
Radiation sensors, optical fibers .....	6A002.d.3
Radiation shielding windows .....	1A227
Radio frequency monitoring equipment .....	5A001.f.4
Radio frequency transmitting equipment .....	5A001.h.1
Radio equipment .....	5A001.b.2, 3 or 4
Radio equipment .....	5A991.b.6 or 7
Radio relay communications equipment .....	5A991.h
Radio, shortwave technology .....	5E001.c.4.c
Radio systems development/production technology .....	5E001.b.3
Radiographic detection equipment .....	1A999.b
Radiographic equipment .....	3A101.b
Radionuclides, alpha-emitting .....	1C236
Radionuclides, alpha-emitting, n.e.s. ....	1C999.g

Description	ECCN Citation
Radium-226, compounds, mixtures, products or devices .....	1C237
Radome design software .....	6D003.h.2
Radomes usable in protecting missiles against nuclear effects .....	6A103
Rafts (life) for military aircraft .....	9A610.y.12
Ralstonia solanacearum, race 3, biovar 2.....	1C354.a.5
Raman shift lasers .....	6A205.e
Ramjet engines/components .....	9A011
Range gated illumination systems, underwater .....	8A002.d.2
Range instrumentation radars .....	6A108.b.2
Rankine cycle engine, air independent .....	8A002.j.1
Rate tables and positioning tables.....	2B121
Rate tables, positioning tables, and motion simulators.....	2B120
Rathayibacter toxicus.....	1C354.a.6
Reactor vessels, chemical .....	2B350.a
Read-out integrated circuits (ROICs).....	6A990
Real time processing .....	2D002.b
Real time processing operating systems .....	4D993.c
Real time processing equipment operating system software .....	4D993.c
Real time processing proof and validation software.....	4D993
Rebreathing apparatus specially designed for military use.....	8A620.f
Receivers, microwave test .....	3A002.f
Receivers, radio.....	5A001.b.2, 3 or 4
Reciprocating diesel engine & component technology .....	9E003.e.1
Reconstructed replication competent forms of the 1918 pandemic influenza virus containing any portion of the coding regions of all eight gene segments .....	1C351.b.1
Recording equipment, analog & digital tape recorders .....	3A002.a
Recovery of source code - software.....	5D001.c.2
Red dot sights.....	0A987
Reduced observables analysis software .....	1D103
Reduction gearing, light-weight marine transmissions.....	8A002.o.1.d
Reentry vehicles & equipment.....	9A116
Reentry vehicles/components, production equipment .....	9B115
Reflectance measuring equipment, absolute.....	6B004
Reflectivity (electromagnetic) reducing materials.....	1C101
Reflectometers, mirror characterization.....	7B102.b
Reflectors (mirrors), optical.....	6A004.a.1
Reflex sights.....	0A987
Refrigeration units, hydrogen or helium .....	1B231.b.1
Reinforced composite materials.....	1C007.f
Reinforcement fiber, production equipment .....	1B001.d
Release mechanisms, electronic.....	9A992, 9A610.h

Description	ECCN Citation
Remote manipulators .....	2B225
Remotely operated vehicles .....	1A006.a
Remotely operated filling equipment, chemical .....	2B350.f
Remotely piloted vehicles (RPVs), non-military .....	9A012
Remotely controlled manipulators, for submersibles .....	8A002.i
Repeater/regenerator equipment .....	5A991.b Note a.4 or 5
Reprocessing plant, nuclear fuel .....	0B006
Resaturated pyrolyzed components .....	1A102
Resaturated pyrolyzed materials .....	1C102
Resin impregnated fiber prepregs for 9A110 items .....	9C110
Resin impregnated fibers .....	1C010.e
Resin (thermoset) impregnated continuous materials.....	1C210.c
Resin impregnated fiber prepregs, propulsion & space systems .....	9A110
Resist materials, semiconductor lithography .....	3C002
Resists (positive), semiconductor lithography .....	3C992
Resist material, coated (semiconductor) substrates .....	3C002
Restraint devices (electronic monitoring).....	3A981
Restraint devices, law enforcement, including leg irons, shackles, and handcuffs; straight jackets, stun cuffs; shock belts; shock sleeves, multipoint restraint devices, restraint chairs .....	0A982
Reticles, integrated circuits of 3A001.....	3B001.g
Reticles and designs .....	3B991.b.2
Reticle sights .....	0A987
Rhenium and alloys containing rhenium .....	1C241
Ricin .....	1C351.d.11
Rickettsia prowazekii.....	1C351.c.15
Rift Valley fever virus .....	1C351.a.29
Rinderpest virus .....	1C352.a.12
Ring laser gyro mirror characterizing equipment .....	7B002
Ring Magnets .....	0A999
Robot end-effectors.....	2B207
Robot end-effectors.....	2B007
Robot controllers for high explosive handling.....	2B207
Robot controllers.....	2B007
Robots with real time 3D image processing or scene analysis .....	2B007.a
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

