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### § 770.1 INTRODUCTION

In this part, references to the EAR are references to 15 CFR chapter VII, subchapter C. This part provides commodity, technology, and software interpretations. These interpretations clarify the scope of controls where such scope is not readily apparent from the Commerce Control List (CCL) (see Supplement No. 1 to part 774 of the EAR) and other provisions of the Export Administration Regulations.

### § 770.2 ITEM INTERPRETATIONS

*(a) Interpretation 1: Anti-friction bearing or bearing systems and specially designed parts*

(1) Anti-friction bearings or bearing systems shipped as spares or replacements are classified under Export Control Classification Number (ECCN) 2A001 (ball, roller, or needle-roller bearings and parts). This applies to separate shipments of anti-friction bearings or bearing systems and antifriction bearings or bearing systems shipped with machinery or equipment for which they are intended to be used as spares or replacement parts.

(2) An anti-friction bearing or bearing system physically incorporated in a segment of a machine or in a complete machine prior to shipment loses its identity as a bearing. In this scenario, the machine or segment of machinery

containing the bearing is the item subject to export control requirements.

(3) An anti-friction bearing or bearing system not incorporated in a segment of a machine prior to shipment, but shipped as a component of a complete unassembled (knocked-down) machine, is considered a component of a machine. In this scenario, the complete machine is the item subject to export license requirements.

*(b) Interpretation 2: Classification of “parts” of machinery, equipment, or other items*

(1) **An assembled machine or unit of equipment is being exported.** In instances where one or more assembled machines or units of equipment are being exported, the individual component parts that are physically incorporated into the machine or equipment do not require a license. The license or general exception under which the complete machine or unit of equipment is exported will also cover its component parts, provided that the parts are normal and usual components of the machine or equipment being exported, or that the physical incorporation is not used as a device to evade the requirement for a license.

(2) **Parts are exported as spares, replacements, for resale, or for stock.** In instances where parts are exported as spares, replacements, for resale, or for stock, a license is required only if the appropriate entry for the part specifies that a license is required for the intended destination.

*(c) [RESERVED]*

*(d) Interpretation 4: Telecommunications equipment and systems*

Control equipment for paging systems (broadcast radio or selectively signalled receiving systems) is defined as circuit switching equipment in Category 5 of the CCL.

*(e) Interpretation 5: Numerical control systems.*

**(1) Classification of “Numerical Control” Units.** “Numerical control” units for machine tools, regardless of their configurations or architectures, are controlled by their functional characteristics as described in ECCN 2B001.a. “Numerical control” units include computers with add-on “motion control boards”. A computer with add-on “motion control boards” for machine tools may be controlled under ECCN 2B001.a even when the computer alone without “motion control boards” is not subject to licensing requirements under Category 4 and the “motion control boards” are not controlled under ECCN 2B001.b.

**(2) Export documentation requirement.**

(i) When preparing a license application for a numerical control system, the machine tool and the control unit are classified separately. If either the machine tool or the control unit requires a license, then the entire unit requires a license. If either a machine tool or a control unit is exported separately from the system, the exported component is classified on the license application without regard to the other parts of a possible system.

(ii) When preparing the Electronic Export Information (EEI) on the Automated Export System (AES), a system being shipped complete (i.e., machine and control unit), should be reported under the Schedule B number for each machine. When either a control unit or a machine is shipped separately, it should be reported under the Schedule B number appropriate for the individual item being exported.

*(f) Interpretation 6: “Parts,” “accessories,” and equipment exported as scrap*

“Parts,” “accessories,” or equipment that are being shipped as scrap should be described on the

EEI filing to the AES in sufficient detail to be identified under the proper ECCN. When commodities declared as “parts,” “accessories,” or equipment are shipped in bulk, or are otherwise not packaged, packed, or sorted in accordance with normal trade practices, the Customs Officer may require evidence that the shipment is not scrap. Such evidence may include, but is not limited to, bills of sale, orders and correspondence indicating whether the commodities are scrap or are being exported for use as “parts,” “accessories,” or equipment.

