



# Department of Defense MANUAL

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June 7, 2011

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USD(AT&L)

SUBJECT: Defense Demilitarization: Demilitarization Coding

References: See Enclosure 1

## 1. PURPOSE.

a. Manual. This Manual is composed of several volumes, each containing its own purpose. In accordance with the authority in DoD Directive (DoDD) 5134.01 (Reference (a)) and DoDD 5134.12 (Reference (b)), this Manual implements the policy in DoD Instruction (DoDI) 4160.28 (Reference (c)), assigns responsibilities, and provides procedures for assessing demilitarization (DEMIL) requirements and performing physical DEMIL of DoD personal property.

b. Volume. This Volume:

(1) Provides procedures for assigning DEMIL codes for DoD personal property, DEMIL code challenge information, and supplementary information related to DEMIL codes.

(2) Incorporates applicable portions of DoD 4160.21-M-1 (Reference (d)).

2. APPLICABILITY. This Volume applies to OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the DoD, the Defense Agencies, the DoD Field Activities, and all other organizational entities in the DoD (hereafter referred to collectively as the "DoD Components").

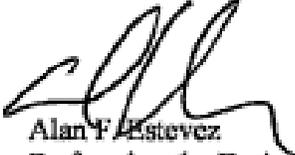
3. DEFINITIONS. See Glossary.

4. RESPONSIBILITIES. See Enclosure 2.

5. PROCEDURES. The procedures in this Volume provide guidance and information for assigning and verifying DEMIL codes to DoD personal property, the DEMIL Code Challenge Program, and other supplementary information (Enclosures 3, 4, and 5, respectively).

6. RELEASABILITY. UNLIMITED. This Volume is approved for public release and is available on the Internet from the DoD Issuances Website at <http://www.dtic.mil/whs/directives>.

7. EFFECTIVE DATE. This Volume is effective upon its publication to the DoD Issuances Website.



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Performing the Duties of the  
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Enclosures

1. References
2. Responsibilities
3. DEMIL Coding
4. DEMIL Code Challenge Program
5. Supplementary Information Related to DEMIL Codes

