

**ALPHABETICAL INDEX  
TO THE COMMERCE CONTROL LIST**

This index is not an exhaustive list of controlled items.

<b>Description</b>	<b>ECCN Citation</b>
Ablative liners, thrust or combustion chambers	9A106a
●Abrin	1C351.d.12
Absolute reflectance measurement equipment	6B004a
Absorbers of electromagnetic waves	1C001
Absorbers, hair type	1C001a Note 1.a
Absorbers, non-planar & planar	1C001a Note 1.b&c
Absorption columns	2B350e
Accelerators (electro-magnetic radiation)	3A101b
Accelerators or coprocessors, graphics	4A003d
Accelerometer axis align stations	7B003, 7B101
Accelerometer test station	7B003, 7B101
Accelerometers & components therefor	7A101
Accelerometers & accelerometer components	7A001
Acoustic beacons	6A001.a.1.b
Acoustic beam forming software	6D003a.1
Acoustic hydrophone arrays, towed	6A001a.2.b
Acoustic location & object detection systems	6A001a.1.b
Acoustic, marine, terrestrial equipment	6A991
Acoustic mounts, noise reduction equipment for vessels	8A002o.3.a
Acoustic-optic signal processing devices	3A001c.3
Acoustic positioning systems	6A001a.1.d
Acoustic projectors	6A001a.1.c
Acoustic systems, marine	6A001a
Acoustic transducers	6A001a.2.c
Acoustic underwater communications systems	5A001b.1
Acoustic vibration test equipment	9B006
Acoustic wave devices	3A001c
Acoustic-wave device manufacturing equipment and systems	3B991b Note
Active compensating system rotor clearance control software	9D004d
Active flight control system software	7D003e
Active flight control system technology	7E004b
Active magnetic bearing systems	2A001c
Active acoustic systems	6A001a.1
Actively cooled mirrors	6A005e.1
Adaptive control software	2D992a
Adaptive control software	2D002b.2
ADCs (analog-to-digital converters)	3A101a
ADCs (analog-to-digital converters)	3A001a.5
ADCs (analog-to-digital converters)	4A003e
Aero gas turbine engine/assemblies/component test software	9D004b
Aero gas turbine engines	9A001
Aerodynamic isotope separation plant/element housings	0B001a.3
Aerodynamic separation process systems & components	0B001d
Aerosol challenge testing chambers	2B352g
Aflatoxins	1C351d.11
African swine fever virus (animal pathogens)	1C352a.1
Agitators (chemical manufacturing)	2B350b
AHRS (Attitude Heading Reference Systems), source code	7D002
Air traffic control software	6D003h.1
Air independent power systems (for underwater use)	8A002j
Air compressors and filtration systems designed for filling air cylinders	8A992i
Air Traffic Control software application programs	6D993
Airborne altimeters	7A006
Airborne altimeters	7A106
Airborne communication equipment	7A994
Airborne radar equipment	6A998
Aircraft	7A994
Aircraft, civil	9A991b
Aircraft, demilitarized	9A991a
Aircraft, n.e.s.	9A991
Aircraft, trainer	9A018
Aircraft breathing equipment and parts	9A991e

Description	ECCN Citation
Aircraft (military) pressurized breathing equipment	9A018
Aircraft inertial navigation systems & equipment	7A103a
Aircraft inertial navigation systems & equipment	7A003
Aircraft parts and components	9A991d
Alexandrite	6C005b
Alexandrite lasers	6A005c.1
Align & expose step & repeat equipment (wafer processing)	3B001f.1
Alignment equipment for equipment controlled by 7A	7B001
Alkylphenylene ethers or thio-ethers, as lubricating fluids	1C006b.1
All flash x-ray machines	3A999b
Alloy strips, magnetic	1C003c
Alloyed materials production systems and components	1B002
Alloyed metal materials in powder or particulate form	1C002b
Alloyed metal materials in the form of uncomminuted flakes, ribbons, or thin rods	1C002c
Alloys, aluminum	1C202a
Alloys, aluminum	1C002a.2.d
Alloys, magnesium	1C002a.2.e
Alloys, metal powder or particulate form	1C002b
Alloys, nickel	1C002a.2.a
Alloys, niobium	1C002a.2.b
Alloys, titanium	1C202b
Alpha-emitting radionuclides, compounds, mixtures, products or devices	1C236
Altimeters, airborne	7A006
Altimeters, radar or laser types	7A106
Alumina fibers	1C010c Note 1
Aluminides	1C002a.1
Aluminides, nickel	1C002a.1.a
Aluminides, titanium	1C002a.1.b
Aluminum alloys	1C002a.2.d
Aluminum alloy/powder or particulate form	1C002b.1.d
Aluminum alloys as tubes/solid forms/forgings	1C202a
Aluminum electroplating equipment	2B999i
Aluminum organo-metallic compounds	3C003
Aluminum oxide powder, fine	0C201
Aluminum powder, spherical	1C111a.1
Aluminum powder (spherical) production equipment	1B102
Amalgam electrolysis cells, lithium isotope separation	1B233b.3
Amalgam pumps, lithium and/or mercury	1B233b.2
Ammonia, aqueous	1C980
Ammonia crackers	0B004b.2.d
Ammonia distillation towers	0B004b.4.b
Ammonia synthesis converters & units	1B227
Ammonia-hydrogen exchange plant	0B004a.2
Ammonia-hydrogen exchange equipment and components	0B004b.2
Ammonium bifluoride	see ammonium hydrogen fluoride
Ammonium hydrogen fluoride	1C350.d.1
Ammonium nitrate, including certain fertilizers containing ammonium nitrate	1C997
Ammunition hand-loading equipment	0B986
Amorphous alloy strips	1C003
Amplifiers, microwave solid state	3A001b.4
Amplifiers, pulse	3A999d
Analog instrumentation tape recorders	3A002a.1
Analog computers	4A101
Analog computers	4A001
Analog-to-digital converters	3A101a
Analog-to-digital converters, integrated circuits	3A001a.5
Analog-to-digital conversion equipment	4A003e
Analyzers, network	3A002e
Analyzers, spectrum	3A002c.1
Anechoic chambers	9B106b
Angular measuring instruments	2B006b.2
Angular measuring instruments	2B206
Angular-linear inspection equipment (hemishells)	2B206
Angular-linear inspection equipment (hemishells)	2B006c
Animal pathogens	1C352
Annealing or recrystallizing equipment	3B991b.1.c.1
Antennae, for microwave power source	0B001i.3
Antennae, phased array	5A001d
Antennae, phased array (for radar)	6A008e

Description	ECCN Citation
Anti-vibration mounts (noise reduction), civil vessels	8A002o.3.a
Antimony hydrides	3C004
Aramid fibers & filamentary materials	1C210a
Aramid fibers & filamentary materials	1C010a
Arc remelt & casting furnaces	2B227a
Argon ion lasers	6A205a
Argon ion lasers	6A005a.6
Armor body	1A005
Armor plate drilling machines	2B018a
Armor plate planing machines	2B018b
Armor plate quenching presses	2B018c
Arms machinery, equipment, gear, parts, and accessories	2B018
Arms (small) chambering machines	2B018o
Arms (small) deep hole drilling machines and drills therefor	2B018p
Arms (small) rifling machines	2B018q
Arms (small) spill boring machines	2B018r
Aromatic polyimides	1C008a.3
Aromatic polyamide-imides	1C008a.2
Aromatic polyetherimides	1C008a.4
Array processor microcircuits	3A001a.3 Note
Array processors/assemblies	4A004
Array processors/assemblies	4A003
Arsenic trichloride	1C350.b.1
Arsenic hydrides	3C004
Artificial Intelligence software	4D003b
Asphalt paving mixtures	1C980
Aspheric optical elements	6A004e
Assemblies to enhance performance by aggregation of computing elements	4A994c
Asynchronous transfer mode (ATM) equipment	5A991c.10.d
Asynchronous transfer mode (ATM), equipment for the development of equipment employing	5B001b.1
Asynchronous transfer mode (ATM), software for the development of equipment employing	5D001d.1
Asynchronous transfer mode (ATM), technology for the development of equipment employing	5E001c.1
Atomic vapor laser isotope separation plant	0B001a.6
Atomic vapor laser isotope separation process equipment	0B001g
Atomic frequency standards	3A002g
Atomic transition solid state lasers	6A005c.2
Attitude Heading Reference Systems (AHRS), source code software	7D002
Attitude control equipment for missiles	7A116
Aujeszky' disease virus (Porcine herpes virus)	1C352a.6
Austenitic stainless steel plate, valves, piping, tanks and vessels	2B999n
Autoclave temperature, pressure or atmosphere regulation technology	1E103
Autoclaves, ovens and systems	0B002a
Automated control systems, submersible vehicles	8A002b
Automotive, diesel, and marine engine lubricating oil	1C980
Avian influenza virus	1C352a.2
Aviation engine lubricating oil	1C980
Avionic equipment, parts, and components	7A994
Avionics EMP/EMI protection technology	7E102
Bacillus anthracis	1C351c.1
Bacteria	1C351c
Bacteria	1C354a
Bacteria	1C352b
Baffles	0A001h
Baffles (rotor tube), gas centrifuge	0B001c.7
Balancing machines	2B119.a
Balancing machines	7A104a
Balancing instrumentation	7A104b
Balancing machines, centrifugal multiplane	2B229
Balancing machines, centrifugal multiplane	2B999m
Ball bearings, precision hardened steel and tungsten carbide	1C999a
Ball & solid roller bearings	2A001b
Ball & solid roller bearings	2A001a
Band-pass filters, tunable	3A001b.5
Barium metal vapor lasers	6A005a.2.d
Bartonella quintana	1C351b.1
Batch mixers	1B117
Bathymetric survey systems	6A001a.1.b
Batteries/cells, rechargeable	3A001e.1.b
Batteries/cells, primary	3A001e.1.a

Description	ECCN Citation
Bay cable systems	6A001a.2.e
Bay cable systems software	6D003a.3
Bayonets	0A018d
Beam lead bonders, stored program controlled equipment	3B991.b.3.b
Beam steering mirrors	6A004a.4
Beamforming techniques	6A001a.2.c
Bearings, ball & solid roller	2A001a
Bearings, ball & solid roller	2A001b
Bearings, gas centrifuge	0B001c.4
Bearings, gas centrifuge	0B001c.5
Bearings, high precision/temperature/special	2A001
Bearings, magnetic (active)	2A001c
Bearings, magnetic (suspension)	0B001c.4
Bearings, precision hardened steel and tungsten carbide	1C999a
Bearings, solid roller	2A001b
Bellow valves	0B001b.1
Bellow valves	0B001d.6
Bellows forming dies	2B999b
Bellows manufacturing equipment	2B999b
Bellows or rings, gas centrifuge	0B001c.6
Bellows pumps	2B350i
Bellows seal valves	2A226
Bellows seal valves	2B350g
Bellows sealed valves, n.e.s.	2A999
Bellows-forming mandrels	2B228c
Bellows-forming dies	2B228c
Benzilic acid	1C350.b.2
Beryllium metal, alloys, compounds, or manufactures	1C230
Beryllium metal particulate	1C111a.2.b
Beryllium/beryllium substrate blanks	6C004d
Biological containment facilities, ACDP level 3 or 4	2B352a
Biological isolators	2B352f.2
Biological manufacturing equipment & facilities	2B352
Biological safety cabinets	2B352f.2
Bismaleimides	1C008a.1
Bismuth	1C229
Bladders for aircraft/aerospace, fuel	1A001a
Bladders for aircraft/aerospace/missiles, fuel	1A001c
Blanks, beryllium/beryllium (Be/Be) deposited material	6C004d
Blanks, Zinc selenide (ZnSe) substrate	6C004a
Blanks, Zinc sulphide (ZnS) substrate	6C004a
Blowers, axial flow/centrifugal/positive displacement/turbo	0B001b.2.b
Blowers, positive displacement/centrifugal/axial flow), gas	0B001d.3
Bluetongue virus	1C352a.3
Boats	8A992f
Body armor	1A005
Bombs, smoke	1A984
Bonding equipment	3B991.b.3.b
Boring equipment, large	2B999h.1
Boring machines (CNC)	2B001
Boring machines (CNC)	2B201
Boron	1C011b
Boron carbide particulate	1C011b
Boron & boron compounds	1C225
Boron fibers	1C010c Note 3
Boron metal particulate	1C111a.2.c
Bottom cable systems	6A001a.2.e
Bottom cable systems software	6D003a.3
Botulinum toxin	1C351d.1
Boules of electro-optic materials	6C004b
Brayton cycle engine, air independent	8A002j.1
Breathing equipment and parts, pressurized aircraft	9A991e
Bridges & gateways, telecommunication	5A991b.4.a
Bridges & gateways, telecommunication	5A991c.9
Brucella abortus	1C351c.2
Brucella suis	1C351c.4
Brucella melitensis	1C351c.3
Buckshot shotgun shells	0A984
Bulk acoustic wave devices	3A001c.2

Description	ECCN Citation
Bulk fluoride glass, low optic absorption	6C004e.2
Bulletproof and bullet resistant vests	1A005
Burkholderia mallei (Pseudomonas mallei)	1C351c.5
Burkholderia pseudomallei (Pseudomonas pseudomallei)	1C351c.6
Butacene	1C111c.1
Cable - optical fiber & accessories for underwater use	5A001c.2
Cables, Optical fiber	5A001c.1
Cables with surreptitious intrusion detection	5A002a.7
CAD (Computer-aided-design) software for semiconductors	3D003
Cadmium telluride (CdTe) single crystals/epitaxial wafers	6C002b
Cadmium zinc telluride (CdZnTe) single crystals & epitaxial wafers	6C002b
Calcium	1C227
Calcium fluoride (CaF <sub>2</sub> ) made/coated crucibles	2A225a.1
Calcium zirconate (metazirconate) (Ca <sub>2</sub> ZrO <sub>3</sub> ) crucibles	2A225a.2
Calibration, test or alignment equipment for equipment controlled by 7A	7B001
Camera equipment, underwater, n.e.s.	8A992d
Camera, designed or modified for remote operation with submersible vehicle	8A992a.1
Cameras, electronic framing type	6A003a.4
Cameras, electronic framing type	6A203b.2
Cameras, electronic streak type	6A003a.3
Cameras, electronic streak type	6A203b.1
Cameras, framing	6A003a
Cameras, framing	6A203
Cameras, imaging	6A003b
Cameras, mechanical	6A203a.1
Cameras, mechanical	6A003a
Cameras, photo-optical step and repeat	3B991b.2.d.1
Cameras, radiation hardened TV	6A203c
Cameras, scanning & scanning camera systems	6A003b.2
Cameras (still), underwater photographic	8A002e
Cameras (still), for underwater use	8A992b
Cameras, video using solid state sensors	6A003b.1
Cameras and components	6A003
Cameras and components	6A203
Canned drive pumps	2B350i
Canopies, complete	9A992
Capacitors	3A001e.2
Capacitors	3A201a
Capacitors, high voltage	3A999c
Caps (rotor tube), gas centrifuge	0B001c.8
Carbon dioxide and monoxide	1C980
Carbon dioxide (CO <sub>2</sub> ) lasers	6A005a.4
Carbon fiber & filamentary materials	1C010b
Carbon fiber & filamentary materials	1C210a
Carbon fiber preforms	1C010e
Carbon fibrous or filamentary materials	1A002b.1
Carbon monoxide (CO) lasers	6A005a.3
Carbon or alumina fiber conversion equipment	1B001d.4
Carbon-carbon components, resaturated pyrolyzed	1A102
Carbon-carbon materials, resaturated pyrolyzed	1C102
Carbonyl dichloride (75-44-5) (Phosgene)	1C355b.1.a
Carboxy-terminated polybutadiene (CTPB)	1C111b.1
Casks for transport of radioactive material	2A291.c
Casting and remelt arc furnaces	2B227a
Catalysts, platinized	1A225
Catalytic burners, deuterium conversion to heavy water	0B004b.4.c
Cathodes (Impregnated) for electronic tubes	3A001b.1.c
Cathodes	3A001b.1
Cathodic arc deposition production equipment	2B005f
Cedar, Western red	1C988
Cells or batteries, primary	3A001e.1.a
Cells or batteries, rechargeable	3A001e.1.b
Cellular radio equipment/system software	5D991
Centralized network control	5A991e
Centralized network control development/production technology	5E991
Centrifugal decanters	2B352c
Centrifugal fixtures for gyro bearings	7B003, 7B101
Centrifuge housing/recipients	0B001c.12
Centrifugal isotope separation equipment & components	0B001c

