

**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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| Combustion regulation devices, missile engines | 9A118 |
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| Common channel signaling, technology for the development of equipment employing | 5D001.c.5 |
| 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 |
| 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 |

| Description | ECCN Citation |
|---|------------------------------|
| Compound semiconductor photocathodes | 6A002.a.2.c.3 |
| Compressors..... | 9A619.x |
| Compressors, turboexpander..... | 1B232 |
| Compressors, turbo/centrifugal/axial flow..... | 9A619.x |
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| 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 |
| 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 facilities | 2B352.a |

| Description | ECCN Citation |
|--|----------------|
| 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 |
| Converter interfaces for digital video magnetic tape recorders | 3A002.a.4 |
| 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 |
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| 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 |
| 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 |

| Description | ECCN Citation |
|---|-------------------|
| 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 preprints/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 |
| 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 |
| Dengue fever virus | 1C351.a.6 |
| Depleted Uranium..... | 1A290 |
| Depth sounders..... | 6A001.a.1 |
| Design integration of guidance sets, software | 7D103 |

| Description | ECCN Citation |
|--|--------------------------------|
| 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..... | 1C018.d or 1C992.e |
| Detonators, exploding bridge wire (EBW) | 1A007 |
| Detonators, exploding bridge (EB | 1A007 |
| Detonators, exploding foil initiators (EB) | 1A007 |
| 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)-phosphoramides .. | 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 |
| 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 |

| Description | ECCN Citation |
|---|----------------|
| 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 tape data recorders | 3A002.a.3 |
| Digital signal processors | 3A001.a.3 Note |
| Digital signal processors | 4A003 |
| Digital time delay generators | 3A999.e1 |
| Digital video magnetic tape recorders | 3A002.a.2 |
| Digital-to-analog converter integrated circuits (DACs) | 3A001.a.5 |
| Digitally controlled radio receivers | 5A001.b.5 |
| Digitizers, waveform..... | 3A002.a.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 |
| 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 (Nitrogen dioxide) | 1C111.a.3.b |

| Description | ECCN Citation |
|---|------------------|
| 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 |
| 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 |
| 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 |

| Description | ECCN Citation |
|--|---------------|
| 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 |
| 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 |

| Description | ECCN Citation |
|---|------------------------------|
| 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 |
| Energy storage capacitors | 3A001.e.2 |
| Engines, diesel n.e.s..... | 9A990 |
| Engines (marine), n.e.s..... | 8A992.g |
| Engines (submarine), n.e.s | 8A992.g |
| Engines (air breathing reciprocating or rotary internal combustion type) | 9A012.b.4 |
| Enterohaemorrhagic E. coli (EHEC) | 1C351.c.17 |
| Environmental chambers | 1B018.b, 9B106.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 |

| Description | ECCN Citation |
|---|-----------------------|
| Epoxy resin matrix impregnated carbon fibers or filamentary materials | 1C010.e Note 1 |
| Equine morbillivirus (Hendra virus) | 1C351.a.12 |
| Erbium oxide (erbia) (Er ₂ O ₃) made/coated crucibles | 2A225.a.4 |
| Etching stored program controlled equipment..... | 3B991.b.1.h |
| Ethers, as lubricating fluid | 1C006.b.1 |
| 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 phosphorous dichloride..... | 1C350.b.12 |
| Ethyl phosphorous difluoride | 1C350.b.13 |
| Ethyl phosphoryl dichloride | 1C350.b.14 |
| Ethyl phosphoryl 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 |
| Explosives (military) in charges for civil applications | 1A008 or 1C018 |
| 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 |