*(g) Interpretation 7: Scrap arms, ammunition, and implements of war*

Arms, ammunition, and implements of war, as defined in the U.S. Munitions List, and are under the jurisdiction of the U.S. Department of State (22 CFR parts 120 through 130), except for the following, which are under the jurisdiction of the Department of Commerce:

**(1)** Cartridge and shell cases that have been rendered useless beyond the possibility of restoration to their original identity by means of excessive heating, flame treatment, mangling, crushing, cutting, or by any other method are “scrap”.

**(2)** Cartridge and shell cases that have been sold by the armed services as “scrap”, whether or not they have been heated, flame-treated, mangled, crushed, cut, or reduced to scrap by any other method.

**(3)** Other commodities that may have been on the U.S. Munitions List are “scrap”, and therefore under the jurisdiction of the Department of Commerce, if they have been rendered useless beyond the possibility of restoration to their original identity only by means of mangling, crushing, or cutting. When in doubt as to whether a commodity covered by the Munitions List has been rendered useless, exporters should consult the Directorate of Defense Trade Controls, U.S. Department of State, Washington,

D.C. 20520, or the Exporter Counseling Division, Office of Exporter Services, Room 1099A, U.S. Department of Commerce, Washington, D.C. 20230, before reporting a shipment as metal scrap.

(h) [RESERVED]

(i) [RESERVED]

(j) [RESERVED]

**(k) Interpretation 11: Precursor chemicals**

The following chemicals are controlled by ECCN 1C350. The appropriate Chemical Abstract Service Registry (C.A.S.) number and synonyms, (i.e., alternative names) are included to help you determine whether or not your chemicals are controlled by this entry.

**(1) (C.A.S. #1341-49-7) Ammonium hydrogen bifluoride**

Acid ammonium fluoride  
Ammonium bifluoride  
Ammonium difluoride  
Ammonium hydrofluoride  
Ammonium hydrogen bifluoride  
Ammonium hydrogen difluoride  
Ammonium monohydrogen difluoride

**(2) (C.A.S. #7784-34-1) Arsenic trichloride**

Arsenic (III) chloride  
Arsenous chloride  
Fuming liquid arsenic  
Trichloroarsine

**(3) (C.A.S. #76-93-7) Benzilic acid  
alpha.,alpha.-Diphenyl-.alpha.-hydroxyacetic acid**

Diphenylglycolic acid  
.alpha.,alpha.-Diphenylglycolic acid  
Diphenylhydroxyacetic acid  
.alpha.-Hydroxy-2,2-diphenylacetic acid  
2-Hydroxy-2,2-diphenylacetic acid  
.alpha.-Hydroxy-.alpha.-phenylbenzeneacetic acid

Hydroxydiphenylacetic acid

**(4) (C.A.S. #107-07-3) 2-Chloroethanol**

2-Chloro-1-ethanol  
Chloroethanol  
2-Chloroethyl alcohol  
Ethene chlorohydrin  
Ethylchlorohydrin  
Ethylene chlorhydrin  
Ethylene chlorohydrin  
Glycol chlorohydrin  
Glycol monochlorohydrin  
2-Hydroxyethyl chloride

**(5) (C.A.S. #78-38-6) Diethyl ethylphosphonate  
Ethylphosphonic acid diethyl ester**

**(6) (C.A.S. #15715-41-0) Diethyl methylphosphonite**

Diethoxymethylphosphine  
Diethyl methanephosphonite  
0,0-Diethyl methylphosphonite  
Methyldiethoxyphosphine  
Methylphosphonous acid diethyl ester

**(7) (C.A.S. #2404-03-7) Diethyl-N,  
N-dimethylphosphoro- amidate  
N,N-Dimethyl-O,O'-diethyl phosphoramidate  
Diethyl dimethylphosphoramidate  
Dimethylphosphoramidic acid diethyl ester**