Description	ECCN Citation
Centrifugal isotope separation plant auxiliary equipment	0B002
Centrifugal isotope separation plant, equipment & components	0B001a.2
Centrifugal multiplane balancing machines	2B999m
Centrifugal multiplane balancing machines for flexible rotors	2B229a
Centrifugal pumps	2B350i
Centrifugal separators	2B352c
Centrifuge rotor balancing equipment	2B229
Centrifuge rotor assembly equipment	2B228a
Centrifuges capable of imparting accelerations above 100 g	2B122
Centrifuges, gas	0B001c.1
Ceramic based materials	1C007
Ceramic base materials, of single or complex borides of titanium	1C007a
Ceramic composite materials, useable for radomes or nose tips	1C107b
Ceramic cores for blades & vanes	9B001b
Ceramic core manufacturing equipment	9B991d
Ceramic fibers	1C010c Note 4
Ceramic non-composite materials	1C007b
Ceramic shells for blades & vanes	9B001b
Ceramic shell wax pattern preparation equipment	9B991e
Ceramic-ceramic composite materials	1C007f
Ceramic-ceramic-matrix composite materials	1C007d
Ceramic-matrix composite materials	1C007c
Cerium sulphide (Ce <sub>2</sub> S <sub>3</sub> ) made/coated crucibles	2A225a.3
Certification software for information security software	5D002c.2
Chambers, aerosol challenge testing (capacity of 1 m <sup>3</sup> or more)	2B352g
Changers, frequency	3A999a
Changers, frequency (converters or inverters)	0B001c.11
Changers, frequency (converters or inverters)	3A225
Charges, containing military explosives for civil applications	1C018o
Charges, non-irritant smoke	1A984
Charges, shaped for oil well operations	1C992a
Chemical agents	1A984
Chemical disposal technology	1E351
Chemical exchange isotope separation process plant, components	0B001e
Chemical exchange isotope separation process plant, equipment	0B001a.4
Chemical incinerators	2B350j
Chemical production process control software	1D390
Chemical production facility technology	1E350
Chemical vapor deposition (CVD) equipment, plasma enhanced	3B001d
Chemical warfare (CW) precursors	1C350
Chemical lasers	6A005a.5
Chemical manufacturing equipment	2B350
Chemical manufacturing facilities	2B350
Chemical (precursor) mixtures and test kits	1C395
Chemical (precursor) mixtures, used in the production of chemical warfare agents	1C995
Chemical storage tanks & containers	2B350c
Chemical Vapor deposition (CVD) equipment	3B991b.1.i
Chemical vapor deposition (CVD) equipment, epitaxial growth	3B001
Chemical vapor deposition (CVD) equipment, production (fiber)	1B001d.2
Chemical vapor deposition (CVD) equipment, production	2B005a
Chemicals, CWC Schedule 2 and 3	1C355
Chemicals, precursors for toxic chemical agents	1C350
Chikungunya virus (Human pathogen)	1C351a.1
Chip carrier bonders, stored program controlled equipment	3B991.b.3.b
Chlamydia psittaci	1C351c.7
Chlorine trifluoride (ClF <sub>3</sub> )	1C238
2-Chloroethanol	1C350.d.2
Chlorofluorocarbon, as hydraulic fluids	1C006a.2
Chloropicrin (trichloronitromethane)(76-06-2)	1C355b.3
●Cholera toxin	1C351.d.13
Chromatography analytical instruments	3A999f
Chronometry equipment	3A999e2
Cinema recording cameras	6A003a.1
Clean room filters	3B991.b.4
Clicker dies	1B101d
Clostridium perfringens toxins	1C351d.2
Clostridium botulinum	1C351c.8
Clothing & materials, bullet-resistant	1A005
CNTD (Controlled nucleation thermal decomposition) equipment	2B005a.1.b

Description	ECCN Citation
Coating application & processing technology, optic fibers	5E991a.1
Coating application technology, for non-electronic substrates	2E003f
Coating application & processing technology, optic fibers	5E001b.3
Coating equipment for prepregs/preform production	1B101d
Coating & processing equipment, for non-electronic substrates	2B005
Coatings for reduced electromagnetic visibility	1C101
Cochliobolus miyabeanus (Helminthosporium oryzae)	1C354b.2
Coils, radio frequency ion excitation	0B001i.2
Cold boxes, hydrogen distillation	0B004b.3.a
Cold traps/desublimers for UF6 removal	0B002b
Cold traps/desublimers for UF6 removal	0B001d.7.d
Cold-cathode tubes	3A228a
Collector systems, UF6 product and tails	0B001g.3
Colletotrichum coffeanum var.	
Colletotrichum Kahawae (Colletotrichum coffeanum var. Virulans)	1C354b.1
virulans, fungi (Colletotrichum kahawae)	1C354b.1
Color center lasers	6A005c.1
Column, absorption or distillation	2B350e
Column, liquid-liquid exchange, for lithium amalgams	1B233b.1
Combined cycle engines/components	9A011
Combustion regulation devices, missile engines	9A118
Common channel signaling equipment/systems	5A991c.8
Common channel signaling, equipment for the development of equipment employing	5B001b.5
Common channel signaling, technology for the development of equipment employing	5D001c.5
Communication channel controllers	5A991b.4b
Communication equipment, airborne	7A994
Communication (mobile) equipment, assemblies and components	5A991g
Communications interception devices, parts and accessories	5A980
Communications cable systems, secure	5A002a.7
Communications Systems (underwater)	5A001b.1
Compasses	8A992j
Compasses (gyro-astro) & other position or orientation deriving devices	7A004
Compasses (gyro-astro) & devices, other than those of 7A004	7A104
Compilers (Source code Software) for multi-data-stream processing equipment	4D003a
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.	1B999e
Composite (structural) production equipment controlled by 1B999, software for	1D999
Composite materials, ceramic-ceramic	1C007f
Composites production equipment	1B001
Composite structures for propulsion systems or space vehicles	9A110
Composites (structural) production equipment	1B101
Compound rotary tables for machine tools	2B009c
Compound semiconductor integrated circuits	3A001a.11
Compound semiconductor photocathodes	6A002a.2.b.3
Compressors	0B001d.3
Compressors, hydrogen sulphide gas	0B004b.1.b
Compressors, turboexpander	1B232
Compressors, turbo/centrifugal/axial flow	0B001b.2.a
Compressors, UF6 resistant	0B001h.4
Computer, electronic assemblies & equipment & components	4A001-4
Computer, electronic components	4A101
Computer, electronic components	4A102
Computer aided design (CAD) equipment for semiconductor devices or integrated circuits	3B991b.2.c
Computer-aided-design (CAD) software for IC's & semiconductors	3D003
Computer interconnect equipment	4A003g
Computer/assemblies/components, neural	4A004b
Computer/assemblies/components, optical	4A004c
Computers, electronic assemblies, and related equipment and components not controlled by 4A001, 4A002, or 4A003	4A994
Computers, analog & analog ruggedized	4A101
Computers for fingerprint equipment	4A980
Computers, digital ruggedized	4A101
Computers/assemblies/components, systolic array	4A004a
Computers, analog	4A001

Description	ECCN Citation
Computers, digital .....	4A003
Computers, digital .....	4A004
Computers, digital .....	4A001
Computers, having information security characteristics .....	4A001b
Computers, hybrid .....	4A102
Computers, with extended operating temperature range .....	4A001a.1
Computers, radiation hardened .....	4A001a.2
Condensers for use in nuclear reactors .....	2A290a
Condensers or heat exchangers .....	2B350d
Conductive polymers .....	1C001c
Conductors, superconductive composite .....	1C005
Congo-Crimean haemorrhagic fever virus .....	1C351a.2
Conotoxin .....	1C351d.3
Contactors, chemical exchange (ammonia-hydrogen) .....	0B004b.2.b
Contactors, liquid-liquid centrifugal .....	0B001e.1
Containers, chemical .....	2B350c
Containment facilities .....	2B352a
Continuous mixers .....	1B118
Contrarotating propellers .....	8A002o.1.b
Control rods, for nuclear reactors .....	0A001c
Control units for metallurgical melting & casting furnaces .....	2B227
Control systems, on-line development of gas turbine engines .....	9B002
Controllable-pitch propellers .....	8A002o.2.a
Controlled atmosphere melting & casting furnaces .....	2B227
Controlled environment (vacuum or inert gas) induction furnaces .....	2B226
Controlled nucleation thermal decomposition (CNTD) equipment .....	2B005a.1.b
Controllers, machine tool (CNC) .....	1B001a
Controllers for high explosive handling robots .....	2B207
Controllers, robot .....	2B007
Converter integrated circuits .....	3A001a.5
Converter interfaces for digital video magnetic tape recorders .....	3A002a.4
Converters, frequency .....	0B001c.11
Converters, frequency .....	3A225
Converters, frequency extender .....	3A001b.7
Cooling equipment for crucibles .....	0B001i.5
Cooling equipment for molten uranium .....	0B001g.2
Cooling fluid (fluorocarbon electronic) development, production, or use technology .....	1E994
Cooling fluids - electronic .....	1C006d
Cooling fluids, fluorocarbon electronic .....	1C006d
Cooling systems, freon and chilled water .....	1B999d
Copper or phosphor bronze mesh packings .....	1A226
Copper metal vapor lasers .....	6A005a.2.a
Coprocessor microcircuits .....	3A001a.3 Note
Coprocessors or accelerators, graphics .....	4A003d
Core grid plates .....	0A001h
Core support structures .....	0A001h
Correlation-velocity sonar log equipment .....	6A001b
Counter-current solvent extractors .....	0B006c
Coxiella burnetii .....	1C351b.2
Crime science laboratories, parts and accessories, nonmilitary mobile .....	9A980
Critically safe tanks, nuclear fuel reprocessing .....	0B006b
Cross-flow filtration equipment .....	2B352d
Crossed-field amplifier tubes .....	3A001b.1.b
Crucibles, liquid actinide resistant .....	2A225
Crucibles, resistant to molten uranium .....	0B001g.2
Crucibles, resistant to molten uranium .....	0B001i.5
Crucibles, tantalum .....	2A225b.c
Crude petroleum or shale oil .....	1C981
Cryocoolers for optical sensors, space qualified .....	6A002d.1
Cryocoolers for optical sensors, non-space qualified .....	6A002d.2
Cryogenic distillation towers & cold boxes .....	0B004b.3.a
Cryogenic heat exchangers for UF6/Carrier gas separation .....	0B001d.7.a
Cryogenic refrigeration units .....	0B001d.7.b
Cryoseparators .....	0B001d.7.a
Cryptanalytic equipment or devices, digital .....	5A002a.2
Cryptoanalytic equipment and components, n.e.s. .....	5A992
Cryptographic equipment and components, n.e.s. .....	5A992
Cryptography equipment or devices, digital .....	5A002a.1
Cryptography equipment or devices, analog .....	5A002a.3



Description	ECCN Citation
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	3B991b.1.c
CTPB (Carboxy-terminated polybutadiene)	1C111b.1
Custom integrated circuits	3A001a.10
Cutting tool inserts, single diamond point	2B998b
Cutting machines, gears	2B003
Cutting equipment for prepregs/preform production	1B101d
CVD (Chemical vapor deposition) equipment	1B001d.2
CVD (Chemical vapor deposition) equipment	2B005a
CVD (Chemical vapor deposition) equipment	1B101c.2
CVD (Chemical vapor deposition) equipment, plasma enhanced	3B001d
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)	1C355b.1.b
Cylinder wall lubrication technology, diesel engines	9E003e.3
DACs (Digital-to-analog converters)	3A001a.5
Damping, flotation or lubricating fluids	1C006c
Data acquisition systems for gas turbine engine development	9B002
Data (message) switching equipment, systems, components and assemblies	5A991c.1
Data acquisition equipment for wind tunnels, automatic	9B005
Datagram packet routing or switching equipment	5A991c.3
Decanters, centrifugal	2B352c
Decontamination equipment	1A004a
Deep-hole drilling machines	2B001f
Defect, error or contaminant detection equipment for wafers or substrates	3B992b.1
Deformable mirrors	6A004a.1
Degassing equipment	2B350
DEGDN (diethylene glycol dinitrate)	1C111c.5
Dengue fever virus	1C351a.3
Depleted Uranium	1A290
Depleted Uranium	0C001
Depth sounders	6A001a.1
Design integration of guidance sets, software	7D103
Desublimers for UF6 removal	0B002b
Detection and protection equipment and components	1A004
Detection equipment, seismic	6A999a
Detection equipment, radiation	1A999a
Detection equipment, radiographic	1A999b
•Detection systems for explosives and detonators	2A983, 2D983, 2E983
Detection or location systems (acoustic)	6A001a.1.b
Detectors, optical	6A002a
Detectors, radiation hardened	6A102
Detectors, space-qualified solid state optical	6A002a.1
Detonation cord	1C018b, 1C992c
•Detonator detection	2A983, 2D983, 2E983
Detonator firing sets, for multiple detonators of 3A232	3A229a
Detonators, electric or non-electric	1C018d, 1C992e
Detonators, exploding bridge wire (EBW)	3A232a.2
Detonators, exploding bridge (EB)	3A232a.1
Detonators, exploding foil initiators (EB)	3A232a.4
Detonators, slapper (electric)	3A232a.3
Deuterated compounds, (e.g. Deuterated paraffins)	0C004
Deuterium & deuterium compounds as mixtures & solutions	0C004
Deuterium/deuterium compound production plant, equipment- & components	0B004
Deuterium fluoride-carbon dioxide (DF-CO2) lasers	6A005a.5.c.2
Deuterium fluoride (DF) lasers	6A005a.5.b
Di-isopropylamine	1C350.d.4
•Diacetoxyscirpenol toxin	1C351.d.14
Dialkyl (Me, Et, n-Pr or i-Pr) N,N-dialkyl (Me, Et, n-Pr, or i-Pr)-phosphoramidates	1C355a.2.c
Diamond cutting tool inserts, single point	2B998b
Diamond film substrate development/production technology	3E003d
Diaphragms, made from fluoroelastomers	1A001c
Diaphragm pumps	2B350i
Diaphragm valves	2B350g
Dibromotetrafluoroethane based damping or flotation fluids	1C006c.1
Die bonder, stored program controlled	3B991.b.3.a

Description	ECCN Citation
Dies, bellows-forming	2B228c
Diesel engines, n.e.s.	9A990
Diesel cycle engine, air independent	8A002j
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)	1C111c.5
Diffuser plates	0A001h
Diffusion bonding technology, metal working	2E003b.1.b
Diffusion bonding technology/data, super alloys or Ti alloys	2E003b.2.b
Diffusion bonding tools, dies, molds or fixtures	1B003
Digital array processors	3A001a.3 Note
Digital computers	4A003
Digital computers	4A994b
Digital computers, electronic assemblies & related equipment	4A003
Digital computers, electronic assemblies & related equipment	4A001
Digital computers, fault tolerant	4A003a
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	4A003c
Digital computer systems	4A004
Digital computer systems	4A003c
Digital computer systems	4A003b
Digital computer systems	4A001
Digital coprocessors	3A001a.3 Note
Digital differential analyzer, ruggedized	4A101
Digital electronic control software for propulsion systems, aerospace test facilities or air breathing aero-engine test facilities	9D003a
Digital exchanges, telecommunication	5A991c
Digital instrumentation tape data recorders	3A002a.3
Digital signal processors	3A001a.3 Note
Digital signal processors	4A003
Digital time delay generators	3A999e1
Digital video magnetic tape recorders	3A002a.2
Digital-to-analog converter integrated circuits (DACs)	3A001a.5
Digitally controlled radio receivers	5A001b.4
Digitizers, waveform	3A002a.5
Dimensional inspection or measuring systems or equipment not controlled by 2B006	2B996
Dimensional inspection machines	2B206
Dimensional inspection equipment/systems	2B006a
Dimensional inspection equipment/systems	2B006c
Dimensional measuring equipment, instruments/systems	2B006b
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)	1C111a.3.b
Dinitrogen trioxide	1C111a.3.a
Dinitrogen pentoxide	1C111a.3.c
2,2' Dinitropropanol	1C018
Diodes, laser	6A005b
Diortho tolyl-urethane	1C018g
Diphenyl urethane	1C018f
Direct view imaging equipment	6A002c
Direct-acting hydraulic pressing technology for metal working	2E003b.2.c
Direction finding equipment & components	7A007
Direction finding equipment, navigation	7A994
Direction finding systems, equipment & components	7A103
Directional solidification casting control software	9D004c
Directional solidification casting equipment	9B001a
Discharge type arms	0A985
Disk drive (magnetic hard) development or production technology	4E993c
Disk drives	4A994d
Dissolvers, for nuclear fuel	0B006b