Glossary

TABLE OF CONTENTS

ENCLOSURE 1: REFERENCES.....6

ENCLOSURE 2: RESPONSIBILITIES.....7

    DIRECTOR, DEFENSE LOGISTICS AGENCY (DLA).....7

    SECRETARIES OF THE MILITARY DEPARTMENTS.....7

ENCLOSURE 3: DEMIL CODING.....8

    INTRODUCTION .....8

    DEMIL CODES.....8

    DEMIL CODE ASSIGNMENT PROCESS.....9

    APPENDIXES

        1. ASSIGNING DEMIL CODES TO MLI.....12

        2. ASSIGNING DEMIL CODES TO CCLI.....79

ENCLOSURE 4: DEMIL CODE CHALLENGE PROGRAM .....85

    INTRODUCTION .....85

    DEMIL INTEGRITY CODE (IC).....85

    CODE CHALLENGE PROCESS .....86

    LONG TERM STORAGE CHALLENGE.....87

    APPENDIX

        CRITICAL FEDERAL SUPPLY GROUPS (FSG), FEDERAL SUPPLY CLASSES  
        (FSC) AND KEY WORDS .....88

ENCLOSURE 5: SUPPLEMENTARY INFORMATION RELATED TO DEMIL CODES .....91

    INTRODUCTION .....91

    DEMIL CODE “G”.....91

    DEMIL CODE “P” .....91

    DEMIL CODE “F” .....92

    DEMIL CODE “C” .....93

    DEMIL CODE “D” .....94

    DEMIL CODE “E” .....94

    DEMIL CODE “B” .....94

    DEMIL CODE “Q” .....94

    DEMIL CODE “A” .....95

GLOSSARY .....96

|  |    |
|--|----|
| PART I. ABBREVIATIONS AND ACRONYMS ..... | 96 |
| PART II. DEFINITIONS.....                | 98 |

## TABLES

|   |    |
|---|----|
| 1. DEMIL Codes.....   | 8  |
| 2. Steps for Determining DEMIL Codes .....  | 10 |
| 3. Category I. Firearms, Close Assault Weapons, and Combat Shotguns .....   | 14 |
| 4. Category II. Guns and Armament.....  | 17 |
| 5. Category III. Ammunition/Ordnance.....   | 21 |
| 6. Category IV. Launch Vehicles, Guided Missiles, Ballistic Missiles, Rockets,<br>Torpedoes, Bombs, and Mines.....      | 24 |
| 7. Category V. Explosives and Energetic Materials, Propellants, Incendiary<br>Agents and Their Constituents.....        | 28 |
| 8. Category VI. Vessels of War and Special Naval Equipment.....   | 30 |
| 9. Category VII. Tanks and Military Vehicles.....   | 33 |
| 10. Category VIII. Aircraft and Associated Equipment.....   | 35 |
| 11. Category IX. Military Training Equipment and Training.....  | 40 |
| 12. Category X. Protective Personnel Equipment and Shelters.....  | 42 |
| 13. Category XI. Military Electronics.....  | 46 |
| 14. Category XII. Fire Control, Range Finder, Optical, and Guidance and Control<br>Equipment.....                       | 51 |
| 15. Category XIII. Auxiliary Military Equipment.....  | 54 |
| 16. Category XIV. Toxicological Agents, Including Chemical Agents, Biological<br>Agents, and Associated Equipment ..... | 58 |
| 17. Category XV. Spacecraft Systems and Associated Equipment.....   | 66 |
| 18. Category XVI. Nuclear Weapons Design and Testing Related Items.....   | 69 |
| 19. Category XVII. Classified Articles.....   | 71 |
| 20. Category XVIII. Directed Energy Weapons.....  | 72 |
| 21. Category XIX. Reserved.....   | 75 |
| 22. Category XX. Submersible Vessels, Oceanographic, and Associated Equipment.....                                      | 76 |
| 23. Category XXI. Miscellaneous Articles.....   | 78 |
| 24. CCL Categories.....   | 79 |
| 25. CCL Groups.....   | 79 |
| 26. DEMIL IC Description.....   | 85 |
| 27. Critical FSG/FSC.....   | 88 |
| 28. Key Words.....  | 90 |

## FIGURES

|  |    |
|--|----|
| 1. DEMIL Code Assignment Process.....  | 9  |
| 2. Example of a Category VIII End Item A-10 Attack Aircraft With Components From<br>Other Categories ..... | 13 |
| 3. Example of an ECCN.....   | 80 |
| 4. Reason for Control.....   | 80 |

|  |    |
|--|----|
| 5. Example of an ECCN Heading.....                                   | 81 |
| 6. All Possible Reasons for Control.....                             | 81 |
| 7. Country Chart.....  | 81 |
| 8. Example of Related Controls.....                                  | 82 |
| 9. Example of Related Definitions.....                               | 82 |
| 10. Example of Items Header.....                                     | 83 |
| 11. Example of Items Controlled in ECCN Heading.....                 | 83 |
| 12. “EAR99” Statement.....   | 83 |
| 13. Reasons for Control Dictate Sensitive Versus Non-Sensitive ..... | 84 |

ENCLOSURE 1

REFERENCES

- (a) DoD Directive 5134.01, "Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L))," December 9, 2005
- (b) DoD Directive 5134.12, "Assistant Secretary of Defense for Logistics and Materiel Readiness (ASD(L&MR))," May 25, 2000
- (c) DoD Instruction 4160.28, "DoD Demilitarization Program," April 7, 2011
- (d) DoD 4160.21-M-1, "Defense Demilitarization Manual," October 21, 1991 (cancelled by Volume 1 of this Manual)
- (e) DoD Instruction 2030.08, "Implementation of Trade Security Controls (TSC) for Transfers of DoD U.S. Munitions List (USML) and Commerce Control List (CCL) Personal Property to Parties Outside DoD Control," May 23, 2006
- (f) Parts 120 through 130 of title 22, Code of Federal Regulations
- (g) Federal Standard-313, "Material Safety Data, Transportation Data, and Disposal Data for Hazardous Materials Furnished to Government Activities," March 21, 20001
- (h) Parts 730 through 774 of title 15, Code of Federal Regulations
- (i) Section 1516 of Public Law 105-261, "Strom Thurmond National Defense Authorization Act for Fiscal Year 1999," October 17, 1998
- (j) Deputy Under Secretary of Defense for Logistics and Materiel Readiness Memorandum, "Materiel Disposition Policy Change Concerning F-14 Parts, Demilitarization (DEMIL) Code B Munitions List Items (MLI), and Demilitarization Code Q Commerce Control List Items (CCLI)," November 14, 2009
- (k) DoD 4100.39-M, "Federal Logistics Information System (FLIS) Procedures Manual Glossary and Volumes 1-16," current edition
- (l) DoD Instruction 5160.68, "Single Manager for Conventional Ammunition (SMCA): Responsibilities of the SMCA, the Military Services, and United States Special Operations Command (USSOCOM)," December 29, 2008
- (m) DoD 5200.1-R, "Information Security Program," January 14, 1997
- (n) AR715-13/ DLAR 3200.1/NAVSUPINST4120.30/AFR400-40/MCO4000.18C, "Engineering Support for Items Supplied by Defense Logistics Agency and General Services Administration (GSA)," March 13, 1986
- (o) DoD 4160.21-M, "Defense Materiel Disposition Manual," August 18, 1997
- (p) DoD 6055.09-M, "DoD Ammunition and Explosives Safety Standards," February 29, 2008
- (q) Joint Publication 1-02, "Department of Defense Dictionary of Military and Associated Terms," current edition