**(8) (C.A.S. #762-04-9) Diethyl phosphite**

Diethoxyphosphine oxide  
Diethyl acid phosphite  
Diethyl hydrogen phosphite  
Diethyo phosphonate  
Hydrogen diethyl phosphite

**(9) (C.A.S. #100-37-8) N,**

N-Diethylethanolamine  
N,N-Diethyl-2-aminoethanol  
Diethyl (2-hydroxyethyl) amine  
N,N-Diethyl-N-(.beta.-hydroxyethyl) amine  
N,N-Diethyl-2-hydroxyethylamine  
Diethylaminoethanol  
2-(Diethylamino) ethanol  
2-(Diethylamino)ethyl alcohol  
N,N-Diethylmonoethanolamine

- (2-Hydroxyethyl) diethylamine  
2-Hydroxytriethylamine
- (10)** (C.A.S. #5842-07-9)  
N,N-Diisopropyl-.beta.-aminoethane thiol  
2-(Diisopropylamino) ethanethiol  
Diisopropylaminoethanethiol  
.beta.-Diisopropylaminoethanethiol  
2-(bis(1-Methylethyl)amino) ethanethiol
- (11)** (C.A.S. #4261-68-1) N,  
N-Diisopropyl-.2-aminoethyl chloride  
hydrochloride
- (12)** (C.A.S. #96-80-0)  
N,N-Diisopropyl-.beta.-aminoethanol  
N,N-Diisopropyl-2-aminoethanol  
2-(Diisopropylamino) ethanol  
(N,N-Diisopropylamino) ethanol  
2-(Diisopropylamino) ethyl alcohol  
N,N-Diisopropylethanolamine
- (13)** (C.A.S. #96-79-7)  
N,N-Diisopropyl-.beta.-aminoethyl chloride  
2-Chloro-N,N-diisopropylethanamine  
1-Chloro-N,N-diisopropylaminoethane  
2-Chloro-N,N-diisopropylethylamine  
N-(2-chloroethyl)-N-(1-methylethyl)-2-prop  
anamine  
N-(2-Chloroethyl) diisopropylamine  
N,N-Diisopropyl-2-chloroethylamine  
1-(Diisopropylamino)-2-cholorethane  
2-(Diisopropylamino)ethyl chloride  
Diisopropylaminoethyl chloride  
.beta.-Diisopropylaminoethyl chloride
- (14)** (C.A.S. #108-18-9) Diisopropylamine  
N,N-Diisopropylamine  
N-(1-Methylethyl)-2-propanamine
- (15)** (C.A.S. #6163-75-3) Dimethyl  
ethylphosphonate  
Dimethyl ethanephosphonate  
Ethylphosphonic acid dimethyl ester
- (16)** (C.A.S. #756-79-6) Dimethyl  
methylphosphonate
- Dimethoxymethyl phosphine oxide  
Dimethyl methanephosphonate  
Methanephosphonic acid dimethyl ester  
Methylphosphonic acid dimethyl ester
- (17)** (C.A.S. #868-85-9) Dimethyl phosphite  
Dimethoxyphosphine oxide  
Dimethyl acid phosphite  
Dimethyl hydrogen phosphite  
Dimethyl phosphonate  
Hydrogen dimethyl phosphite  
Methyl phosphate
- (18)** (C.A.S. #124-40-3) Dimethylamine  
N-Methyl methanamine
- (19)** (C.A.S. #506-59-2) Dimethylamine  
hydrochloride  
Dimethylammonium chloride  
N-Methyl methanamine hydrochloride
- (20)** [RESERVED]
- (21)** (C.A.S. #1498-40-4) Ethylphosphonous  
dichloride  
Dichloroethylphosphine  
Ethyl phosphonous dichloride  
Ethyl dichlorophosphine
- (22)** (C.A.S. #430-78-4) Ethylphosphonus  
difluoride  
Ethyl difluorophosphine
- (23)** (C.A.S. #1066-50-8) Ethylphosphonyl  
dichloride  
Dichloroethylphosphine oxide  
Ethanephosphonyl chloride  
Ethylphosphinic dichloride  
Ethylphosphonic acid dichloride  
Ethylphosphonic dichloride
- (24)** [RESERVED]
- (25)** (C.A.S. #7664-39-3) Hydrogen fluoride  
Anhydrous hydrofluoric acid  
Fluorhydric acid  
Fluorine monohydride