Description	ECCN Citation
Distillation columns	2B350e
Distillation columns, hydrogen-cryogenic	1B228
Distillation equipment, purification of UF6	0B003b.2
Distillation Towers (ammonia)	0B004b.4.b
Distillation towers and cold boxes (hydrogen cryogenic)	0B004b.3.a
Distillation towers, packings	1A226
Dive computers	8A992j
Doppler laser interferometers (DLIs)	6A225
Double seal valves	2B350g
Double seal pumps	2B350i
Drilling equipment	2B999h
Drilling machines, deep-hole	2B001f
Dry etching equipment, anisotropic plasma	3B001c
Dye lasers	6A005d
Dye lasers	6A205
Dynamic adaptive routing equipment	5A991c.9
Dynamic signal analyzers	3A002c.2
Dynamic wavefront (phase) measuring equipment	6A005f.1
Dynamic adaptive routing software	5D001c.3
E-beam welders	2B999e
Earth moving equipment, large	2B999h.2
Eastern equine encephalitis virus	1C351a.4
EB-PVD (Electron beam physical vapor deposition) equipment	2B005c
Ebola virus	1C351a.5
Eddy current test equipment for nuclear reactors	2A291.d
EDMs, non-wire feed types	2B001d
EDMs, wire feed type	2B991d.1
Electric cattle prods	0A985
Electric detonators, explosive	3A232a
Electric propulsion engines	8A002o.2.b
Electrical discharge machines, non wire feed (CNC)	2B001d
Electrical discharge machines (EDM) of the wire feed type	2B991d.2
Electrically driven explosive detonators	3A232a
Electro-optic materials	6C004
Electro-optical device manufacturing equipment and systems	3B991b Note
Electro-optical integrated circuits	3A001a.6
Electrochemical reduction cells	0B001e.3
Electrochemical reduction cells, feed equipment	0B001e.4
Electrolysis cells, amalgam lithium isotope separation	1B233b.3
Electrolytic cells for fluorine production	1B225
Electrolytic cells for fluorine production not controlled by 1B225	1B999a
Electromagnetic interference (EMI) protection technology	7E102
Electromagnetic isotope separation equipment & components	0B001j
Electromagnetic isotope separation plant	0B001a.9
Electromagnetic isotope separators	1B226
Electromagnetic pulse (EMP) protection, detectors	6A102
Electromagnetic pulse (EMP) protection technology, avionics	7E102
Electromagnetic radiation sensors, optical fiber	6A002d.3.a
Electromagnetic signature reduction devices	1A101
Electromagnetic signature reduction materials	1C101
Electromagnetic underwater communications systems	5A001b.1.b
Electromagnets, superconductive	3A201b
Electromagnets, superconductive	3A001e.3
Electron beam cutting machines (CNC)	2B001e.1.b
Electron beam equipment for mask making/semiconductor devices	3B001f.2
Electron beam equipment for projection image transfer	3B991.b.2.g
Electron beam guns, high power	0B001g.1
Electron beam melting furnaces	2B227b
Electron beam physical vapor deposition (EB-PVD) equipment	2B005c
Electron beam sensitive resist materials	3C002b
Electron beam systems, for probing semiconductor devices	3B992b.5
Electron beam systems	3B991b.1.j
Electron beam test systems	3B992b.5
Electron bombardment mass spectrometers	3A233d
Electron cyclotron resonance (ECR) CVD equipment	3B001d.1.b
Electron cyclotron resonance (ECR) plasma dry etching equipment	3B001c.1.b
Electron tube manufacturing equipment and components	3B991a
Electron tube inspection or testing equipment and components	3B992a
Electronic assemblies	4A003

Description	ECCN Citation
Electronic beam gun, Strip	0B001g.1
Electronic beam gun, Scanning	0B001g.1
Electronic cameras	6A003a.5
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	4A994a
Electronic computers & related equipment	4A001-4
Electronic computers & related equipment	4A101
Electronic computers & related equipment	4A102
Electronic controls, for nuclear reactors	0A001d
Electronic cooling fluids	1C006d
Electronic framing cameras	6A203b.2
Electronic streak cameras & streak tubes	6A003a.3
Electronic streak cameras & streak tubes	6A203b.1
Electronically steerable antennae, phased array	5A001.d
Electroplating equipment	2B999i
EMP/EMI protection technology, avionic systems	7E102
Encoders, rotary input shaft type	3A001f
Encryption equipment, assemblies & components	5A002
Encryption software	5D002
End effectors, robot	2B207
End effectors, robot	2B007
Energy storage capacitors	3A001e.2
Engines, diesel n.e.s.	9A990
Engines (marine), n.e.s.	8A992g
Engines (submarine), n.e.s.	8A992g
Enrichment plant, isotope	0B001
Environmental chambers	1B018b
Environmental chambers, capable of simulating flight conditions	9B106a
Epitaxial growth equipment	3B001a
Epitaxial growth stored program controlled equipment	3B991b.1.d
Epitaxial wafers, Cadmium telluride (CdTe)	6C002b
Epoxy resin matrix impregnated carbon fibers or filamentary materials	1C010e Note 1
Erbium oxide (erbia) (Er <sub>2</sub> O <sub>3</sub> ) made/coated crucibles	2A225a.4
Etching stored program controlled equipment	3B991b.1.h
Ethers, as lubricating fluid	1C006b.1
0-ethyl-2-diisopropylaminoethyl methylphosphonite (QL)	1C350.a.1
Ethyl centralites	1C018a
Ethyl phenyl urethane	1C018e
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)	1C018d
Ethyldiethanolamine (139-87-7)	1C355b.2.a
Evaporators for concentrated lithium hydroxide solution	1B233b.4
Exchange columns, liquid-liquid for lithium amalgams	1B233b.1
Exchanges, telecommunication	5A991c
Excimer lasers	6A005a.1
Expert systems - integration systems technology	2E003e
Expert systems software	4D003b
Exploding foil initiators (EFI)	3A232a.4
Exploding bridge (EB) detonators	3A232a.1
Exploding bridge wire (EBW) detonators	3A232a.2
Explosive, high	1C239
Explosive/munitions environment handling robots	2B007b
●Explosives or detonator detection equipment, software, or technology	2A983, 2D983, 2E983
Explosive detonators, electric	3A232a
Explosive devices and charges, commercial	1C992i
Explosives (military) production equipment	1B018a
Explosives (military) in charges for civil applications	1C018
FADEC (Full authority digital electronic engine control) software	9D003
Fast reacting ion-exchange resins	0B001f.1

Description	ECCN Citation
Fast Fourier Transform (FFT) processors	3A001a.12
Fast switching function modules or assemblies	3A228c
Fast select packet routing or switching equipment	5A991c.4
Fast fourier transform processors, acoustic signal processing	6A001a.2.c
Fast-exchange liquid-liquid pulse columns	0B001e.2
Fault tolerant digital computers	4A003a
Fault tolerance FADEC software	9D003b
Feed preparation systems for Uranium Chloride production	0B001e.5
Fermenters, biological processing	2B352b
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	1B001d.1
Fiber optic cable	5A001c.1
Fiber optic magnetometers	6A006c
Fiber optic hull penetrators/connectors	8A002c
Fiber optic wave division multiplex equipment	5A991b.5
Fiber preforms, metal coated, for fiber prepregs in 9C110	9C110
Fiber prepregs, resin impregnated, for items in 9A110	9C110
Fiber reinforcement, production equipment	1B001d
Fiber straining equipment	1B001d.1
Fiber surface treatment equipment	1B101d
Fibrous or filamentary materials	1C210
Fibrous or filamentary materials	1C010
Fibrous or filamentary materials, carbon	1A002b.1
Fibrous and filamentary materials for use in composite structures	1C990
Fibrous or filamentary material production equipment	1B001
Fibrous or filamentary material production equipment	1B101c
Fibrous and filamentary materials development, production or use technology	1E994
Field programmable gate arrays (FPGA)	3A001a.7
Field programmable logic arrays (FPLA)	3A001a.7
Field programmable logic devices	3A001a.7
Field programmable logic devices	3A991.c
Filament winding machines	1B001a
Filament winding machines	1B101a
Filament winding machines	1B201
Filling equipment, remotely controlled	2B350f
Film type integrated circuits	3A001a Note 2
Filter canisters	1A004a
Filters, tunable band-pass	3A001b.5
Filters for clean rooms	3B991.b.4
Fine aluminum oxide powder	0C201
Fingerprint analyzers, cameras and equipment	3A981
Fingerprint equipment, computers for	4A980
Fingerprinting powders, dyes, inks	1A985
Fingers, for surface effect vessels	8A002k
Finishing machines, gear	2B003
Finishing machines, gear	2B003
Fins	8A992j
Firearms, muzzle-loading (black powder)	0A018e
Firing sets, for multiple detonators of 3A232	3A229a
Fireworks displays	1C018j, 1C992k
Fissile materials, special or other	0C002
Flame towers, UF6 production	0B003b.1
Flanges, vacuum	2B999k
Flares, non-irritant smoke	1A984
Flash discharge X-ray generators	3A201c
Flexible rotor centrifugal balancing machines	2B229a
Flexible sensors for hydrophones	6A001a.2.a.1
Flexible nozzles, thrust vector control sub-system	9A106c
Flight management system integration technology	7E104
Flight control systems for missiles	7A116
Flight control systems - software	7D003e
Flight instrument systems, integrated	7A103b
Flight instrument trainer, military	9A018e
Flight control system development technology	7E004
Flight control actuator technology	7E004a.5
Flow-forming machines	2B009

Description	ECCN Citation
Flow-forming machines	2B109
Flow-forming machines	2B209
Flow-forming machines	2B9991
Fluid bed reactors, UF6 production	0B003b.1
Fluid energy mills	1B119
Fluoride compounds (bulk)	6C994a.1
Fluoride glass (bulk)	6C994a.2
Fluorinated silicone fluid	1C006b.2
Fluorinated compounds, components	1A001
Fluorinated compounds, unprocessed	1C009
Fluorinated phosphazene elastomers	1C009c
Fluorinated hydrocarbon polymers	0C201
Fluorinated polyimide	s1C009b
Fluorinating equipment, UF5 to UF6	0B001h.3
Fluorination & hydrofluorination screw and fluid beds, UF6 production	0B003b.1
Fluorine	1C999f
Fluorine production (electrolytic cells)	1B225
Fluorocarbon electronic cooling fluid development, production, or use technology	1E994
Fluorocarbon electronic cooling fluids	1C006.d
Fluorophosphate glass	6C004e
Flurocarbon electronic cooling fluids	1C006d
Fluxgate magnetometer technology	6E003f
Fly cutting machines	2B002b
Fly-by-light flight control system software	7D003e
Fly-by-wire flight control system software	7D003e
Fly-by-wire systems for missiles	7A116
Fly-by-wire control system technology	7E004b
Foam, syntactic for underwater use	8C001
Foam mirror structures, lightweight	6A004a.3
Focal plane arrays, direct view	6A002c.2
Focal plane arrays, linear & 2D	6A002a.3
Focal plane arrays, space qualified.	6A002e
Focal-plane array performance determining equipment	3B992b.4.c
Foot & mouth disease virus	1C352a.4
FPGA's (Field programmable gate arrays)	3A001a.7
FPLA's (Field programmable logic arrays)	3A001a.8
Framing cameras, electronic type	6A203b.2
Framing cameras, mechanical	6A203a.1
Framing tubes & solid state imaging devices	6A203b.3
Framing cameras, electronic type	6A003a.4
Francisella tularensis	1C351c.9
Free electron laser magnet wiggler manufacturing or inspection equipment	6B995a.1
Free electron laser photo injector manufacturing or inspection equipment	6B995a.2
Freeze drying equipment, steam sterilizable	2B352e
Freon and chilled water cooling systems	1B999d
Frequency agile (frequency hopping) radio equipment	5A001b.3
Frequency agile systems	5A002a.5
Frequency agile tubes	3A001b.1
Frequency hopping development technology	5E001b.4
Frequency analyzers (signal analyzers)	3A002c.1
Frequency changers	3A999a
Frequency changers (converters or inverters)	3A225
Frequency changers (converters or inverters)	0B001c.11
Frequency extenders, mixers/converters	3A001b.7
Frequency network analyzers	3A002e
Frequency standards, atomic	3A002g
Frequency synthesized signal generators	3A002d
Frequency synthesizer, electronic assemblies	3A002b
Fuel oils	1C980
Fuel elements, (irradiated) reprocessing plant & equipment	0B006
Fuel element handling equipment, for nuclear reactors	0A001b
Fuel element fabrication plant, for nuclear reactors	0B005
Fuel element chopping or shredding machines	0B006a
Fuel cell air independent power systems	8A002j
Full Authority Digital Electronic Engine Control software	9D003
Functional (truth table) testing equipment, for integrated circuits	3B002b
Fungi, plant pathogens	1C354b
Furnaces	2B226
Furnaces, Chemical Vapor Deposition (CVD), other than those controlled by 2B005.a, designed or modified	

Description	ECCN Citation
for the densification of carbon-carbon composites	2B105
Furnaces	2B227
Fused silica glass	6C004e
GaAs photocathodes	6A002a.2.a.3.b
GaInAs photocathodes	6A002a.2.a.3
Gallium organo-metallic compounds	3C003
Gallium III/V compound substrates, hetero-epitaxial grown-multi-layer	3C001c
Gas blowers (positive displacement/centrifugal/axial flow)	0B001d.3
Gas centrifuge rotor assembly equipment	2B228a
Gas blowers, axial flow/centrifugal/positive displacement/turbo	0B001b.2.a
Gas krytron tubes	3A228a
Gas masks	1A004a
Gas centrifuge isotope separation plant	0B001a.2
Gas centrifuge plant auxiliary equipment	0B002
Gas centrifuge rotor balancing equipment	2B229
Gas, manufactured, synthetic or natural liquid produced or derived from Naval Petroleum Reserves	1C984
Gas centrifuge isotope separation equipment & components	0B001c
Gas centrifuges	0B001c.1
Gas discharge & ion lasers	6A005a.6
Gas lasers	6A005a
Gas monitoring systems, toxic	2B351
Gas turbine aeroengines, civil non-certified/supersonic	9A001
Gas turbine blade, manufacturing or measuring equipment	9B001
Gas turbine blade technology	9E003a
Gas turbine blades, vanes or tip shroud casting equipment, tooling or fixtures	9B991
Gas turbine brush seal production/test equipment	9B003
Gas turbine components, solid state joining equipment	9B004
Gas turbine engine development systems/instrumentation	9B002
Gas turbine engine development control systems or instrumentation	9B002
Gas turbine engine propulsion systems assemblies/components	9A003
Gas turbine engine technology	9E003
Gas turbine engines, parts and components, not controlled by 9A001 or 9A101	9A991
Gas turbine engines & assemblies/components, marine	9A002
Gas turbine test/flow modeling software	9D004a
Gas turbine (aero engine) test software	9D004b
Gaseous diffusion barriers, UF6	0B001b.3
Gaseous diffusion housings, UF6	0B001b.4
Gaseous diffusion isotope separation equipment & components	0B001b
Gaseous diffusion isotope separation plant	0B001a.1
Gaseous diffusion plant auxiliary equipment	0B002
Gaskets, made from fluoroelastomers	1A001c
Gaskets, aircraft/aerospace use	1A001a
Gaskets, vacuum	2B999k
Gate silicon intensifier target (SIT) videcon tubes	6A203b.3.b
Gateways & bridges	5A991b.4.b
GDMS (Glow discharge mass spectrometers)	3A233b
Gear honing, shaving, grinding, cutting, and finishing machines	2B003
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	3A999e1
Generators, high-current pulse for detonators	3A229
Generators, high-speed pulse	3A230
Generators, marx	3A999c
Generators, portable electric	2A994
Genetically-modified microorganisms	1C353
Germanium, hetero-epitaxial grown multi-layer substrates	3C001b
Gimbals, optical control	6A004d.3
Glass fiber or filamentary materials	1C210b
Glass fiber, for optical communications	5A001c.1
Glass matrix reinforced composite materials	1C007f
Glass preforms, for optical fiber production	5C991
Glass Windows, nuclear radiation shielding	1A227
Glass, high homogeneity	6C004e.3
Global positioning system (GPS) equipment & components	7A005
Glove boxes	0B999
Gloves, protective	1A004b
Glow discharge mass spectrometers (GDMS)	3A233b
Goat pox virus	1C352a.5