Description	ECCN Citation
Rocio virus .....	1C351.a.30
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.....	2B008.b
Rotor assembly mandrels, bellows forming.....	2B228.a
Rotor centrifugal balancing machines .....	2B229
Rotor components, tooling for manufacture .....	9B009
Rotor fabrication/assembly equipment .....	2B228.a
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 .....	1C351.a.35
S-parameter test/measurement equipment .....	3B002.a
S20 and S25 photocathodes .....	6A002
Sabia.....	1C351.a.31
Safety cabinets, capable of biological use .....	2B352.f.2
Salmonella typhi .....	1C351.c.16
Salvage systems, ocean .....	8A001.e
Saps .....	0A978
SARS-associated coronavirus (SARS-CoV) .....	1C351.b.2
Satellite communication equipment technology .....	5E001.b.1
Satellite receivers .....	7A005
Satellite receivers, other than those of 7A005 .....	7A105
Satellites, commercial communications.....	9A004
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. zeae .....	1C354.b.8
Scramjet engines/components.....	9A011
Scuba gear .....	8A992.h



Description	ECCN Citation
SDH (Synchronous Digital Hierarchy) technology .....	5E001.b.4
SDH (Synchronous Digital Hierachy) technology .....	5E991.a.2
Sea-induced motion control systems, automatic.....	8A002.n
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
Seals, for surface effect vessels .....	8A002.k
Seals, made from fluoroelastomers.....	1A001.c
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
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 .....	2B008.a
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

Description	ECCN Citation
Sensors, superconductive electromagnetic .....	6A996
Seoul virus .....	1C351.a.32
Separation mechanisms for missiles .....	9A117
Separators, centrifugal (biological).....	2B352.c
Separators, electromagnetic isotope.....	1B226
Servo valves, propellant control systems.....	9A106.d
Shackles .....	0A982
Shaft encoders (rotary input type).....	3A001.f
Shale oil .....	1C981
Shaving machines, gear .....	2B003
Sheep pox virus.....	1C352.a.13
Shields, police.....	0A979
Shiga toxin .....	1C351.d.13
Shiga-like ribosome inactivating proteins other than verotoxin .....	1C351.d.17
Shiga toxin producing Escherichia coli (STEC) of serogroups O26, O45, O103, O104, O111,O121, O145, O157, and other shiga toxin producing serogroups .....	1C351.c.17
Shigella dysenteriae .....	1C351.c.18
Ship vessel positioning systems, acoustic.....	6A001.a.1.d
Shims for gas turbine engines .....	9A619.y.6
Shock batons .....	0A985
Shock belts .....	0A982
Shock shields .....	0A985
Shock sleeves .....	0A982
Shock tubes .....	1C608.b or 1C992.c
Shoes, protective.....	1A004 or 1A995
Shortwave radio technology .....	5E001.c.4.c
Shotgun shells .....	0A986
Shotgun shell manufacturing equipment .....	0B986
Shotgun shells, buckshot.....	0A984
and shotgun shells, technology for the development or production of .....	0E984
Shotguns, barrel length 18 inches or over.....	0A984
Shotgun trigger mechanisms, barrels, magazines, magazine extension tubes, receivers.....	0A984
Shrink fit machines for rotor fabrication/assembly .....	2B228.a
Side Scan Sonar designed for seabed imaging .....	6A001.a.1.a.3
Sidelooking airborne radar (SLAR).....	6A008.d
Sights and sighting devices for firearms .....	0A987
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