- Hydrofluoric acid gas
- (26) (C.A.S. #3554-74-3)  
 3-Hydroxyl-1-methylpiperidine  
 3-Hydroxy-N-methylpiperidine  
 1-Methyl-3-hydroxypiperidine  
 N-Methyl-3-hydroxypiperidine  
 1-Methyl-3-piperidinol  
 N-Methyl-3-piperidinol
- (27) (C.A.S. #76-89-1) Methyl benzilate  
 Benzilic acid methyl ester  
 .alpha.-Hydroxy-.alpha.-phenylbenzeneacetic acid methyl ester  
 Methyl .alpha.-phenylmandelate  
 Methyl diphenylglycolate
- (28) [RESERVED]
- (29) [RESERVED]
- (30) [RESERVED]
- (31) [RESERVED]
- (32) (C.A.S. #10025-87-3) Phosphorus oxychloride  
 Phosphonyl trichloride  
 Phosphoric chloride  
 Phosphoric trichloride  
 Phosphoroylchloride  
 Phosphoroyltrichloride  
 Phosphorus chloride oxide  
 Phosphorus monoxide trichloride  
 Phosphorus oxide trichloride  
 Phosphorus oxytrichloride  
 Phosphorus trichloride oxide  
 Phosphoryl trichloride  
 Trichlorophosphine oxide  
 Trichlorophosphorus oxide
- (33) (C.A.S. #10026-13-8) Phosphorus pentachloride  
 Pentachlorophosphorane  
 Pentachlorophosphorus  
 Phosphoric chloride  
 Phosphorus(V) chloride
- Phosphorus perchloride
- (34) (C.A.S. #1314-80-3) Phosphorus pentasulfide  
 Diphosphorus pentasulfide  
 Phosphoric sulfide  
 Phosphorus persulfide  
 Phosphorus sulfide
- (35) (C.A.S. #7719-12-2) Phosphorus trichloride  
 Phosphorus chloride  
 Trichlorophosphine
- (36) C.A.S. #75-97-8) Pinacolone  
 tert-Butyl methyl ketone  
 2,2-Dimethyl-3-butanone  
 3,3-Dimethyl-2-butanone  
 2,2-Dimethylbutanone  
 3,3-Dimethylbutanone  
 1,1-Dimethylethyl methyl ketone  
 Methyl tert-butyl ketone  
 Pinacolin  
 Pinacoline  
 1,1,1-Trimethylacetone
- (37) (C.A.S. #464-07-3) Pinacolyl alcohol  
 tert-Butyl methyl carbinol  
 2,2-Dimethyl-3-butanol  
 3,3-Dimethyl-2-butanol  
 1-Methyl-2,2-dimethylpropanol
- (38) (C.A.S. #151-50-8) Potassium cyanide
- (39) (C.A.S. #7789-23-3) Potassium fluoride  
 Potassium monofluoride
- (40) (C.A.S. #7789-29-9) Potassium hydrogen fluoride  
 Hydrogen potassium difluoride  
 Hydrogen potassium fluoride  
 Potassium acid fluoride  
 Potassium bifluoride  
 Potassium hydrogen difluoride  
 Potassium monohydrogen difluoride
- (41) (C.A.S. #1619-34-7) 3-Quinuclidinol  
 1-Azabicyclo(2.2.2)octan-3-ol