| Description | ECCN Citation |
|---|----------------|
| 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 prepgs in 9C110..... | 9C110 |
| Fiber prepgs, 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 |
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| Description | ECCN Citation |
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| Description | ECCN Citation |
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| Description | ECCN Citation |
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| Description | ECCN Citation |
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| Description | ECCN Citation |
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| Microcontroller microcircuits | 3A001.a.3 |
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| Description | ECCN Citation |
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| Microwave or millimeter wave components technology..... | 3E982 |
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| Description | ECCN Citation |
|---|------------------|
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| Modeccin toxin | 1C351.d.10 |
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| Description | ECCN Citation |
|--|---------------------------------|
| Multispectral imaging sensors | 6A002.b |
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| N,N-diisopropyl-(beta)-amino ethanol | 1C350.b.8 |
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| Naval Petroleum Reserves | 1C983 |
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| Nickel alloy | 1C002.a.2.a |
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| Description | ECCN Citation |
|---|---|
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| Nickel electroplating equipment | 2B999.i |
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| Nickel powder | 1C240 |
| Night vision devices..... | 6A002.a.2, 6A003.b.3, 6A003.b.4, 6A202 or 6A203 |
| Night vision technology | 6E002 or 6E101 |
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| Niobium alloy/powder or particulate form | 1C002.b.1.b |
| Nipah virus | 1C351.a.25 |
| 3-Nitraza-1,5 pentane diisocyanate..... | 1C018.1 |
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| Nitroglycerin (in medicinal form)..... | 1C992.1 |
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| Noise cancellation systems for vessels, active..... | 8A002.o.3.b |
| Noise reduction systems for vessels, active | 8A002.o.3.b |
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| Description | ECCN Citation |
|---|--------------------|
| Nuclear plant commodities, parts and accessories..... | 2A291.d |
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| Security scanning equipment | 2A984, 2D984 or 2E984 |
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| Sensors, Micromachined Angular Rate | 7A994 |
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| Sensors, optical | 6A002 |
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| Description | ECCN Citation |
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| Sidelooking airborne radar (SLAR)..... | 6A008.d |
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| Signal processing equipment, sonar..... | 6A001.a.1.d |
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| Signal processing equipment, general purpose digital..... | 4A003 |
| Signal processing equipment, hydrophone arrays | 6A001.a.2.c |

| Description | ECCN Citation |
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| Signal tracking development/use technology, laser..... | 5E001.b.2 |
| Signature suppression devices, treatments & fittings | 1C001 |
| Signature (electromagnetic) reduction devices..... | 1C001 |
| Signature (electromagnetic) reduction devices..... | 1A101 |
| Signature suppression devices, treatments & fittings | 1A101 |
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| Silicon, hetero-epitaxial grown multi-layer substrates | 3C001.a |
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| Silicone carbide wafers | 3C005 |
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| Silicone fluid, fluorinated | 1C006.b.2 |
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| Simultaneous initiation arrangements or systems, single & multipoint | 3A232.b |
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| 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 |
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| 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 |
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| Software, adaptive control | 2D992.a |
| Software, dedicated, for toxic gas monitoring systems and their dedicated detecting components controlled by 2B351 | 2D351 |

| Description | ECCN Citation |
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| 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 |
| Solar cells, cell-interconnect-coverglass (CIC) assemblies, solar panels, and solar arrays (space qualified) | 3A001.e.4 or 3A991 |
| Solenoids, superconductive..... | 3A001.e.3 |
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| Solid propellant rocket engines..... | 9A107 |
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| Solid rocket propulsion system, components..... | 9A008 |
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| Solid state joining equipment, tools/dies/fixtures | 9B004 |
| Solid state imaging devices..... | 6A203.b.3 |
| Solid-state imaging devices | 6A002 |
| Solid-state pulsed power switching thyristor devices and thyristor modules | 3A001.g |
| Solid state lasers, tunable | 6A005.c |
| Solid state microwave amplifiers..... | 3A001.b.4 |
| Solid-state power semiconductor switches, diodes, or 'modules' | 3A001.h |
| Sonar, active individual | 6A001.a.1.e |
| Sonar processing equipment | 6A001.a.2.b |
| Sonar log equipment | 6A001.b |
| Sonar, Side Scan Sonar (SSS) designed for seabed imaging | 6A001.a.1.a.3 |
| Sonar, Synthetic Aperture Sonar (SAS) designed for seabed imaging..... | 6A001.a.1.a.3 |
| Sonar, underwater navigation system | 7A008 |
| Sonar signal processing equipment..... | 6A001.a.1.d Note a |
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| SONET (Synchronous Optical Network) technology..... | 5E991.a.2 |