Description	ECCN Citation
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 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
Silahydrocarbon oils .....	1C006.a.1
Silicon carbide (SiC) substrate blanks .....	6C004.d
Silicon, hetero-epitaxial grown multi-layer substrates .....	3C001.a
Silicon microcircuits .....	3A001.a
Silicone carbide wafers .....	3C005
Silicon-on-sapphire integrated circuits .....	3A001.a Note 2
Silicone fluid, fluorinated .....	1C006.b.2
Silver gallium selenide (AgGaSe <sub>2</sub> ).....	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
Sin Nombre virus .....	1C351.a.33
Skin friction transducers, wall .....	9B008
Skirts, for surface effect vessels.....	8A002.k
Slapper detonators (Electric).....	1A007 or 3A232.a.3
Slurry propellant control systems .....	9A106.d
Small waterplane area vessels.....	8A001.i
Smoke bombs.....	1A984
Smoke detector for military aircraft.....	9A610.y.27
Sodium azide.....	1C992.1
Sodium bifluoride .....	1C350.d.16
Sodium cyanide.....	1C350.d.17
Sodium fluoride .....	1C350.d.18
Sodium (Na) metal vapor lasers.....	6A005.b
Sodium sulphide.....	1C350.d.19
<i>Software, see product group D for controls in each category</i>	

Description	ECCN Citation
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”, “production” or “use” of equipment controlled by 2A983 .....	2D983
“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, 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

Description	ECCN Citation
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
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 and 0D521 No. 2
Source code recovery software .....	5D001.c.2
Space launch vehicles .....	9A004
Space probes .....	9A004
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 and related commodities .....	9A004 or 9A515
Spacecraft components .....	9A515 or 9A010
Spacecraft inertial navigation equipment/components .....	7A003
Spark-gaps, triggered .....	3A228.b
Spectrometry analytical instruments.....	3A999.f
Spherical 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.c
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.a.5
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
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
St. Louis encephalitis virus.....	1C351.a.34
Storage & holding vessels, critically safe & resistant to nitric acid .....	0B006.e
Storage phosphor image plates .....	1A999.b
Storage tanks, chemical (capacity greater than 100 L).....	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
Striplines to provide low inductance path to detonators.....	3A234

Description	ECCN Citation
Stroboscopic light systems.....	8A992.c
Structural composites production equipment .....	1B101
Structures and composite structures, laminate, and manufacturers for missiles.....	9A110
Stun guns.....	0A985
Stun cuffs .....	0A982
Subcavitating hydrofoils .....	8A002.m
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
Suits, protective.....	1A004, 1A995 or 2B352.f.1
Sulphur dichloride.....	1C350.c.7
Sulphur monochloride.....	1C350.c.6
Super-ventilated propellers .....	8A002.o.1.a
Supercavitating hydrofoils .....	8A002.m
Supercavitating propellers .....	8A002.o.1.a
Supercomputers, see Computers	
Superconducting quantum interference devices (SQUIDS).....	6A006.a.1
Superconductive composite conductor .....	1C005
Superconductive gates, current switching.....	3A001.d.1
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

Description	ECCN Citation
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 irregularity measuring equipment/instruments .....	2B006.c
Surface coating & processing equipment .....	2B005
Surface skimming (shallow bulk) acoustic wave devices.....	3A001.c.1
Surface acoustic wave devices.....	3A001.c.1
Surface vessel positioning systems, acoustic.....	6A001.a.1.d
Surface vessels & components.....	8A001 and 8A609
Surface vessels of war and related commodities .....	8A609
Surface finishing equipment .....	3B991.b.1.k
Surface-effect vehicles, (fully skirted variety) .....	8A001.f
Surface-effect vehicles, (fully skirted variety) .....	8A002.k
Surface-effect vehicles,(rigid sidewalls) .....	8A001.g
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) .....	1C352.a.1
Swine fever virus (Hog cholera virus).....	1C352.a.7
Switch fabric development/production technology .....	5A991.c.10
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
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



Description	ECCN Citation
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
<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, machine tool instruction generators.....	2E003.d
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 6A990.....	6E990
“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	

Description	ECCN Citation
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, 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 .....	5A002.a.4
Tension stretchers for prepregs/preform production .....	1B101.d
Terminal interface equipment .....	4A994.i
Terrestrial, marine acoustic equipment.....	6A991
Teschen disease virus.....	1C352.a.14
Test benches/stands, for rockets/motors/rocket engines.....	9B117
Test, calibration or alignment equipment for equipment controlled by 7A.....	7B001
Test chambers, aerosol challenge .....	2B352.g
Test equipment - propellants and their constituents .....	1B115
Test equipment - specially designed for testing finished or unfinished semiconductor devices.....	3B002
Test models for defense articles.....	0A617
Test receivers, microwave .....	3A002.f

Description	ECCN Citation
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 <sub>3</sub> AsSe <sub>3</sub> 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.20
Thionyl chloride.....	1C350.c.8
Thrust tabs, thrust vector control subsystems.....	9A106.c
Thrust vector control sub-system.....	9A106.c
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
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.35
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