Description	ECCN Citation
Gold (Au) metal vapor lasers	6A005a.2.b
GPS equipment, other than those of 7A005	7A105
GPS (Global positioning system) equipment/components	7A005
Gradiometers & components, gravity	6A007c
Gradiometers & components, gravity	6A107
Gradiometers & components, magnetic	6A006
Graphics accelerators or coprocessors	4A994g
Graphics accelerators or graphics coprocessors	4A003d
Graphics accelerator development or production technology	4E993a
Graphite, fine grain recrystallized bulk	1C107a
Graphite, nuclear-grade	0C005
Graphite, bulk	1C107a
Gravimeters (Gravity meters) & components, gravity	6A007a
Gravimeters (Gravity meters) & components, gravity	6A007b
Gravimeters (Gravity meters) & components, gravity	6A107
Gravity meter (gravimeters) products & calibration equipment	6B007
Gravity meters	6A997
Gravity gradiometers & components	6A007c
Gravity meters (gravimeters) & components	6A007b
Gravity meters (gravimeters) & components	6A007a
Gravity meters (gravimeters) software	6D003g
Gravity gradiometers & components	6A107
Gravity meters (gravimeters) & components	6A107
Gravity gradiometer software	6D003g
Greases	1C980
Grenades, non-irritant smoke	1A984
Grinding machines (CNC)	2B991d.1
Grinding machines, gear	2B003
Grinding machines	2B201b
Grinding machines	2B001c
Guanidine nitrate	1C011c, 1C018m
Guidance sets usable in missiles	7A117
Gun barrel rifling and broaching machines and tools therefor	2B018e.f
Gun barrel trepanning machines	2B018g
Gun boring and turning machines	2B018h
Gun honing machines	2B018i
Gun, immobilization	0A985
Gun jump screw lathes	2B018j
Gun rifling machines	2B018k
Gun, shotgun	0A984
Gun straightening presses	2B018l
Gun, stun	0A985
Gyro dynamic balance stations	7B003, 7B101
Gyro tuning test stations	7B003, 7B101
Gyro run-in/motor test stations	7B003, 7B101
Gyro evacuation/fill stations	7B003, 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	2A225a.5
Hafnium metal, alloys & compounds	1C231
Hafnium fluoride (HfF <sub>4</sub> ) glass	6C004e
Hair type absorbers	1C001a Note 1.a
Handcuffs	0A982
Handling equipment for propellants and their constituents	1B115
Handling systems, semiconductor wafers	3B001e
Hantaan virus	1C351a.6
Hard surface coated substrates	3B991b.2.b.1
Harnesses, complete	9A992
Head/disk assembly fabrication materials for controlled magnetic and magneto-optical hard disk drives	4C994
Head/disk assembly alignment equipment	4B994c
Heading sensors, towed hydrophones	6A001a.2.b.4
Heading sensors	6A001a.2.d
●Heat exchangers for use in nuclear reactors	0A001, 2A290a
Heat exchangers	0A001i
Heat exchangers	0B001b.5
Heat exchangers & condensers	2B350d
Heat exchangers (aerodynamic separation)	0B001d.5



Description	ECCN Citation
Heat exchangers, cryogenic	0B001d.7.a
Heat pipe cooled mirrors	6A005e.1
Heat source materials	1C012
Heavy water (Deuterium oxide)	0C004
Heavy water concentration equipment	0B004b.4
Heavy water production plant, equipment & components	0B004
Helicopter system development technology	7E004c
Helicopter power transfer system technology	9E003d
Helium, enriched	1C232
Helium refrigeration units	1B231b.1
Helium	1C980
Helium-3	1C232
Helix Tubes	3A001b.1.a.4
Helmet, military	0A018f
Helminthosporium oryzae (Cochliobolus miyabeanus)	1C354b.2
Hemishell dimensional inspection equipment/systems	2B006c
Hetero-epitaxial grown multi-layer substrates	3C001
Hetero-structure semiconductor technology	3E003b
High energy storage capacitors	3A001e.2
High voltage power supplies for ion sources	0B001j.5
High power electron beam guns	0B001g.1
High power pulse shaping networks	3A999c
High voltage capacitors	3A999c
High voltage triggers	3A999c
High-efficiency stage containers	0B004b.2.b
High-pressure ammonia-hydrogen exchange towers	0B004b.2.a
High-speed pulse generators	3A230
High-speed cameras	6A003
High-vacuum service equipment	2B999k
High-velocity gun systems	2B232
HIPS (Hot Isostatic Presses)	2B204
HIPS (Hot Isostatic Presses)	2B004
HIPS (Hot Isostatic Presses)	2B104
Hogcholera virus (swine fever virus)	1C352a.7
Holding or storage vessels, critically safe & resistant to nitric acid	0B006e
Hollow cylinder centrifugal balancing machines	2B229b
Honing machines, gear	2B003
Honing machines, gear	2B003
Hopping code generation capability, equipment with	5A002a.5
Horses by sea	0A980
Hot isostatic presses (HIPS)	2B204
Hot isostatic densification technology/data, Al/Ti/Superalloys	2E003b.2.d
Hot isostatic presses (HIPS)	2B004
Hot cap sealers (semi-automatic or automatic) for ceramic microcircuit packages	3B991.b.3.c
Hot cell manipulators	2B225
Hot cells	0B999
Hot isostatic presses (HIPS)	2B104
Housing/recipients, centrifuge	0B001c.12
Hovercraft	8A001
●HT-2 toxin	1C351.d.16
HTPB (Hydroxy-terminated polybutadiene) propellant additive	1C111b.2
Hull penetrators/connectors, fiber optic	8A002c
Hybrid integrated circuits	3A001a Note 2
Hybrid computer electronic systems/electronic assemblies	4A001b
Hybrid rocket propulsion systems	9A009
Hybrid computers & components	4A001
Hybrid computers	4A102
Hybrid computers, containing digital computers of 4A003	4A002
Hybrid computer electronic systems/electronic assemblies	4A001a
Hybrid rocket motors and components	9A109
Hydraulic fluids	1C006a
Hydraulic fluids	1C980
Hydraulic forming equipment	2B999b
Hydraulic pressing, direct-acting technology	2E003b.1.c
Hydraulic stretch-forming machines and dies technology	2E003c
Hydrides of Antimony, arsenic & phosphorus	3C004
Hydrocarbon oils, synthetic	1C996
Hydroclave temperature, pressure or atmosphere regulation technology	1E103
Hydrodynamic calculations/modeling, software for	0D999c

Description	ECCN Citation
Hydrofoil vessels	8A001h
Hydrofoils	8A002m
Hydrogen	1C980
Hydrogen cyanide (74-90-8)	1C355b.1.c
Hydrogen distillation plant	0B004a.3
Hydrogen fluoride	1C350.d.7
Hydrogen fluoride (HF) lasers	6A005a.5.a
Hydrogen isotope storage & purification systems	1B231b.2
Hydrogen refrigeration units	1B231b.1
Hydrogen sulphide-water exchange tray columns	1B229
Hydrogen sulphide-water exchange plant	0B004a.1
Hydrogen sulphide gas compressors	0B004b.1.b
Hydrogen sulphide-water exchange equipment & components	0B004b.1
Hydrogen-cryogenic distillation columns	1B228
Hydrophone arrays, towed acoustic	6A001a.2.b
Hydrophone arrays (towed) acoustic data processing source code	6D003a.2
Hydrophones	6A001a.2.a
3-Hydroxy-1-methylpiperidine	1C350.d.8
Hydroxy-terminated polybutadiene (HTPB)	1C111b.2
ICP/MS (Inductively coupled plasma mass spectrometers)	3A233a
III/V and II/VI semiconductor materials purifying or processing equipment	3B991b.1.b
III/V compound substrates, gallium or indium	3C001c
Igniters	1C018e, 1C992f
Image enhancement, digital equipment	4A003
Image enhancement equipment	4A994f
Imaging devices	6A002
Imaging device manufacturing equipment and systems	3B991b Note
Image intensifier tubes & components	6A002a.2
Image intensifier tubes, direct view	6A002c.1
Image transfer equipment	3B991b.2
Imaging cameras	6A003b
Imaging cameras with focal plane arrays of 6A002a.3	6A003b.4
Imaging cameras with image intensifiers of 6A002a.2.a	6A003b.3
Imaging devices	6A203b.3
Imaging equipment, visible & infrared	6A002c
Imaging sensors, multispectral and monospectral	6A002b
Imaging systems, underwater electronic	8A002f
Immobilization guns and projectiles	0A985
Immunotoxins and vaccines	1C991
Impregnated cathodes for electronic tubes	3A001b.1.c
IMU platform balance fixture	7B003, 7B101
IMU platform tester	7B003, 7B101
IMU stable element handling fixture	7B003, 7B101
Incinerators designed to destroy the chemicals controlled by 1C350	2B350j
Independent (air) power systems underwater	8A002j
Indicator heads designed/modified for use with balancing machines in 2B119.a	2B119.b
Indium organo-metallic compounds	3C003
Indium III/V compounds substrates	3C001c
Induction coil magnetometers	6A006b
Induction furnace, controlled environment inert gas	2B226
Induction furnace, vacuum	2B226
Inductively coupled plasma mass spectrometers (ICP/MS)	3A233a
Industrial process control hardware/systems designed for power industries	1B999c
Industrial process control hardware/systems designed for power industries controlled by 1B999, software for	1D999a
Inert gas environment induction furnaces	2B226
inertial measurement unit tester (IMU module)	7B003, 7B101
Inertial navigation, systems/equipment/components	7A103a
Inertial navigation, systems/equipment/components	7A003
Inertial navigation systems not controlled by 7A003 or 7A103	7A994
Inertial navigation system software, source code	7D002
Inertial sensors, optical fiber	6A002d.3.a
Inflatable boats and components	8A992f
Inflation cartridges	8A992j
Information security equipment, software for the development, production or use of	5D992
Information security technology support software	5D002b
Information security equipment and components, n.e.s.	5A992
Information security software	5D002
Information security systems/equipment/devices	5A002
Information security technology	5E992

Description	ECCN Citation
Information security - test, inspection, and production equipment	5B002
Infrared absorption analyzers	0B004b.4.d
Infrared detectors, industrial space qualified	6A002a.1
Infrared sensors, industrial	6A002c
Infrared viewers (police model)	9A980
Initiation systems, single or multipoint (electric)	3A232b
Injector (free electron laser photo) manufacturing or inspection equipment	6B995a.2
Inorganic overlay coating application technology	2E003f
Inorganic chemicals listed in Supp. No. 1 to part 754 produced or derived from the Naval Petroleum Reserves	1C980
Inorganic fibers & filamentary materials	1C010c
Input/output control units	4A994e
Inspection equipment (linear-angular for hemishells)	2B006c
Inspection equipment for composite materials	1B001f
Instruction generators for machine tools - technology	2E003d
Instrumentation for gas turbine development	9B002
Instrumentation for wind tunnels	9B005
Instrumentation systems, inertial navigation	7A003
Instrumentation cameras	6A003a
Integrated circuit assembly equipment	3B991.b.3
Integrated circuit test equipment, microwave	3B002c
Integrated circuit test equipment, capable of performing functional (truth table ) testing	3B002b
Integrated circuit, masks	3B001g
Integrated circuits, compound semiconductor	3A001a.1.1
Integrated circuits, custom	3A001a.10
Integrated circuits, general purpose	3A001a
Integrated circuits, microwave	3A001b.2
Integrated circuits, radiation hardened	3A001a.1
Integrated circuits and assemblies manufacturing equipment and systems	3B991b
Integrated circuit and assembly testing equipment	3B992b.4.b
Integrated circuit computer-aided-design (CAD) software	3D003
Integrated circuits and assemblies inspection or testing equipment and systems	3B992b
Integrated flight instrument systems/components	7A103b
Integrated Services Digital Network technology	5E991
Integrated system source code, avionic/mission systems	7D003c
Integration software for expert systems	2E003e
Integration technology for flight management systems	7E104
Intercepting devices, communications	5A980
Interconnect equipment (Computer)	4A003g
Interconnection equipment	3B991b.1.1
Interferometers, velocity (VISARs)	6A225
Interlacing machines	1B001c
Intermediate amplifier equipment	5A991b Note a.3
Interstages for missiles	9A117
Intrinsic magnetic gradiometers	6A006f
Inverse synthetic aperture radar (ISAR)	6A008d
Inverters (Frequency changers or converters)	3A225
Inverters (Frequency changers or converters)	0B001c.1.1
Ion beam equipment for mask making/semiconductor devices	3B001f.2
Ion beam equipment for projection image transfer	3B991.b.2.g
Ion beam sensitive resist materials	3C002b
Ion beam system, manufacturing, repairing, physical layout analysis and testing of masks or semiconductor devices	3B992b.6
Ion collector plates, Uranium fluoride resistant	0B001j.2
Ion implantation equipment	3B001b
Ion implantation equipment	3B991.b.1.g
Ion implantation production equipment	2B005b
Ion lasers	6A005a.6
Ion or laser beam lithography mask or reticle fabrication equipment	3B991b.2.d.2
Ion plating production equipment	2B005g
Ion sources, single or multiple	0B001j.1
Ion sources, mass spectrometers (UF6 enrichment plant)	0B002g
Ion-enhanced diffusion equipment	3B991b.1.g
Ion-exchange columns	0B001f.2
Ion-exchange isotope separation plant	0B001a.5
Ion-exchange processing equipment	0B006c
Ion-exchange reflux systems	0B001f.3
Ion-exchange resins, fast acting	0B001f.1
Ion-exchange separation process equipment & components	0B001f
ISDN development/production technology	5E991

Description	ECCN Citation
ISDN (integrated services digital network) switching and signaling systems	5A991c.2
Isolated live cultures - see Cultures	
Isolators capable of use with biological agents	2B352f.2
Isostatic presses, hot	2B104
Isostatic presses, hot	2B204
Isostatic presses, hot	2B004
Isostatic presses, n.e.s.	2B999a
Isotope separation plant, systems, equipment & components	0B001
Isotope separation process, molecular laser	0B001h
Isotope separation process, chemical exchange	0B001e
Isotope separation process, atomic vapor laser	0B001g
Isotope separation process, electromagnetic	0B001j
Isotope separation process, plasma	0B001i
Isotope separators, electromagnetic	1B226
Isotope separation process, gas centrifuge	0B001c
Isotope separation process, Ion-exchange	0B001f
Isotope separation plant, auxiliary systems, equipment, components	0B002
Japanese encephalitis virus	1C351a.7
Jet engine lubricating oil	1C980
Jet vane, thrust vector control sub-systems	9A106c
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	2B018n
Josephson effect devices	6A006h
Joule-Thomson self-regulating minicoolers	6A002d.2.b.6
Junin virus	1C351a.8
Kerr or Pocket cells, electro-optical shuttering	6A203b.3.c
Kick motors	9A004
Krypton ion lasers	6A005a.6
Krytron tubes, gas	3A228a
Laboratories (mobile), crime science	9A980
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 based linear position feedback units	2B008a
Laser based measuring instruments	2B006b.1.c
Laser beam cutting machines (CNC)	2B001e.1.c
Laser beam equipment for mask making/semiconductor devices	3B001f.2
Laser beam lithography mask or reticle fabrication equipment	3B991b.2.d.2
Laser beam systems, for probing semiconductor devices	3B992b.5
Laser communication technique technology	5E001b.2
Laser diagnostic equipment	6A005f.2
Laser diodes	6A005b
Laser diodes designed for telecommunication	5A991b Note b.4
Laser gyro mirror characterization equipment	7B102
Laser isotope plant, systems, equipment & components	0B001g
Laser isotope separation systems, equipment & components	0B001h
Laser radar altimeters	7A106
Laser radar or Light Detection & Ranging (LIDAR) equipment	6A008j
Laser radar systems	6A108
Laser ring gyro test equipment	7B002
Laser, technology	6E003e
Laser welding machines	2B999c
Lasers	6A005
Lasers	6A205
Lasers	6A995
Lasers for direct write on wafers	3B991.b.2.h
Lasers or laser systems, uranium isotope separation	0B001h.6
Lasers or laser systems, uranium isotope separation	0B001g.5
Lassa fever virus	1C351a.9
Lathes (CNC)	2B001a
Launch support equipment	9A115
Launch vehicle components/structures	9A010
Leg irons	0A982
Lenses for radiation hardened TV cameras	6A203c
Lidar equipment (Laser radar)	6A008j
Life jackets	8A992j