- 3-Hydroxyquinuclidine
- (42) (C.A.S. #3731-38-2) 3-Quinuclidinone  
1-Azabicyclo(2.2.2)octan-3-one  
3-Oxyquinuclidine  
Quinuclidone
- (43) (C.A.S.) #1333-83-1) Sodium bifluoride  
Sodium hydrogen difluoride  
Sodium hydrogen fluoride
- (44) (C.A.S. #143-33-9) Sodium cyanide
- (45) (C.A.S. #7681-49-4) Sodium fluoride  
Sodium monofluoride
- (46) (C.A.S. #1313-82-2) Sodium sulfide  
Disodium monosulfide  
Disodium sulfide  
Sodium monosulfide  
Sodium sulfide
- (47) (C.A.S. #10025-67-9) Sulfur Monochloride
- (48) (C.A.S. #10545-99-0) Sulfur dichloride
- (49) (C.A.S. #111-48-8) Thiodiglycol  
Bis(2-hydroxyethyl) sulfide  
Bis(2-hydroxyethyl) thioether  
Di(2-hydroxyethyl) sulfide  
Diethanol sulfide  
2,2'-Dithiobis-(ethanol)  
3-Thiapentane-1,5-diol  
2,2'-Thiobisethanol  
2,2'-Thiodiethanol  
Thiodiethylene glycol  
2,2'-Thiodiglycol
- (50) C.A.S. #7719-09-7) Thionyl chloride  
Sulfinyl chloride  
Sulfinyl dichloride  
Sulfur chloride oxide  
Sulfur oxychloride  
Sulfurous dichloride  
Sulfurous oxychloride  
Thionyl dichloride
- (51) (C.A.S. #102-71-6) Triethanolamine
- Alkanolamine 244  
Nitrilotriethanol  
2,2',2''-Nitrilotriethanol  
2,2',2''-Nitrilotris(ethanol)  
TEA  
TEA(amino alcohol)  
Tri(2-hydroxyethyl)amine  
Triethanolamin  
Tris(.beta.-hydroxyethyl)amine  
Tris(2-hydroxyethyl)amine  
Trolamine
- (52) (C.A.S. #637-39-8) Triethanolamine hydrochloride
- (53) (C.A.S. #122-52-1) Triethyl phosphite  
Phosphorous acid triethyl ester  
Triethoxyphosphine  
Tris(ethoxy)phosphine
- (54) (C.A.S. #121-45-9) Trimethyl phosphite  
Phosphorus acid trimethyl ester  
Trimethoxyphosphine

*(I) Interpretation 12: Computers*

(1) Digital computers or computer systems classified under ECCN 4A003.b or .c, that qualify for “No License Required” (NLR) must be evaluated on the basis of Adjusted Peak Performance (APP) alone, to the exclusion of all other technical parameters. Digital computers or computer systems classified under ECCN 4A003.b or .c that qualify for License Exception APP must be evaluated on the basis of APP, to the exclusion of all other technical parameters. Assemblies performing analog-to-digital conversions are evaluated under Category 3—Electronics, ECCN 3A002.h.

(2) Related equipment classified under ECCN 4A003.g may be exported or reexported under License Exceptions GBS or CIV. When related equipment is exported or reexported as part of a computer system, NLR or License Exception APP is available for the computer system and the related equipment, as appropriate.

*(m) Interpretation 13: Encryption commodities and software controlled for EI reasons*

Encryption commodities and software controlled for EI reasons under ECCNs 5A002, 5A004 and 5D002 may be pre-loaded on a laptop, handheld device or other computer or equipment and exported under the tools of trade provision of License Exception TMP or the personal use exemption under License Exception BAG, subject to the terms and conditions of such License Exceptions. Neither License Exception TMP nor License Exception BAG contains a reporting requirement. Like other “information security” “software,” components, “electronic assemblies” or modules, the control status of encryption commodities and software is determined in Category 5 - Part 2 even if they are bundled, commingled or incorporated in a computer or other equipment. However, commodities and software specially designed for medical end use that incorporate an item in Category 5 - Part 2 are not controlled in Category 5 - Part 2. See paragraph (a) of Supplement No. 3 to part 774 (Statements of Understanding) of the EAR.