Description	ECCN Citation
Titanium-based alloys.....	1C002.b.3
Titanium doped sapphire laser host material .....	6C005.a
Titanium-sapphire (Ti: Al <sub>2</sub> O <sub>3</sub> ) lasers .....	6A005.c.1, c.2 or c.3
Titanium-stabilized duplex stainless steel 9Ti-DSS).....	1C118
TMETN (trimethylolethane trinitrate) .....	1C111.c.4
Tooling for powder metallurgy rotor component manufacture .....	9B009
Torpedo nets.....	8A620.e
Torquemeter assembly software .....	9D619.b.9
Torture, specially designed implements of .....	0A983
Tow-placement machines .....	1B001.g
Towed acoustic hydrophone arrays .....	6A001.a.2.b
Toxic gas monitoring systems .....	2B351
Toxins .....	1C350, 1C351, 1C355 or 1C395
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
Transient recorders (Waveform digitizers).....	3A002.a.5 or 3A292.d
Transistor test equipment, S-parameter measurement.....	3B002.a
Transistors, microwave.....	3A001.b.3
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
Transmultiplex equipment .....	5A991.b Note a.9
Traveling wave tubes (TWTs), industrial .....	3A001.b.1.a
Tributyl phosphate .....	1C999.d
Triethanolamine .....	1C350.c.9
Triethanolamine hydrochloride.....	1C350.d.20
Triethyl phosphite .....	1C350.c.10
Triethylene glycol dinitrate (TEGDN).....	1C111.c.2
Triggered spark-gaps .....	3A228.b
Triggers, high voltage .....	3A999.c
Trimethyl phosphite .....	1C350.c.11
Tritium, compounds & mixtures.....	1C235

Description	ECCN Citation
Tritium plant or facilities equipment .....	1B231.b
Tritium production recovery, extraction & concentration handling facilities or plant.....	1B231.a
Trusted Computer System Evaluation Criteria (TCSEC) capability .....	5A002.f
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
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
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

Description	ECCN Citation
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
Uranium titanium alloys .....	1C004
Urine collection bags/pads/cups/pumps for military aircraft.....	9A610.y.21
Vaccines and immunotoxins .....	1C991
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 spraytron tubes .....	3A228.a
Vacuum valves, piping, flanges, gaskets .....	2B999.k
Valve seats, made from fluoroelastomers.....	1A001.c
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

Description	ECCN Citation
Valves, double-seal .....	2B350.g
Valves, of or lined with stainless steel, copper-nickel alloy or other alloy steel .....	2A292
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
Variola virus.....	1C351.a.36
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.37
Ventilated full or half (protective clothing) suits.....	2B352.f.1
Ventilated propellers.....	8A002.o.1.a
Verocytotoxin producing E. coli (VTEC) .....	1C351.c.17
Verotoxin .....	1C351.d.17
Vesicular stomatitis virus.....	1C352.a.15
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.19
Video cameras incorporating solid state sensors .....	6A003.b.1
Vinylidene fluoride copolymers .....	1C009.a
Vinylidene fluoride copolymers, components of.....	1A001
virulans, fungi (Colletotrichum kahawae) .....	1C354.b.1
Virus protection software.....	5D992
Viruses .....	1C351, 1C352 or 1C353
Viruses, animal pathogens .....	1C352.a

Description	ECCN Citation
Viruses, human pathogens .....	1C351.a
Viruses, plant pathogens .....	1C354.c
Viscous software, 2D or 3D engine flow modeling.....	9D004.a
Viscum Album Lectin 1 (Viscumin).....	1C351.d.18
Vision systems, underwater .....	8A992.a
Vision systems, underwater .....	8A002.d
Voice print identification and analysis equipment and parts .....	3A980
Volkensin toxin.....	1C351.d.19
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
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
Water-screw propellers .....	8A002.o.1
Wave division multiplex equipment .....	5A991.b.5
Waveform digitizers (Transient recorders).....	3A002.a.5
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.38
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



Description	ECCN Citation
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
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.39
Yersinia pestis .....	1C351.c.20
Yttrium oxide (yttria) (Y <sub>2</sub> O <sub>3</sub> ), 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 <sub>4</sub> ) glass .....	6C004.e
Zirconium metal particulate .....	1C111.a.2.a.1
Zirconium metal, alloy, compounds, or manufacturers .....	1C234
Zirconium oxide (zirconia) (ZrO <sub>2</sub> ) 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.*