Description	ECCN Citation
Lift fans, for surface effect vessels	8A0021
Light gas guns(Multistage) systems	2B232
Light systems, Stroboscopic	8A992c
Light systems, underwater	8A002g
Light systems, underwater	8A002d.2
Light-weight reduction gearing, marine transmissions	8A002o.1.d
Lights, underwater	8A992k
Lights, search	0A018a
Lightweight composite or foam mirror structures	6A004a.3
Lightweight monolithic mirrors	6A004a.2
Lightweight turbofan/turbojet engines	9A101
Line terminating equipment	5A991b Note a.2
Linear voltage displacement transformer (LVDT) based instruments	2B006b.1.b.1
Linear position feedback units or sensors	2B008a
Linear measuring equipment/instruments	2B006b.1
Linear focal plane arrays	6A002a.3
Linear-angular inspection equipment for hemishells	2B006c
Liquid oxidizers, various nitrous oxides	1C111a.3
Liquid or water jet cutting machines (CNC)	2B001e.1.a
Liquid Uranium handling systems (cooled crucibles)	0B001i.5
Liquid lasers	6A005d
Liquid rocket propulsion systems & components	9A106
Liquid rocket propulsion systems & components	9A006
Liquid rocket propulsion systems	9A005
Liquid propellant control systems	9A106d
Liquid propellant rocket engines	9A105
Liquid-liquid exchange columns, for lithium amalgams	1B233b.1
Lithium metal, alloys, compounds, mixtures, products or devices	1C233
Lithium isotope separation facilities, plant and equipment	1B233
Lithium amalgam electrolysis cells	1B233b.3
Lithium amalgam pumps	1B233b.2
Lithography equipment, mask making for semiconductor wafer-processing	3B001f
Lithography mask or reticle fabrication equipment	3B991b.2.d.2
Location & object detection systems, acoustic	6A001a.1.b
Logic arrays, field programmable (FPLA)	3A001a.8
Logic processors and assemblies	4A003
Lubricating materials	1C006b
Lubricating oil	1C980
LVDT (Linear voltage displacement transformer) based instruments	2B006b.1.b.1
Lymphocytic choriomeningitis virus	1C351a.10
Lyssa virus	1C352a.8
Machetes	0A988
Machine tools, E-beam	2B001e.1.b
Machine tools, laser	2B001e.1.c
Machine tools, numerically controlled	2B001
Machine tools, numerically controlled	2B201
Machine tools, water/other liquid jet	2B001e.1.a
Machine tool assemblies, units or inserts	2B998
Machine tool components and assemblies for equipment controlled by 2B006 & 2B007	2B008
Machine tool cutting tools	2B008
Machine tools for generating optical quality surfaces	2B002
Machine tools for grinding (CNC)	2B001c
Machine tools for grinding (CNC)	2B201b
Machines for milling (CNC)	2B001b
Machines for milling (CNC)	2B201a
Machine tools for turning, grinding, and milling	2B991d.1
Machines for turning (CNC)	2B001a
Machine tool instruction generators - development technology	2E003d
Machine tool rotary position feedback units	2B008b
Machine tool spindles	2B008c
Machining centers (CNC)	2B201
Machining centers (CNC)	2B001
Machupo virus	1C351a.10
Magnaporthe grisea (pyricularia grisea/pyricularia oryzae)	1C354b.6
Magnesium (high purity)	1C228
Magnesium alloy, powder or particulate form	1C002b.1.e
Magnesium alloys	1C002a.2.e
Magnesium, metal and alloys of	1C011a
Magnesium oxide (MgO) made or coated crucibles	2A225a.6

Description	ECCN Citation
Magnesium metal particulate	1C111a.2.d
Magnet power supplies, high power (direct current)	0B001j.6
Magnetic alloy strips	1C003c
Magnetic and optical storage development and production equipment	4B994
Magnetic anomaly detection software	6D003f.2
Magnetic bearings (suspension)	2A001c
Magnetic bearings (suspension)	0B001c.4
Magnetic coating equipment	4B994a
Magnetic compensation systems for magnetic sensors	6A006g
Magnetic compensation systems software	6D003f.1
Magnetic confinement CVD equipment	3B001d.1.a
Magnetic confinement plasma dry etching equipment	3B001c.1.a
Magnetic drive pumps	2B350i
Magnetic gradiometers	6A006d
Magnetic gradiometers, intrinsic	6A006f
Magnetic hard disk drive development or production technology	4E993c
Magnetic media (rigid) monitoring, grading, exercising or testing equipment	4B994b
Magnetic metals	1C003
Magnetic pole pieces	0B001j.4
Magnetic sensor, magnetic compensation systems	6A006g
Magnetically enhanced, sputtering equipment	3B991b.1.f
Magnetometers	6A006
Magnetometers	6A996
Magnetometer systems	6A006
Magnetostrictive alloys	1C003b
Mandrels for rotor assembly, bellows forming	2B228a
Mandrels, bellows-forming	2B228c
Mandrels (precision) for filament winding machines	1B201
Manganin gauges, pressure	6A226a
Manifolds, vacuum	0B002f.1
Manipulators, remote	2B225
Manipulators, for submersibles	8A002i
Manned, tethered submersible vehicles	8A001a
Manned, untethered submersible vehicles	8A001b
Manufactured gas and synthetic natural gas produced or derived from Naval Petroleum Reserves	1C984
Maraging steel	1C116
Maraging steel	1C216
Marburg virus	1C351a.12
Marine acoustic systems	6A001a
Marine boiler	s8A018b.4
Marine engines and parts (both inboard and outboard, n.e.s.)	8A992g
Marine gas turbine engines	9A002
Marine, terrestrial acoustic equipment	6A991
Marx generators	3A999c
Mask, gas	1A004a
Mask or reticle altering holders or equipment	3B991b.2.d.3
Mask or reticle fabrication equipment	3B991b.2.d
Mask or reticles or pellicles, stored program controlled inspection equipment	3B991b.2.e
Masks	8A992j
Masks, integrated circuits of 3A001	3B001g
Masks, mask substrates, mask-making equipment	3B991b.2
Mass spectrometers & ion sources (UF6 enrichment plant)	0B002g
Mass spectrometers & ion sources (UF6 enrichment plant)	3A233
Mass spectrometers, n.e.s.	3A999b
Materials for reduced electromagnetic reflectivity	1C101
Matrix, organic	1A002b
MCT (HgCdTe) crystals & epitaxial wafers	6C002b
Measurement equipment, radiation	1A999a
Measurement equipment, underwater velocity	6A001b
Measuring instruments or systems, dimensional	2B006
Measuring and analysis equipment	3B992b.2
Mechanical cameras, framing	6A003a.1-3
Media access units	5A991b Note a.12
Melting furnaces	2B227b
Mercury amalgam pumps	1B233b.2
Mercury cadmium telluride crystals & epitaxial wafers	6C002b
Metal alloy powders or particulate form	1C002b
Metal alloy particulate	1C111a.2
Metal alloys	1C002a

Description	ECCN Citation
Metal alloys, aluminum or titanium	1C202
Metal alloys, beryllium	1C230
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 alloys, zirconium, beryllium, boron, magnesium	1C111a.2.e
Metal coated fiber preforms	9A110
Metal coated fiber preforms for fiber prepregs in 9C110	9C110
Metal or carbon matrix	1A002b
Metal organic chemical vapor deposition (MOCVD) reactors	3B001a.2
Metal-organic compounds, aluminum/gallium/indium	3C003
Metal particulate	1C011
Metal powder production equipment	1B102
Metal working process tools, die & fixture technology	2E003b.1
Metal working manufacturing processes technology	2E003b
Metallo-organic or polymeric materials	1C007e
Metallurgical melting & casting furnaces	2B227
Metals or carbon coated fibers	1C010e
Metals with high initial relative (magnetic) permeability	1C003a
Methyl centralites	1C018a
Methyldiethanolamine (105-59-9)	1C355b.2.b
Methyl-NN-diphenylurea (methyl unsymmetrical diphenylurea)	1C018c
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	6A002a.2
Microcomputer microcircuits	3A001a.3
Microcontroller microcircuits	3A001a.3
Microcycclus ulei (syn. Dothidella ulei)	1C354b.3
Microcystins (Cyanginosin)	1C351d.4
Microfluorination ion sources	3A233f
Microorganisms, genetically modified	1C353
Microprocessor microcircuits	3A001a.3
Microprocessor microcircuits above 530 MTOPS development/production technology	3E002g
Microwave amplifiers, solid state	3A001b.4
Microwave assemblies	3A001b.6
Microwave frequency extenders, mixers/converters	3A001b.7
Microwave integrated circuit test equipment	3B002c
Microwave integrated circuits	3A001b.2
Microwave modules	3A001b.2
Microwave power sources and antennae	0B001i.3
Microwave transistors	3A001b.3
Microwave test receivers	3A002f
Microwave wave components	3A001b
MIG welders	2B999d
Military explosive production equipment	1B018a
Military helmet	0A018
Millimeter wave components	3A001b
Milling machines, (CNC) with two or more coordinated axes	2B001b
Milling machines, (CNC) with two or more coordinated axes	2B201a
Milling machines (CNC)	2B991d.1
Mills, fluid energy	1B119
Mining equipment	2B999h
Mirror assemblies/segments, space assembly	6A004c.3
Mirror characterization equipment, reflectometers	7B102b
Mirror control equipment, phased array/segment	6A004d.4
Mirror structures, lightweight foam or composite type	6A004a.3
Mirrors, actively cooled or heat pipe cooled	6A005e.1
Mirrors, beam steering	6A004a.4
Mirrors, optical	6A005e.2
Mirrors, optical	6A004a

Description	ECCN Citation
Missile engine combustion regulation devices	9A118
Missile (usable) guidance sets	7A117
Missile telemetry	5A101
Missile modeling, simulation & integration software	9D103
Mixers, batch	1B117
Mixers, continuous	1B118
Mixers, frequency extenders	3A001b.7
Mobile communications equipment, assemblies and components	5A991g
●Modeccin toxin	1C351.d.17
Modeling/simulation of guidance sets, software	7D103
Modems	5A991b.2
Modular time interval meter	3A999e2
Modules, microwave	3A001b.2
Modules/assemblies, fast switching function	3A228c
Molecular beam epitaxial growth equipment using gas sources	3B001a.3
Molecular beam epitaxial growth equipment	3B991b.1.e
Molecular beam mass spectrometers	3A233e
Molecular laser isotopic separation plant	0B001a.7
Molecular pumps	0B001c.9
Molybdenum alloy fibers	1C010c Note 2
Molybdenum & tungsten metals & alloys	1C117
Monel equipment including valves, piping, tanks and vessels	2B999f
Monel plate	1C999c
Monitoring equipment, radiation	1A999a
Monitoring systems, toxic gas	2B351
Monitors or color displays	4A994h
Monkey pox virus	1C351a.13
Monolithic integrated circuits	3A001a Note 2
Monolithic integrated circuit repair or trimming laser equipment	3B991b.1.m
Monospectral imaging sensors	6A002b
Motion control boards for machine tools	2B991b
Motion simulators or rate tables	2B120
Motor stators	0B001c.10
Multi-chamber central wafer handling systems	3B001e
Multi-channel interval meter	3A999e2
Multi-data-stream processing equipment, development or production technology for	4E993b
Multi-data-stream processing software development tools and compilers, in source code	4D003a
Multi-element detector arrays	6A002a.3
Multi-layer hetero-epitaxial material substrates & wafers	3C001
Multi-layer masks (with phase shift layer), for integrated circuits	3B001h
Multichip integrated circuits	3A001a Note 2
Multilevel security capability, equipment	5A002a.6
Multimode optical fiber & cables, high tensile strength	5A001c.1
Multiple seal valves incorporating a leak detection port	2B350g
Multiplex equipment	5A991b Note a.7
Multipoint initiation systems	3A232b
Multispectral imaging sensors	6A002b
Multistage light gas gun systems	2B232
Mycoplasma mycoides	1C352.b.1
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
NN-Diphenylurea (unsymmetrical diphenylurea)	1C018b
Nanocrystalline alloy strips	1C003c
Natural uranium	0C001
Natural gas liquids and derivatives produced or derived from Naval Petroleum Reserves	1C983
Navigation, airborne communication and other avionics equipment technology	7E994
Navigation, airborne communication and other avionics software n.e.s.	7D994
Navigation direction finding equipment	7A994
Navigation systems, equipment & components, inertial	7A103
Navigation systems, equipment & components, inertial	7A003
NDT (non-destructive test) inspection equipment (3D)	1B001f
NDT (non-destructive test) inspection equipment	9B007
Neodymium lasers	6A005c.2
Neodymium lasers	6A205f
Neptunium-237	1C012b
Network analyzers	3A002e
Network access controllers contained in computer equipment	4A994i



Description	ECCN Citation
Network access controllers contained in telecommunications	5A991b.4.a
Neural computers/assemblies/components	4A004b
Neural network integrated circuits	3A001a.9
Neutron generator systems & tubes	3A231
Neutronic calculations/modeling, software for	0D999a
Newcastle disease virus	1C352a.9
Nickel alloy	1C002a.2.a
Nickel alloy/powder or particulate form	1C002b.1.a
Nickel aluminides	1C002a.1.a
Nickel based alloys	1C002a.1
Nickel electroplating equipment	2B999i
Nickel metal (made from powder)	1C240
Nickel metal (made from powder metals/alloys/powders)	0C006b
Nickel metal powders	0C006a
Nickel powder	1C240
Nickel powder or porous nickel metal	0C006
●Night vision devices and technology	6A002.a.2, 6A003.b.3, 6A003.b.4, 6A202, 6A203, 6e002, 6E101
Niobium alloys	1C002a.2.b
Niobium alloy/powder or particulate form	1C002b.1.b
Nitrate-based	Advisory Note (a) 1C018
3-Nitroaza-1,5 pentane diisocyanate	1C0181
Nitric acid	1C999e
Nitrided niobium-titanium-tungsten alloy crucibles	2A225a.7
Nitrocellulose	Advisory Note (b) 1C018
Nitrocellulose (single base)	Advisory Note (d) 1C018
2-Nitrodiphenylamine	1C111c.3, 1C018h
Nitrogen dioxide (dinitrogen tetroxide)	1C111a.3.b
Nitroglycerin	1C018c
Nitroguanidine	1C011.d
P-Nitromethylaniline	1C018i
N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethyl-2-chlorides and corresponding protonated salts	1C355a.2.d
N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-ols and corresponding protonated salts	1C355a.2.e
N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-thiols and corresponding protonated salts	1C355a.2.f
N,N-Dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidic dihalides	1C355a.2.b
Noise reduction equipment for vessels, acoustic mounts	8A002o.3.a
Noise cancellation systems for vessels, active	8A002o.3.b
Noise reduction systems for vessels, active	8A002o.3.b
Non-destructive inspection equipment	1B001f
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	6C004c
Non-planar absorbers	1C001a Note 1.b
Non-tunable solid state lasers	6A005c.2
Nozzles, aerodynamic isotope separation	0B001d.1
Nozzles, for producing pyrolytically derived materials	1B116
Nozzles, rocket motor (liquid)	9A106b
Nuclear heat source materials	1C012
Nuclear material handling and processing equipment	2A291
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 fabrication plant/equipment	0B005
Nuclear reactors fuel element (irradiated) reprocessing plant/equipment	0B006
Nuclear reactors, civil	0A001
Nuclear reactors & reactor components	0A001
Nuclear technology for the development, production or use of nuclear materials, facilities, and equipment	0E001
Nuclear-grade graphite	0C005
Numerical control for machine tools - software	2D002
Numerical control for machine tools - technology	2E003d
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	2B991c
Object detection and location systems (acoustic)	6A001a.1.b

Description	ECCN Citation
Ocean salvage systems	8A001e
Off highway wheel tractors	9A990
Oil well cartridges	1C018f, 1C992g
Oil, lubricating, cutting, or quenching	1C980
Oils, distillate fuel	1C980
On-highway tractors	9A990
Operating systems for real time processing equipment, software	4D003d
Operating system software, development tools & compilers	4D003a
Operating system software, multi-data-stream processing equipment	4D003a
Operating system software for real time processing equipment	4D993c
Optical absorption materials, low	6C994a
Optical components, space-qualified	6A004c
Optical components for lasers	6A005e
Optical components for lasers	6A004b
Optical computers	4A004c
Optical control equipment	6A004d
Optical detectors, radiation hardened	6A102
Optical detectors & sensors	6A002
Optical element inspection or testing equipment and components	3B992a
Optical element manufacturing equipment and components	3B991a
Optical elements, aspheric	6A004e
Optical equipment	6A005f
Optical equipment	6B004
Optical equipment other than optical surface scattering measurement equipment	6B004b
Optical fabrication technologies	6E003d.2
Optical fabrication technologies	6E993a
Optical fiber characterization equipment	5A991b Note b.3
Optical fiber couplers or connectors for underwater use	8A002c
Optical fiber & accessories, communications	5A001c.1
Optical fiber & accessories, underwater use	5A001c.2
Optical fiber preforms	6C994b
Optical fiber preforms	5C991
Optical fibers/fiber cable, sensing	6A002d.3
Optical fiber sensing elements, hydrophones	6A001a.2.a.2
Optical filters technology	6E993b
Optical (Infrared) tracking (range) radars	6A108b.2
Optical integrated circuits	3A001a.6
Optical materials	6C994
Optical materials, with non-linear characteristics	6C004b.3
Optical mirrors (reflectors)	6A004a
Optical mirrors (reflectors)	6A005e.2
Optical sensing fibers not controlled by 6A002	6C992
Optical Sensors	6A992
Optical sensor cryocoolers	6A002d.1
Optical sensors - flight control systems - technology	7E004
Optical sensors, optical fiber	6A002d.3
Optical sensor materials	6C002
Optical sighting devices for firearms	0A987
Optical surface coating/treatment technology	6E003d.1
Optical switching equipment	5A991c.10.c
Optical switching equipment, equipment for the development of equipment employing	5B001b.3
Optical switching equipment, software for the development of equipment employing	5D001d.3
Optical switching equipment, technology for the development of equipment employing	5E001c.3
Optical-electro shutters, Kerr or Pockel cells	6A203b.3.c
Optics	6A994
Optics, (optical components)	6A004
Optimization of rocket systems trajectory technology	7E104
Organic fibers & filamentary materials	1C010a
Organic matrix	1A002a
Organo-metallic compounds	3C003
Oxide matrix reinforced materials	1C007f
Oxygen Iodine (O1-I) laser	6A005a.5.c.1
PABXs (Private Automatic Branch exchanges)	5A991c
Packet switching equipment	5A991c.10
Parachutes, military	9A018d
Paraffin wax	1C980
Particle accelerators	1B999b
Particle measuring systems employing lasers	3B992b.7
Passive sensors, direction finding systems	7A115