| Description | ECCN Citation |
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| 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..... | 9A004 |
| Spacecraft components | 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 | 2B999l |
| 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 |
| Spread spectrum radio equipment..... | 5A001.b.3 |
| Spread spectrum spreading code generation..... | 5A002.a.5 |
| Spraytron 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 |

| Description | ECCN Citation |
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| 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 |
| 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 |

| Description | ECCN Citation |
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| 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/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 |
| 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 |

| Description | ECCN Citation |
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| 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 |
| 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 |

| Description | ECCN Citation |
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| 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, 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” 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, 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 |

| Description | ECCN Citation |
|---|-----------------------|
| Telemetering & telecontrol equipment for missiles..... | 5A101 |
| Television cameras, underwater..... | 8A002.d.1.b |
| Television systems (camera, lights, monitoring and signal transmission equipment), remote operation with submersible vehicle | 8A992.a.1 |
| Television cameras, underwater..... | 8A002.d.1 |
| Television cameras, underwater | 8A002.d.1.a |
| Television cameras, underwater..... | 8A992.a.2 |
| 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 |
| 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 |
| Tetrodotoxin..... | 1C351.d.16 |
| Thallium arsenic selenide (Tl_3AsSe_3 or TAS) | 6C004.b.3 |
| Thecaphora solani | 1C354.b.11 |
| 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 |

| Description | ECCN Citation |
|---|------------------------------|
| 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 |
| Titanium-based alloys | 1C002.b.3 |
| Titanium doped sapphire laser host material | 6C005.a |
| Titanium-sapphire (Ti: Al ₂ O ₃) lasers | 6A005.c.1, c.2 or c.3 |
| Titanium-stabilized duplex stainless steel 9Ti-DSS) | 1C118 |
| TMETN (trimethylolethane trinitrate) | 1C111.c.4 |
| Tooling 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.l.1 |
| Tracking systems, precision | 6A108.b.1 |
| Tracking systems | 6A008.l |
| 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 |

| Description | ECCN Citation |
|--|-----------------------|
| 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 |
| 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 |
| Turning machines for optical quality surfaces | 2B992.a |
| Turning machines (CNC)..... | 2B991.d.1 |
| Turning machines..... | 2B201.c |

| Description | ECCN Citation |
|---|------------------|
| Turning machines (CNC)..... | 2B001.a |
| TV cameras, radiation-hardened | 6A203.c |
| 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 |
| 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 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 |

| Description | ECCN Citation |
|--|---------------------|
| 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 tubes, electronic microwave | 3A001.b.1 |
| Vacuum sprytron 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 |
| 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 |

| Description | ECCN Citation |
|--|-----------------------|
| 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 (<i>Colletotrichum kahawae</i>) | 1C354.b.1 |
| Virus protection software..... | 5D992 |
| Viruses | 1C351, 1C352 or 1C353 |
| Viruses, animal pathogens | 1C352.a |
| 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 |

| Description | ECCN Citation |
|--|---------------|
| 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 |
| 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_2O_3), crucibles made or coated | 2A225.a.8 |
| Zinc germanium biphosphide | 6C004.b.4 |
| Zinc germanium diphosphide | 6C004.b.4 |
| Zinc germanium phosphide..... | 6C004.b.4 |
| Zinc selenide (ZnSe), substrate blanks | 6C004.a |
| Zinc sulphide (ZnS), substrate blanks..... | 6C004.a |
| Zirconium fluoride (ZrF_4) glass | 6C004.e |

| Description | ECCN Citation |
|--|---------------|
| Zirconium metal particulate..... | 1C111.a.2.a.1 |
| Zirconium metal, alloy, compounds, or manufacturers | 1C234 |
| Zirconium oxide (zirconia) (ZrO ₂) made/coated crucibles | 2A225.a.9 |
| Zoonotic pathogens and “toxins” | 1C351 |

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