*(n) Interpretation 14: Unfinished “600 series” commodities*

Forgings, castings, and other unfinished products, such as extrusions and machined bodies, that have reached a stage in manufacturing where they are clearly identifiable by mechanical properties, material composition, geometry, or function as commodities controlled by any Product Group A (“End Items,” “Equipment,” “Accessories,” “Attachments,” “Parts,” “Components” and “Systems”) “600 series” ECCN are controlled in that “600 series” ECCN.

**§ 770.3 INTERPRETATIONS  
RELATED TO EXPORTS OF  
TECHNOLOGY AND SOFTWARE TO  
DESTINATIONS IN COUNTRY  
GROUP D:1**

*(a) Introduction*

This section is intended to provide you additional guidance on how to determine whether your technology or software would be eligible for a License Exception, may be exported under NLR, or require a license, for export to Country Group D:1.

*(b) Scope of licenses*

The export of technology and software under a license is authorized only to the extent specifically indicated on the face of the license. The only technology and software related to equipment exports that may be exported without a license is technology described in §§734.7 through 734.11 of the EAR; operating technology and software described in §740.13(a) of the EAR; sales technology described in §740.13(b) of the EAR; and software updates described in §740.13(c) of the EAR.

*(c) Commingled technology and software*

(1) U.S.-origin technology does not lose its U.S.-origin when it is redrawn, used, consulted, or otherwise commingled abroad in any respect with other technology of any other origin. Therefore, any subsequent or similar technical data prepared or engineered abroad for the design, construction, operation, or maintenance of any plant or equipment, or part thereof, which is based on or utilizes any U.S.-origin technology, is subject to the EAR in the same manner as the original U.S.-origin technology, including license requirements, unless the commingled technology is not subject to the EAR by reason of the *de minimis* exclusions described in §734.4 of the EAR.

(2) U.S.-origin software that is incorporated into or commingled with foreign-origin software does not lose its U.S.-origin. Such commingled software is subject to the EAR in the same manner as the original U.S.-origin software, including license requirements, unless the commingled software is not subject to the EAR by reason of the *de minimis* exclusions described in §734.4 of the EAR.

**(d) Certain License Exception**

The following questions and answers are intended to further clarify the scope of technology and software eligible for a License Exception.

**(1)(i) Question 1.**

(A) Our engineers, in installing or repairing equipment, use techniques (experience as well as proprietary knowledge of the internal componentry or specifications of the equipment) that exceed what is provided in the standard manuals or instructions (including training) given to the customer. In some cases, it is also a condition of the license that such information provided to the customer be constrained to the minimum necessary for normal installation, maintenance and operation situations.

(B) Can we send an engineer (with knowledge and experience) to the customer site to perform the installation or repair, under the provisions of License Exception TSU for operation technology and software described in §740.13(a) of the EAR, if it is understood that he is restricted by our normal business practices to performing the work without imparting the knowledge or technology to the customer personnel?

(ii) **Answer 1.** Export of technology includes release of U.S.-origin data in a foreign country as defined in § 734.15 of the EAR. So long as the circumstances described here would not exceed that permitted under the License Exception TSU for operation technology and software, as described in § 740.13(a) of the EAR, this is not a “release” of technology and a license would not be required.

(2)(i) **Question 2.** We plan, according to our normal business practices, to train customer engineers to maintain equipment that we have exported under a license, License Exception, or NLR. The training is contractual in nature, provided for a fee, and is scheduled to take place in part in the customer's facility and in part in the U.S. Can we now proceed with this training at both locations under a License Exception?

(ii) **Answer 2.** (A) Provided that this is your normal training, and involves technology contained in your manuals and standard instructions for the exported equipment, and meets the other requirements of License Exception TSU for operation technology and software described in §740.13(a), the training may be provided within the limits of those provisions of License Exception TSU. The location of the training is not significant, as the export occurs at the time and place of the actual transfer or imparting of the technology to the customer's engineers.

(B) Any training beyond that covered under the provisions of License Exception TSU for operation technology and software described in §740.13(a), but specifically represented in your license application as required for this customer installation, and in fact authorized on the face of the license or a separate technology license, may not be undertaken while the license is suspended or revoked.