Description	ECCN Citation
Passive acoustic systems	6A001a.1.d
Pathogens, genetically modified microorganisms	1C353a
Pathogens, animal	1C352
Pathogens, human	1C351
Pathogens, plant	1C354
●Pathogens, zoonotic	1C351
PBAA (Polybutadiene-acrylic acid)	1C111b.3
PBAN (Polybutadiene-acrylic acid-acrylonitrile)	1C111b.4
PEEK (Polyether ether ketone)	1C008c.1
PEK (Polyether ketone)	1C008c.3
PEKEKK (Polyether ketone ether ketone ketone)	1C008c.4
PEKK (Polyether ketone ketone)	1C008c.2
1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (382-21-8) (PFIB)	1C355a.1.a
Perfluoroaliphatic-ethers, monomeric or polymeric	1C006d.1.a
Perfluoroalkanes	1C006d.1.d
Perfluorocycloalkanes	1C006d.1.c
Perfluoropolyalkylether-triazines, monomeric or polymeric	1C006d.1.a
Performance improvement software, navigation systems	7D003a
Performance improvement source code, navigation systems	7D003b
Peste des petits ruminants virus	1C352a.10
Petroleum products produced or derived from Naval Petroleum Reserves	1C982
Petroleum, crude or reconstituted	1C981
PFIB (1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (382-21-8))	1C355a.1.a
Phased array antennae (in radar)	6A008e
Phased array/segment mirror control equipment	6A004d.4
Phased array antennae (in radar)	5A001.d
Phased array antennae	5A991f
Phenylene, as lubricating fluids	1C006b.1
Phosgene: Carbonyl dichloride (75-44-5)	1C355b.1.a
Phosphate glass	6C004e
Phosphor bronze or copper mesh packings	1A226
Phosphor image plates, storage	1A999b
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	3B991b.1.i
Photo-enhanced diffusion equipment	3B991b.1.g
Photo-optical step and repeat cameras	3B991b.2.d.1
Photocathodes	6A002a.2.b
Photographic still cameras, underwater	8A001e
Photographic still cameras, for underwater use	8A992b
Photomultiplier tubes	6A202
Photovoltaic arrays, space qualified or radiation hardened	3A001e.1.c
Piezoelectric polymer & copolymer, made from vinylidene fluoride materials	1A001b
Piezoelectric sensing elements, hydrophones	6A001a.2.a.2.b
Pinacolone	1C350.d.11
Pinacolyl alcohol	1C350.b.18
Piping, austenitic stainless steel	2B999n
Piping, fittings and valves of or lined with stainless steel, copper-nickel alloy or other alloy steel	2A292
Piping, monel	2B999f
Piping, multi-walled incorporating a leak detection port	2B350h
Piping, stainless steel	2B999g
Piping, vacuum	2B999k
Pitch-impregnated fibers	1C010e
Planar absorbers	1C001a Note 1.c&d
Plant pathogens, bacteria or fungi	1C354
PLAs (Programmable Logic Arrays)	3A001a.8
Plasma atomization & melting furnaces	2B227b
Plasma dry etching equipment	3B001c
Plasma enhanced CVD equipment	3B001d
Plasma-enhanced CVD (PECVD) equipment	3B991b.1.i
Plasma enhanced or plasma assisted CVD production equipment	2B005a.1.c
Plasma isotope separation plant	0B001a.8
Plasma separation process equipment & components	0B001i
Plasma spraying production equipment, with controlled atmosphere	2B005d
Platforms, complete	9A992
Platinized catalysts	1A225

Description	ECCN Citation
Plutonium metal production systems	0B006g
Plutonium nitrate conversion systems	0B006f
Plutonium-238	1C012a
Pocket cell electro-optical shuttering	6A203b.3.c
Police helmets and shields	0A979
Polyarylene ketones	1C008d
Polybiphenylenethersulphone	1C008f
Polybromotetrafluoroethylene	1C006c.3
Polybutadiene-acrylic acid (PBAA)	1C111b.3
Polybutadiene-acrylic acid-acrylonitrile (PBAN)	1C111b.4
Polycarbosilazanes	1C007e.3
Polychlorotrifluoroethylene	1C006c.2
Polycrystalline alumina fibers	1C010c Note 1
Polycrystalline silicon and materials production equipment	3B991b.1.a
Polydiorganosilanes, precursor for silicon carbide	1C007e.1
Polyether ketone ether ketone ketone (PEKEKK)	1C008c.4
Polyether ketone (PEK)	1C008c.3
Polyether ether ketone (PEEK)	1C008c.1
Polyether ketone ketone (PEKK)	1C008c.2
Polyetherimides, fibrous & filamentary materials composed of	1C010cd.1.a
Polygraphs	3A981
Polymeric or metallo-organic materials	1C007e
Polymeric substances	1C111b
Polymeric substances, non-fluorinated	1C008
Polysilazanes, precursor for silicon nitride	1C007e.2
Polythiophene	1C001c.3
Porcine enterovirus type 9	1C352a.11
Porcine herpes virus (Aujeszky' disease)	1C352a.6
Porous nickel metal	1C240
Porous nickel metal	0C006b
Portable electric generator development or production software	2D994
Portable electric generators	2A994
Positioning equipment/components, global	7A005
Positioning equipment	7A105
Positioning systems, acoustic	6A001a.1.d
Positioning tables or rate tables	2B120
Positioning tables or rate tables	2B121
Positive resists for semiconductor lithography	3C002a
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 titanyl arsenate (KTA)	6C004b.1
Powder metallurgy rotor component manufacturing equipment	9B009
Power generating equipment, nuclear reactor	0A002
Power supplies, high current/voltage/power (direct current)	0B001j.5
Power supplies, direct current high power (dc)	3A226
Power supplies, direct current high-voltage	3A227
Power supplies, direct current (high current/voltage/power)	0B001j.6
Power systems, air independent, for underwater use	8A002j
Power transmission shaft systems, marine	8A002o.1
Power transmission shaft systems, marine	8A002o.1.e
Precision mandrels for filament winding machines	1B201
Precision rotor forming mandrels	2B209b
Precision tracking systems, usable for missiles	6A108b
Precursors for toxic chemical agents	1C350
Preform production equipment	1B101d
Preforms, metal coated, for fiber prepregs in 9C110	9C110
Preforms production equipment	1B001
Preforms production equipment, n.e.s.	1B999e
Preforms production equipment controlled by 1B999, software for	1D999b
Preforms, fibrous or filamentary materials	1C010e
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	1B001e
Prepreg production equipment	1B101d

Description	ECCN Citation
Prepregs production equipment, n.e.s.	1B999e
Prepregs production equipment controlled by 1B999, software for.	1D999b
Prepregs, fibrous or filamentary materials	1C010e
Prepregs, resin impregnated fiber, for 9A110 items	9C110
Prepregs production equipment	1B001
Prepregs, when impregnated with phenolic or epoxy resins	1C010e Note 2
Prepregs, fibrous or filamentary materials	9A110
Presses, hot isostatic	2B204
Presses, hot isostatic	2B104
Presses, hot isostatic	2B004
Presses, hot isostatic n.e.s.	2B999a
Pressure vessels, for nuclear reactors	0A001a
Pressure tubes, for fuel elements & primary coolant	0A001e
Pressure transducers	2B230
Pressure regulators, air cylinders, hoses, valves and backpacks	8A992i
Pressure sensors, manganin & quartz	6A226
Primary cells/batteries	3A001e.1.a
Printed circuit boards for numerical control units, machine tools or feed back devices	2B998c
Private automatic branch exchanges (PABXs)	5A991c
Probing (test) systems, semiconductor devices	3B002d
Process control instrumentation, for reprocessing plant	0B006d
Process control hardware/systems designed for power industries	1B999
Process control hardware/systems designed for power industries controlled by 1B999, software for	1D999a
Process control systems for use in nuclear reactor equipment	2A290b
Process control systems for use in nuclear material handling and processing equipment	2A291a
Processing equipment for bay or bottom cable systems	6A001a.2.e.3
Processors, digital array	3A001a.3 Note
Processors, digital signal	3A001a.3 Note
Processors, digital signal	4A003
Processors, digital array	4A003
Product & tails collectors, for uranium vapor	0B001i.1
Product & tails stations, UF6	0B002c
Product & tails collector systems, uranium vapor	0B001g.3
Production facilities, reentry vehicles	9B116
Production equipment, propulsion systems & components	9B115
Production equipment, reentry vehicles	9B115
Production facilities, rockets/propulsion systems	9B116
Profilometers	7B002b
Program proof and validation software for real time processing equipment	4D993
Programmable gate & logic arrays (FPGA's & FPLA's), field	3A001a.7
Programmable & logic arrays (FPGA's & FPLA's), field	3A001a.8
Programming controls for filament winding machines	1B201
Projectile accelerators	2B232
Projection image transfer equipment	3B991.b.2.g
Projection telescopes, laser diagnostics	6A005f.4
Projectors, acoustic	6A001a.1.c
Prolifometers, to characterize mirrors for laser gyro equipment	7B102c
Propellant additives and agents	1C111c
Propellants and constituent materials	1C111
Propellant control systems	9A106d
Propellant (liquid) production equipment and components	1B115
Propellant (liquid) test and handling equipment and components	1B115
Propellant (solid) production equipment and components	1B117
Propeller blades or propfans composite technology	9E003b.2
Propeller noise reduction technology	8E002a
Propeller noise reduction software	8D002
Propellers, contrarotating	8A002o.1.b
Propellers, water screw	8A002o.1
Propulsion equipment, nuclear	0A002
Propulsion systems/components, production equipment	9B115
Propulsion systems, rocket	9A005
Propulsion equipment, underwater	8A992k
Propulsion system components/structures, launch-vehicle	9A010
Propulsion system composite components/structures	9A110
Propulsion system use software	9D101
Propulsion systems, rocket	9A009
Propulsion systems, rocket	9A007
Protective and detection equipment	1A004
Protective clothing, Independently ventilated	2B352f.1

Description	ECCN Citation
Protective suits, gloves, shoes	1A004b
Proximity focused image intensifier tubes	6A203b.3.a
Pseudomonas mallei (Burkholderia mallei)	1C351c.5
Pseudomonas pseudomallei (Burkholderia pseudomallei)	1C351c.6
Psychological stress analysis equipment	3A981
Puccinia striiformis (syn. Puccinia glumarum)	1C354b.5
Puccinia graminis (syn. Puccinia graminis f. sp. tritici)	1C354b.4
Pulsating Chemical Vapor Deposition production equipment	2B005a.1.a
Pulse amplifiers	3A999c
Pulse excited Q switched neodymium-doped lasers	6A205f
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	3A999c
Pulsed electron accelerators	3A201c
Pumpjet propulsion systems	8A002p
Pumps, bellows	2B350i
Pumps, canned drive	2B350i
Pumps, centrifugal	2B350i
Pumps, diaphragm	2B350i
Pumps, double-seal	2B350i
Pumps, liquid propellant	9A106d
Pumps, lithium amalgam	1B233b.2
Pumps, magnetic drive	2B350i
Pumps, mercury or lithium amalgam	1B233b.2
Pumps, molecular	0B001c.9
Pumps, multiple seal	2B350i
Pumps, nuclear reactor coolant	0A001g
Pumps, potassium amide in liquid ammonia	1B230
Pumps, submersible stage recirculation	0B004b.2.c
Pumps, vacuum	0B002f.2
Pumps, vacuum	2B231
Pumps, vacuum	2B350i
Pumps designed for industrial service	2B999j
Pumps designed to move molten metals by electromagnetic force	2A293
Pyrolytic deposition nozzles	1B116
Pyrolytic deposition systems (“isostatic presses”, other than those controlled by 2B004)	2B104
Pyrolytic deposition systems (chemical vapor deposition furnaces, other than those controlled by 2B005.a)	2B105
Pyrolytic deposition systems, for rocket nozzles and reentry vehicle nose tips	2B117
Pyrolytically derived materials production technology	1E104
Pyrolyzed carbon-carbon components	1A102
Pyrolyzed 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	1C018j, 1C992k
Q-switched lasers	6A005c.2
Q-switched lasers	6A205f
Quadrature-amplitude-modulation (QAM) based radio equipment operating above level 4	5A991b.7.a
Quadrature-amplitude-modulation (QAM) based radio equipment operating above level 16	5A991b.7.b
Quadrature-amplitude-modulation (QAM) based radio equipment	5A991b.7
Quadrature-amplitude-modulation (QAM) based radio equipment, equipment for the development of	5B001b.4.a
Quadrature-amplitude-modulation (QAM) based radio equipment, software for the development of	5D001d.4.a
Quadrature-amplitude-modulation (QAM) based radio equipment, technology for the development of	5C001c.4.a
Quartz pressure sensors/transducers	6A226b
3-Quinuclidinol	1C350.b.19
3-Quinuclidone	1C350.d.15
Radar cross section measurement systems, missile	6B108
Radar systems & components	6A008
Radar altimeters	7A106
Radar software	6D003h

Description	ECCN Citation
Radar systems, employing automatic pattern recognition	6A008L3
Radar systems, employing signal processing, pulse compression	6A008k
Radar systems, employing signal processing	6A008h
Radiation detection, monitoring and measurement equipment	1A999a
Radiation hardened detectors	6A002
Radiation hardened detectors	6A102
Radiation hardened designed (or rated) robots	2B007c
Radiation hardened electronic computers	4A001a.2
Radiation hardened integrated circuits	3A001a.1
Radiation hardened sensors	6A002
Radiation hardened TV cameras	6A203c
Radiation hardened TV cameras not specified in 6A203	6A999b
Radiation transport calculations/modeling, software for	0D999b
Radiation sensors, optical fibers	6A002d.3
Radiation shielding windows	1A227
Radio frequency ion excitation coils	0B001i.2
Radio equipment	5A001b.2-4
Radio equipment	5A991b.6-7
Radio relay communications equipment	5A991h
Radio systems development/production technology	5E001b.3
Radiographic detection equipment	1A999b
Radiographic equipment	3A101b
Radionuclides, alpha-emitting	1C236
Radionuclides, alpha-emitting, n.e.s.	1C999g
Radium-226, compounds, mixtures, products or devices	1C237
Radome design software	6D003h.2
Radomes usable in protecting missiles against nuclear effects	6A103
Raman shift lasers	6A205e
Ramjet engines/components	9A011
Range gated illumination systems, underwater	8A002d.2
Range instrumentation radars	6A108b.2
Rankine cycle engine, air independent	8A002j.1
Rate tables and positioning tables	2B121
Rate tables, positioning tables, and motion simulators	2B120
Reactor vessels, chemical	2B350a
Reactors, nuclear	0A001
Reactors, metal organic chemical vapor deposition (MOCVD)	3B001a.2
Real time processing	2D002b
Real time processing operating systems	4D003d
Real time processing equipment operating system software	4D993c
Real time processing proof and validation software	4D993
Receivers, microwave test	3A002f
Receivers, radio	5A001b.2-4
Rechargeable cells/batteries	3A001e.1.b
Reciprocating diesel engine & component technology	9E003e.1
Recording equipment, analog & digital tape recorders	3A002a
Recovery of source code - software	5D001c.2
Reduced observables analysis software	1D103
Reduction gearing, light-weight marine transmissions	8A002o.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	7B102b
Reflectors (mirrors), optical	6A004a.1
Refrigeration units, cryogenic	0B001d.7.b
Refrigeration units, hydrogen or helium	1B231b.1
Reinforced composite materials	1C007f
Reinforcement fiber, production equipment	1B001d
Release mechanisms, electronic	9A992
Remote manipulators	2B225
Remotely operated filling equipment, chemical	2B350f
Remotely piloted vehicles (RPVs), non-military	9A012
Remotely controlled manipulators, for submersibles	8A002i
Repeater/regenerator equipment	5A991b Note a.4.5
Reprocessing plant, nuclear fuel	0B006
Resaturated pyrolyzed components	1A102
Resaturated pyrolyzed materials	1C102
Resin impregnated fiber prepreps for 9A110 items	9C110

Description	ECCN Citation
Resin impregnated fibers	1C010e
Resin (thermoset) impregnated continuous materials	1C210c
Resin impregnated fiber prepregs, propulsion & space systems	9A110
Resins, fast reacting ion-exchange	0B001f.1
Resist materials, semiconductor lithography	3C002
Resists (positive), semiconductor lithography	3C992
Resist material, coated (semiconductor) substrates	3C002
Restraint devices (electronic monitoring)	3A981
Restraint devices, including thumbcuffs, leg irons, shackles, and handcuffs; straight jackets, plastic handuffs	0A982
Reticles, integrated circuits of 3A001	3B001g
Reticles and designs	3B991b.2
Ricin	1C351d.5
Rickettsia rickettsii	1C351b.4
Rickettsia prowasecki	1C351b.3
Rickettsia quintana	1C351b.1
Rickettsiae	1C351b
Rift Valley fever virus	1C351a.14
Rinderpest virus	1C352a.12
Ring laser gyro mirror characterizing equipment	7B002
Ring Magnets	0A999
Ring-shaped motor stators for multiphase AC motors	0B001c.10
Rings or bellows, gas centrifuge	0B001c.6
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	2B007a
Robots not controlled by 2B007 or 2B207	2B997
Robots, specially designed to operate at high altitudes	2B007d
Robots, explosive/munitions environment handling	2B007b
Robots, radiation hardened	2B007c
Robots with real time 3D image processing or scene analysis	2B207
Robots specially designed for underwater use	8A002h
Rochalimea quintana	1C351b.1
Rocket fuels	1C111
Rocket/rocket motor, test benches/stands	9B117
Rocket engines, solid propellant	9A107
Rocket motors, hybrid	9A109
Rocket nozzles	9A106b
Rocket stages, other than those of 9A005/7/9, 9A105/107/109	9A119
Rocket motor inspection equipment	9B007
Rockets, sounding	9A104
Roller bearings, solid	2A001a
Roller bearings, solid	2A001b
Rollers for prepregs/preform production	1B101d
Rotary shaft seals (for compressors/blowers), UF6 resistant	0B001b.2.b
Rotary position feedback units	2B008b
Rotary shaft seals	0B001d.3
Rotary shaft seals for compressors	0B001h.4
Rotor assembly mandrels, bellows forming	2B228a
Rotor assemblies, gas centrifuge	0B001c.2
Rotor blade tip clearance control, compensating system software	9D004d
Rotor centrifugal balancing machines	2B229
Rotor components, tooling for manufacture	9B009
Rotor fabrication/assembly equipment	2B228a
Rotor forming mandrels, precision	2B209b
Rotor straightening equipment or systems	2B228b
Rotor tube baffles, gas centrifuge	0B001c.7
Rotor tube caps, gas centrifuge	0B001c.8
Rotor tube cylinders & components, gas centrifuge	0B001c.3
Routers, telecommunications	5A991c.10
Russian Spring-Summer encephalitis virus	1C351a.15
S-parameter test/measurement equipment	3B002a
S20 and S25 photocathodes	6A002
Safety cabinets, capable of biological use	2B352f.2
Salmonella typhi	1C351c.10
Salvage systems, ocean	8A001e
Saps	0A978
Satellite communication equipment technology	5E001b.1



Description	ECCN Citation
Satellite receivers	7A005
Satellite receivers, other than those of 7A005	7A105
Satellites, commercial communications	9A004
SAW (Surface Acoustic Wave) devices	3A001c.1
Saxitoxin	1C351d.6
Scanning electronic beam guns	0B001g.1
Scanning cameras & systems	6A003b.2
Scatterometers	7B002a
Scatterometers, to characterize mirrors for laser gyro equipment	7B102a
Scoops for UF6 extraction in gas centrifuges	0B001c.13
Scramjet engines/components	9A011
Screw reactors, UF6 production	0B003b.1
Scuba gear	8A992h
SDH (Synchronous Digital Hierarchy) technology	5E001b.4
SDH (Synchronous Digital Hierachy) technology	5E991.a.2
Sea-induced motion control systems, automatic	8A002n
Sealers (semi-automatic or automatic hot cap) for ceramic microcircuit packages	3B991.b.3.c
Seals, aircraft/aerospace use	1A001a
Seals, for surface effect vessels	8A002k
Seals, made from fluoroelastomers	1A001c
Seals, rotary shaft	0B001d.3
Seals, rotary shaft for compressors	0B001h.4
Search lights	0A018a
Security equipment, information	5A002
Security equipment, information, software	5D002
Segmented mirrors, assembly in space	6A004c.3
Seismic detection equipment	6A999a
Semiconductor, test equipment	3B002
Semiconductor compound photocathodes	6A002a.2.b.3
Semiconductor components, extended temperature range	3A001a.2
Semiconductor component design software, computer-aided-design	3D003
Semiconductor device discrete testing equipment	3B992b.4.a
Semiconductor device inspection or testing equipment and systems	3B992b
Semiconductor device or material manufacturing equipment	3B001
Semiconductor devices manufacturing equipment and systems	3B991b
Semiconductor lasers	6A005b
Semiconductor materials purifying or processing equipment	3B991b.1.b
Semiconductor probing systems, electron & laser beam	3B002d
Sensing elements, hydrophone	6A001a.2.a
Sensing fibers, optical (not controlled by 6A002)	6C992
Sensor materials, optical	6C002
Sensors, direction finding systems (passive)	7A115
Sensors, industrial infrared	6A002a
Sensors, linear position feedback unit	2B008a
Sensors, multispectral imaging	6A002b
Sensors, optical	6A992
Sensors, optical	6A002
Sensors, pressure (manganin & quartz)	6A226
Sensors, radiation hardened	6A102
Sensors, superconductive electromagnetic	6A006h
Separation mechanisms for missiles	9A117
Separation nozzles, aerodynamic isotope separation	0B001d.1
Separation nozzles, UF6/Carrier gas separation	0B001d.7.c
Separation plant, aerodynamic isotope separation	0B001a.3
Separation process (aerodynamic) equipment	0B001d
Separation systems for separating UF6 from carrier gas	0B001h.5
Separation tubes, aerodynamic isotope separation	0B001d.2
Separator module housings (cylindrical or rectangular vessels)	0B001g.4
Separator module housings, uranium metal plasma source	0B001i.6
Separators, centrifugal (biological)	2B352c
Separators, electromagnetic isotope	1B226
Separators, molecular laser isotopic separation	0B001h
Servo valves, propellant control systems	9A106d
Shackles	0A982
Shaft encoders (rotary input type)	3A001f
Shale oil	1C981
Shaving machines, gear	2B003
Sheep pox virus	1C352a.13
Shields, police	0A979

Description	ECCN Citation
Shiga toxin	1C351d.7
Shigella dysenteriae	1C351c.11
Ship vessel positioning systems, acoustic	6A001a.1.d
Shock batons	0A985
Shock tubes	1C018b, 1C992c
Shoes, protective	1A004b
Shotgun shells	0A986
Shotgun shell manufacturing equipment	0B986
Shotgun shells, buckshot	0A984
Shotguns and shotgun shells, technology for the development or production of	0E984
Shotguns, barrel length 18 inches or over	0A984
Shrink fit machines for rotor fabrication/assembly	2B228a
Sidelooking airborne radar (SLAR)	6A008d
Signal processor microcircuits	3A001a.3 Note
Signal generators, frequency synthesizer based	3A002d
Signal analyzers	3A002c
Signal processing devices, acousto-optic	3A001c.3
Signal processing (digital) transmission equipment	5A991b.8
Signal processing equipment, sonar	6A001a.1.d
Signal processing equipment	4A994f
Signal processing equipment, general purpose digital	4A003
Signal processing equipment, hydrophone arrays	6A001a.2.c
Signal tracking development/use technology, laser	5E001b.2
Signature suppression devices, treatments & fittings	1C001
Signature (electromagnetic) reduction devices	1C001
Signature (electromagnetic) reduction devices	1A101
Signature suppression devices, treatments & fittings	1A101
Silhydrocarbon oils	1C006a.1
Silicon carbide (SiC) substrate blanks	6C004d
Silicon, hetero-epitaxial grown multi-layer substrates	3C001a
Silicon microcircuits	3A001a
Silicon-on-sapphire integrated circuits	3A001a Note 2
Silicone fluid, fluorinated	1C006b.2
Silver gallium selenide (AgGaSe <sub>2</sub> )	6C004b.2
Silylated resists for semiconductor lithography	3C002d
Simulators for nuclear reactors	2A291.b
Simultaneous initiation arrangements or systems, single & multipoint	3A232b
Single crystal casting control software	9D004c
Single crystal casting equipment	9B001a
Single crystals	6C002b
Single mode optical fiber & cable	5A991
Single point diamond turning techniques, technology	6E003d.2
Single-element & focal plane arrays, space-qualified	6A002e
Skin friction transducers, wall	9B008
Skirts, for surface effect vessels	8A002k
Slapper detonators (Electric)	3A232a.3
Slurry propellant control systems	9A106d
Small waterplane area vessels	8A001i
Smoke bombs	1A984
Sodium azide	1C018.e
Sodium bifluoride	1C350.d.16
Sodium cyanide	1C350.d.17
Sodium fluoride	1C350.d.18
Sodium (Na) metal vapor lasers	6A005a.2.c
Sodium sulphide	1C350.d.19
<i>Software, see product group D for controls in each category</i>	
Software, adaptive control	2D002b.2
Software, adaptive control	2D992a
Software, electronic devices	2D002
Software, for coordinating function of multiple subsystems for use in missiles	9D105
Software, for portable electric generator development or production	2D994
Software for Nuclear materials, facilities and equipment	0D001
Software, multi-data-stream processing equipment operating systems	4D003a
Software, numerical control	2D002
Software, real time processing in machine tools	2D002b
Software, real time processing equipment operating systems	4D003d
Software, recovery of source code	5D001c.2
"Software" specially designed or modified for the "development", "production" or "use" of equipment controlled by 2A983	2D983
Software, multi-data-stream processing equipment compilers	4D003a

Description	ECCN Citation
Solenoids, superconductive	3A001e.3
Solenoids, superconductive	3A201b
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	6A003b.1
Solid state joining equipment, tools/dies/fixtures	9B004
Solid state imaging devices	6A203b.3
Solid-state imaging devices	6A002
Solid state lasers, tunable	6A005c.1
Solid state lasers, tunable	6A005c.2
Solid state microwave amplifiers	3A001b.4
Solid state storage equipment	4A994d
Sonar processing equipment	6A001a.2.b
Sonar log equipment	6A001b
Sonar signal processing equipment	6A001a.1.d Note a
SONET (Synchronous Optical Network) technology	5E001b.4
SONET (Synchronous Optical Network) technology	5E991.a.2
Sounding rocket use software	9D101
Sounding rockets	9A104
Source code automatic generation software	4D993b
Source code, for multi-data-stream processing equipment	4D003a
Source code, development of goods as specified	7D003d
Source code recovery software	5D001c.2
Space launch vehicles	9A004
Space probes	9A004
Space qualified focal plane arrays	6A002e
Space qualified or radiation hardened photovoltaic arrays	3A001e.1.c
Space-qualified solid state detectors	6A002a.1
Space-qualified optical components	6A004c
Spacecraft	9A004
Spacecraft components	9A010
Spacecraft inertial navigation equipment/components	7A003
Spark-gaps, triggered	3A228b
Spectrometry analytical instruments	3A999f
Spherical aluminum powder	1C111a.1
Spin forming machines	2B009
Spin forming machines	2B209
Spin forming machines	2B999i
Spin forming machines capable of flow-forming functions	2B209
Spin forming machines combining spin-forming and flow-forming function	2B009
Spindle assemblies	2B998a
Spindle assemblies, machine tools	2B008c
Spraying production equipment, plasma with controlled atmosphere	2B005d
Spread spectrum development technology techniques	5E001b.4
Spread spectrum radio equipment	5A001b.3
Spread spectrum spreading code generation	5A002a.5
Sprytion tubes, vacuum	3A228a
Sputter deposition production equipment	2B005e
Sputtering equipment, magnetically enhanced	3B991b.1.f
SQUIDs (Superconducting quantum interference devices)	6A006h
Staging mechanisms for missiles	9A117
Stainless steel plate	1C999b
Staphylococcus aureus toxins	1C351d.8
Statistical multiplex equipment	5A991b Note a.7
Stators, ring shaped (centrifugal rotor motor)	0B001c.10
Steam sterilizable freeze drying equipment	2B352e
Steel, maraging	1C216
Steel, maraging	1C116
Steel, Titanium-stabilized duplex stainless (Ti-DSS)	1C118
Steel plate, stainless	1C999b
Step & repeat equipment, semiconductor wafer processing	3B001f.1
Stirling cycle engine, air independent	8A002j.4
Storage & holding vessels, critically safe & resistant to nitric acid	0B006e
Storage integrated circuits	3A001a.4
Storage phosphor image plates	1A999b
Storage tanks, chemical (capacity greater than 100 L)	2B350c
Stored program controlled (SPC) switching equipment	5A991c

Description	ECCN Citation
Stored program controlled (SPC) switching equipment, equipment for the development of equipment employing	5B001b
Stored program controlled (SPC) switching equipment, software for the development of equipment employing	5D001d
Stored program controlled (SPC) switching equipment, technology for the development of equipment employing	5E001c
Stored program controlled equipment controlled by 3B, software for use of	3D002
Stored program controlled crystal pullers	3B991b.1.c.2
Straight jackets	0A982
Strap down/gimbal inertial navigation systems or equipment	7A003
Streak cameras, mechanical type	6A203a.2
Streak cameras, mechanical or electronic	6A003a.3
Streak tubes, electronic streak cameras	6A203b.1
Streak cameras, electronic type	6A203b.1
Strip electronic beam guns	0B001g.1
Stroboscopic light systems	8A992c
Structural composites production equipment	1B101
Structures and composite structures, laminate, and manufacturers for missiles	9A110
Stun guns	0A985
Subcavitating hydrofoils	8A002m
Submarine engines, n.e.s.	8A992g
Submarine net	8A018b.5
Submarine vessel positioning systems, acoustic	6A001a.1.d
Submersible stage recirculation pumps	0B004b.2.c
Submersible systems	8A992e
Submersible vehicles/vehicle systems or equipment	8A002a
Submersible vehicles/vehicle systems or equipment	8A001
Subscriber line interfaces	5A991c.2.a
Substrate development/production technology, diamond film	3E003d
Substrates, for X-ray masks	3B991b.2.b.2
Substrates, hard surface coated	3B991b.2.b.1
Substrates, multi-layer hetero-epitaxial materials	3C001
Substrates, semiconductor with resist coating	3C002
Suits, protective	1A004b
Sulphur dichloride	1C350.c.7
Sulphur monochloride	1C350.c.6
Super-ventilated propellers	8A002o.1.a
Supercavitating hydrofoils	8A002m
Supercavitating propellers	8A002o.1.a
Supercomputers, see Computers	
Superconducting quantum interference devices (SQUIDs)	6A006h.1
Superconductive composite conductor	1C005
Superconductive gates, current switching	3A001d.1
Superconductive electromagnets or solenoids	3A201b
Superconductive electromagnets or solenoids	3A001e.3
Superconductive devices or circuits	3A001d
Superconductive quantum interference devices (SQUIDs)	6A006h
Superconductive propulsion engines	8A002o.2.c
Superconductive electromagnetic sensors	6A006h
Superconductive electronic device technology	3E003c
Superplastic forming technology, metal working	2E003b.1.a
Superplastic forming tools, dies, molds or fixtures	1B003
Superplastic forming technology/data, Al/Ti/Super alloys	2E003b.2.a
Supersonic expansion nozzles for UF6 carrier gas	0B001h.1
Surface irregularity measuring equipment/instruments	2B006c
Surface coating & processing equipment	2B005
Surface skimming (shallow bulk) acoustic wave devices	3A001c.1
Surface acoustic wave devices	3A001c.1
Surface vessel positioning systems, acoustic	6A001a.1.d
Surface vessels & components	8A001
Surface finishing equipment	3B991b.1.k
Surface-effect vehicles, (fully skirted variety)	8A001f
Surface-effect vehicles, (fully skirted variety)	8A002k
Surface-effect vehicles, (rigid sidewalls)	8A001g
Survey systems, bathymetric	6A001a.1.b
Swine fever virus (African)	1C352a.1
Swine fever virus (Hog cholera virus)	1C352a.7
Switch fabric development/production technology	5A991c.10
Switch-terminal interfaces	5A991c.2.a
Switching devices, modules or assemblies	3A228
Switching equipment, stored program controlled	5A991c
Synchronous Digital Hierarchy (SDH) technology	5E001b.4

Description	ECCN Citation
Synchronous Digital Hierarchy (SDH) technology	5E991.a.2
Synchronous Optical Network technology (SONET)	5E001b.4
Synchronous Optical Network technology (SONET)	5E991.a.2
Syntactic foam, underwater use	8C001
Synthetic crystalline laser host material	6C005
Synthetic diamond material	6C004f
Synthetic aperture radar (SAR)	6A008d
Systolic array computers/assemblies/components	4A004a
●T-2 toxin	1C351.d.15
Tanks, austenitic stainless steel	2B999n
Tanks, chemical storage (capacity greater than 100 L)	2B350c
Tanks, monel	2B999f
Tanks, stainless steel	2B999g
Tank turret rings and sprockets induction hardening machines	2B018m
Tank turret bearing grinding machines	2B018s
Tantalum crucibles coated with tantalum carbide/nitride/boride	2A225c
Tantalum made or lined crucibles	2A225b
Tape designed for testing recording equipment of entry 3A002a	3A002a
Tape bonders, stored program controlled equipment	3B991.b.3.b
Tape recording equipment	3A002a
Tape-laying machines	1B101b
Tape-laying machines	1B001b
Tar sands	1C981
Tear gas	1A984
<i>Technology, see product group E for controls for each category.</i>	
Technology, airborne equipment	7E004a
Technology, development of frequency hopping techniques	5E001b.4
Technology, development of spread spectrum techniques	5E001b.4
Technology, diamond substrate film	3E003d
Technology, gas turbine engine components	9E003c
Technology, gas turbine engine components	9E003a
Technology, helicopter power transfer systems	9E003d
Technology, hetero-structure semiconductor development	3E003b
Technology, high output type diesel engines	9E003e
Technology, integration software for expert systems	2E003e
Technology, machine tool instruction generators	2E003d
“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	3E003c
Technology, tilt rotor/wing power transfer systems development	9E003d
Technology, vacuum microelectronic device	3E003a
TEGDN (Triethylene glycol dinitrate) propellant additive	1C111c.2
Telecommunications equipment	5A001
Telecommunications equipment, high and low temperature tolerant	5A991a
Telecommunication equipment not controlled by 5A001	5A991
Telecommunications equipment/system software	5D001c.1
Telecommunication test, inspection and production equipment	5B001
Telecommunications test equipment	5B991
Telecommunications transmission equipment, equipment for the development of equipment employing	5B001b
Telecommunications transmission equipment, software for the development of equipment employing	5D001d
Telecommunications transmission equipment, technology for the development of equipment employing	5E001c
Telemetry & telecontrol equipment for missiles	5A101
Television cameras, underwater	8A002d.1.b
Television systems (camera, lights, monitoring and signal transmission equipment), remote operation with submersible vehicle	8A992a.1
Television cameras, underwater	8A002d.1
Television cameras, underwater	8A002d.1.a
Television cameras, underwater	8A992a.2
Tellurium (Te)	6C002a
Tempest type equipment	5A002a.4
Tension stretchers for prepregs/preform production	1B101d
Terminal interface equipment	4A994i
Terrestrial, marine acoustic equipment	6A991
Teschen disease virus	1C352a.14
Test benches/stands, for rockets/rocket motors	9B117
Test, calibration or alignment equipment for equipment controlled by 7A	7B001
Test chambers, aerosol challenge	2B352g
Test equipment, semiconductor devices	3B002
Test equipment - propellants and their constituents	1B115

Description	ECCN Citation
Test receivers, microwave	3A002f
Test tape designed for recording equipment of entry 3A002a	3A002a
Testing equipment, for electronic components	3B992b.4
Test, inspection, development and production equipment for Category 5 items	5B
Tetrodotoxin	1C351d.9
Thallium arsenic selenide (Tl <sub>3</sub> AsSe <sub>3</sub> or TAS)	6C004b.3
Thermal ionization mass spectrometers (TIMS)	3A233c
Thermal shields	0A001h
Thermal sensors, optical fiber	6A002d.3
Thermoplastic liquid crystal copolymers	1C008b
Thermoset resin impregnated materials	1C210c
Thio-ethers, as lubricating fluids	1C006b.1
Thiodiglycol	1C350.b.20
Thionyl chloride	1C350.c.8
Thorium	0C001
Thrust tabs, thrust vector control subsystems	9A106c
Thrust vector control sub-system	9A106c
Thulium-YAG (Tm:YAG) lasers	6A005c.1
Thulium-YSGG (Tm:YSGG) lasers	6A005c.1
Thumbcuffs	0A982
Thumbscrews	0A983
Tick-borne encephalitis virus	1C351a.15
Tilt rotor/tilt wing power transfer system technology	9E003d
Tilting spindles for machine tools	2B009c
Time delay general, electronic equipment for	3A999e
Time interval measurement, electronic equipment for	3A999e
Time or frequency domain processing & correlation equipment	6A001a.2.c
TIMS (Thermal ionization mass spectrometers)	3A233c
Titanium alloys	1C002a.2.c
Titanium alloys, as tubes/solid forms/forgings	1C202b
Titanium alloy/powder or particulate form	1C002b.1.c
Titanium aluminides	1C002a.1.b
Titanium-based alloys	1C002a.1
Titanium doped sapphire laser host material	6C005a
Titanium-sapphire (Ti: Al <sub>2</sub> O <sub>3</sub> ) lasers	6A005c.1
Titanium-stabilized duplex stainless steel 9Ti-DSS)	1C118
TMETN (trimethylolethane trinitrate)	1C111c.4
Tooling for powder metallurgy rotor component manufacture	9B009
Torpedo net	8A018
Torture, specially designed implements of	0A983
Tow-placement machines	1B001b
Towed acoustic hydrophone arrays	6A001a.2.b
Toxic gas monitoring systems	2B351
●Toxins	1C350, 1C351, 1C355, 1C395
Tracking radar	6A008L1
Tracking systems, precision	6A108b.1
Tracking systems	6A008L1
Tractors and parts	9A990
Transceivers, radio	5A001b.2-10
Transceivers, radio	5A991b.6-7
Transcoders (translation encoders)	5A991b Note a.6
Transducers, wall skin friction	9B008
Transducers, acoustic projectors	6A001a.1.c
Transient recorders (Waveform digitizers)	3A002a.5
Transistor test equipment, S-parameter measurement	3B002a
Transistors, microwave	3A001b.3
Translation encoders (transcoders)	5A991b Note a.6
Transmission fluids, automatic	1C980
Transmission equipment	5A991b
Transmultiplex equipment	5A991b Note a.9
Traveling wave tubes (TWTs), industrial	3A001b.1.a
Tray exchange towers, hydrogen sulphide-water	0B004b.1.a
Tributyl phosphate	1C999d
Triethanolamine	1C350.c.9
Triethanolamine hydrochloride	1C350.d.20
Triethyl phosphite	1C350.c.10
Triethylene glycol dinitrate (TEGDN)	1C111c.2
Triggered spark-gaps	3A228b
Triggers, high voltage	3A999c

Description	ECCN Citation
Trimethyl phosphite	1C350.c.11
Tritium, compounds & mixtures	1C235
Tritium plant or facilities equipment	1B231b
Tritium production recovery, extraction & concentration handling facilities or plant	1B231a
Trusted Computer System Evaluation Criteria (TCSEC) capability	5A002f
Tubes, cylindrical or conical tangential inlet flow-driven	0B001d.2
Tubes, gas krytron	3A228a
•Tubes, pressure, nuclear reactors	0A001.e
Tubes, vacuum sprytron	3A228a
•Tubes, zirconium	0A001.f
Tunable band-pass filters	3A001b.5
Tunable lasers, solid state	6A005c.1
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	2A290a
Turbines, aero gas engines, test software	9D004b
Turbines, gas aero engines	9A001
Turbo prop engines	9A018a.2
Turbocompound engines	9A101
Turboexpanders and turboexpander-compressors	0B004b.3.b
Turboexpanders and turboexpander-compressors	1B232
Turbofan & turbojet engines, lightweight	9A101
Turning machines for optical quality surfaces	2B002a
Turning machines (CNC)	2B991d.1
Turning machines	2B201c
Turning machines (CNC)	2B001a
TV cameras, radiation-hardened	6A203c
TV cameras, radiation-hardened, not specified in 6A203	6A999b
Two dimensional focal plane arrays	6A002a.3
TWTs (Traveling Wave Tubes)	3A001b.1.a
UF6	0B001d.3
UF6 / carrier gas separation systems	0B001h.5
UF6 / carrier gas separation systems	0B001d.7
UF6 cold traps	0B001d.7.d
UF6 cold traps	0B002b
UF6 desublimers	0B002b
UF6 Gaseous diffusion barriers & housing	0B001b.3.4
UF6 liquefaction and solidification stations	0B002d
UF6 mass spectrometers/ion sources	0B002g
UF6 piping & header systems	0B002e
UF6 product & tails stations	0B002c
UF6 production plant, equipment & components	0B003
UF6 resistant compounds & powders	0C201
UF6 resistant or protected systems, equipment & components	0B002
UF6 vacuum headers	0B002f.1
UF6 vacuum pumps	0B002f.2
UF6 vacuum manifolds	0B002f.1
Ultrasonic test equipment for nuclear reactors	2A291.d
Underwater breathing apparatus, self-contained	8A992h
Underwater cameras, photographic	8A002d-f
Underwater camera equipment, n.e.s.	8A992d
Underwater communications systems	5A001b.1
Underwater detection (magnetic, pressure, and acoustic) devices specially designed for military purposes	6A018
Underwater electronic imaging systems	8A002f
Underwater lights	8A992k
Underwater noise reduction technology	8E002
Underwater optical fiber cables & accessories	5A001c.2
Underwater (propeller) noise reduction software	8D002
Underwater propulsion equipment	8A992k
Underwater rebreathing apparatus	8A018a
Underwater robots, computer controlled	8A002h
Underwater systems or equipment and parts, not controlled by 8A002	8A992
Underwater television cameras	8A992a.2
Underwater vehicles, industrial	8A001
Underwater velocity measurement equipment	6A001b
Underwater vessel positioning systems, acoustic	6A001a.1.d

Description	ECCN Citation
Underwater vision systems	8A002d
Underwater vision systems	8A992a
Unmanned air vehicle systems (UAVs) Non-military	9A012
Unmanned tethered submersible vehicles	8A001c
Unmanned untethered submersible vehicles	8A001d
Uranium cooling equipment	0B001g.2
Uranium conversion plant & equipment	0B003
Uranium, depleted	1A290
Uranium electromagnetic separator vacuum housings	0B001j.3
Uranium fluoride (UF5) product filter collectors	0B001h.2
Uranium hexafluoride (UF6) production plant, equipment & components	0B003
Uranium hexafluoride (UF6) resistant compounds & powders	0C201
Uranium hexafluoride (UF6) resistant compounds & powders	0C006
Uranium isotopes separation, lasers or laser systems	0B001h.6
Uranium, natural or depleted	0C001
Uranium oxidation systems	0B001e.6
Uranium plasma generation systems	0B001i.4
Uranium titanium alloys	1C004
Uranium vapor product & tails collector systems	0B001g.3
Vaccines and immunotoxins	1C991
Vacuum furnaces	2B226
Vacuum furnaces	2B227
Vacuum induction furnaces	2B226
Vacuum induction furnace, power supplies	2B226
Vacuum headers	0B002f.1
Vacuum housings for uranium electromagnetic separators	0B001j.3
Vacuum manifolds	0B002f.1
Vacuum melting, remelt & casting furnaces	2B227
Vacuum microelectronic device development/production technology	3E003a
Vacuum pumps	2B231
Vacuum pumps	2B350i
Vacuum pumps for UF6 bearing atmospheres	0B002f.2
Vacuum tubes, electronic microwave	3A001b.1
Vacuum sphytron tubes	3A228a
Vacuum valves, piping, flanges, gaskets	2B999k
Valve seats, made from fluoroelastomers	1A001c
Valves, austenitic stainless steel	2B999n
Valves, bellows seal	2A226
Valves, bellows	2B350g
Valves, bellows	0B001d.6
Valves, double-seal	2B350g
Valves, of or lined with stainless steel, copper-nickel alloy or other alloy steel	2A292
Valves, diaphragm	2B350g
Valves, gaseous diffusion isotope separation	0B001b.1
Valves, monel	2B999f
Valves, multiple seal incorporating a leak detection port	2B350g
Valves, non-return (check)	2B350g
Valves, stainless steel	2B999e
Valves, vacuum	2B999k
Variola virus	1C351a.16
Vector processors/assemblies	4A003
Vehicle position determination software	6D103
Velocity interferometers (VISARs)	6A225
Velocity measurement equipment, underwater	6A001b
Venezuelan equine encephalitis virus	1C351a.17
Ventilated full or half (protective clothing) suits	2B352f.1
Ventilated propellers	8A002o.1.a
Verotoxin	1C351d.10
Vesicular stomatitis virus	1C352a.15
Vessels, austenitic stainless steel	2B999n
Vessel positioning systems, acoustic	6A001a.1.d
Vessel noise reduction equipment	8A002.o.3
Vessels, marine	8A001
Vessels, monel	2B999f
Vessels, stainless steel	2B999e
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



Description	ECCN Citation
Vibrio cholerae	1C351c.12
Video cameras incorporating solid state sensors	6A003b.1
Vinylidene fluoride copolymers	1C009a
Vinylidene fluoride copolymers, components of	1A001
Virus protection software	5D992
•Viruses	1C351, 1C352, 1C353
Viruses, animal pathogens	1C352a
Viruses, human pathogens	1C351a
Viscous software, 2D or 3D engine flow modeling	9D004a
•Viscum Album Lectin 1 (Viscumin)	1C351.d.19
Vision systems, underwater	8A992a
Vision systems, underwater	8A002d
Voice print identification and analysis equipment and parts	3A980
•Volkensin toxin	1C351.d.18
Vortex tubes, aerodynamic isotope separation	0B001d.2
Vortex tube units, UF6 separation from carrier gas	0B001d.7.c
Wafer handling systems, semiconductor	3B001e
Wafer processing, semiconductor manufacture	3B001e
Wafer probing equipment	3B992b.3
Wafer production align and expose equipment	3B991b.2.f
Wafers, semiconductor with function determined	3A001a
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 distillation towers, heavy	0B004b.4.a
Water jet cutting machines (CNC)	2B001e.1.a
Water jet (pumpjet) propulsion systems	8A002p
Water tunnels, propulsion model acoustic field measurement	8B001
Water-hydrogen sulphide exchange tray columns	1B229
Water-screw propellers	8A002o.1
Wave division multiplex equipment	5A991b.5
Waveform digitizers (Transient recorders)	3A002a.5
Wax pattern preparation equipment, ceramic shell	9B991e
Weaving machines	1B001c
Weight belts	8A992j
Welders, MIG	2B999d
Welders, E-beam	2B999e
Welding machines, laser	2B999c
Western equine encephalitis virus	1C351a.18
Western red cedar, logs and timber	1C988
Wet-spinning equipment for refractory ceramics	1B101c.3
Wet-spinning equipment for refractory ceramics	1B001d.3
Wetsuits	8A992j
White pox	1C351a.19
Wide-swath bathymetric survey systems	6A001a.1
Wigglers (free electron laser magnet) manufacturing or inspection equipment	6B995a.1
Wind tunnel aero-model technology	9E003b.1
Wind tunnel, control systems	9B005
Wind tunnels, usable for missiles	9B105
Windows, glass for nuclear radiation shielding	1A227
Work stations, as computers having a CTP above 260 Mtops	4A003b
X-ray converters	1A999b
X-ray equipment for projection image transfer	3B991.b.2.g
X-ray generators, radiographic	3A201c
X-ray machines, all flash	3A999c
X-ray (non planar) inspection equipment, rocket motors	9B007
X-ray sensitive resist materials	3C002c
Xanthomonas campestris pv. Citrumelo	1C354a.2
Xanthomonas citri	1C354a.2
Xanthomonas albilineans	1C354a.1
Xanthomonas campestris pv. aurantifolia	1C354a.2
Xanthomonas campestris pv. Citri	1C354a.2
Yellow fever virus	1C351a.20
Yersinia pestis	1C351c.13
Yttrium oxide (yttria) (Y <sub>2</sub> O <sub>3</sub> ), crucibles made or coated	2A225a.8
Zinc selenide (ZnSe), substrate blanks	6C004a
Zinc sulphide (ZnS), substrate blanks	6C004a
Zirconium fluoride (ZrF <sub>4</sub> ) glass	6C004e
Zirconium metal and alloy tubes & assemblies	0A001f

<b>Description</b>	<b>ECCN Citation</b>
Zirconium metal particulate .....	1C111a.2.a
Zirconium metal, alloy, compounds, or manufacturers .....	1C234
Zirconium oxide (zirconia) (ZrO <sub>2</sub> ) made/coated crucibles .....	2A225a.9
●Zoonotic pathogens .....	1C351