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<sup>1</sup> Available at <http://apps.fas.gsa.gov/pub/fedspecs/>

ENCLOSURE 2

RESPONSIBILITIES

1. DIRECTOR, DEFENSE LOGISTICS AGENCY (DLA). The Director, DLA, under the authority, direction, and control of the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)), through the Assistant Secretary of Defense for Logistics and Materiel Readiness (ASD(L&MR)), shall:

- a. Provide guidelines for the identification and DEMIL of DoD personal property to prevent its unauthorized use and the potential compromise of U.S. national security.
- b. Evaluate program deficiencies and advances in technology in coordination with the Defense Technology Security Administration and recommend changes to lists of defense articles requiring DEMIL and other controls.
- c. In accordance with Reference (c), maintain the DoD DEMIL Coding Management Office (DDCMO) within the DLA Logistics Information Service to improve DEMIL code accuracy in accordance with the procedures in Enclosure 4.
- d. Maintain the Controlled Property Verification Office (CPVO) within the DLA Disposition Services under operational control of the DoD DEMIL Program Manager (DDPM) to support the DDCMO in validating DEMIL codes cited on DoD personal property receipt documents.
- e. Establish DEMIL instructions in a readily available location for every DLA-managed item with a National Item Identification Number (NIIN) that requires such instructions.

2. SECRETARIES OF THE MILITARY DEPARTMENTS. The Secretaries of the Military Departments shall:

- a. Assign an accurate DEMIL code to every item of DoD personal property for which each Military Department has management responsibility.
- b. Develop DEMIL instructions and post them in a readily available location for every managed NIIN that requires such instructions.
- c. Support the DoD DEMIL Code Challenge Program and collaborate with the DDCMO on code corrections.

ENCLOSURE 3DEMIL CODING

1. INTRODUCTION. All DoD personal property acquired for military application that is subject to the International Traffic in Arms Regulations (ITAR) or Export Administration Regulations (EAR) is evaluated for DEMIL requirements. A code is assigned to each item to identify the degree of DEMIL required. The DEMIL code for National Stock Number (NSN) items is posted to the Federal Logistics Information System (FLIS). For non-NSN items, the DEMIL code is stored in acquisition program-managed inventory management systems. This enclosure describes procedures that should be used when assigning DEMIL codes.

2. DEMIL CODES. Each Munitions List Item (MLI) and Commerce Control List Item (CCLI) is assigned one of the DEMIL codes listed in Table 1. The DEMIL requirements for each of the nine DEMIL codes are identified in Table 1. Where trade security controls (TSC) are necessary, the TSC shall conform to DoDI 2030.08 (Reference (e)).

Table 1. DEMIL Codes

| Code | DEMIL Requirements  |
|------|---|
| G    | U.S. Munitions List (USML) Items – DEMIL required – ammunition and explosives (AE). This code applies to both unclassified and classified AE items.   |
| P    | USML Items – DEMIL required. Security Classified Items.   |
| F    | USML Items – DEMIL required. Item managers, equipment specialists, or product specialists shall furnish special DEMIL instructions.   |
| C    | USML Items – DEMIL required. Demilitarize installed key point(s) as DEMIL code “D.”   |
| D    | USML Items – DEMIL required. Destroy item and components to prevent restoration or repair to a usable condition.  |
| E    | DoD DEMIL Program Office (DDPO) reserves this code for their exclusive-use only. DEMIL instructions shall be furnished by the DDPO.   |
| B    | USML Items – Mutilation (MUT) to the point of scrap required worldwide. DLA Disposition Services shall store for reutilization and mutilate those items declared by the DoD as having no foreseeable DoD reutilization value.   |
| Q    | CCLI - MUT to the point of scrap required outside the United States. In the United States, MUT requirement is determined by the DEMIL integrity code (IC) (see Enclosure 4 for a description of DEMIL ICs) and MUT is required when the DEMIL IC is “3.” TSC are required in the United States. |
| A    | Non-USML/Non-CCLI – No DEMIL or TSC required. Department of Commerce (DoC) may impose licensing requirements to certain destinations.   |



3. DEMIL CODE ASSIGNMENT PROCESS. The DEMIL code assignment process is illustrated in Figure 1 and described in Table 2. Figure 1 and Table 2 also illustrate the assignment of DEMIL codes to residual material remaining after partial DEMIL has been performed.

Figure 1. DEMIL Code Assignment Process

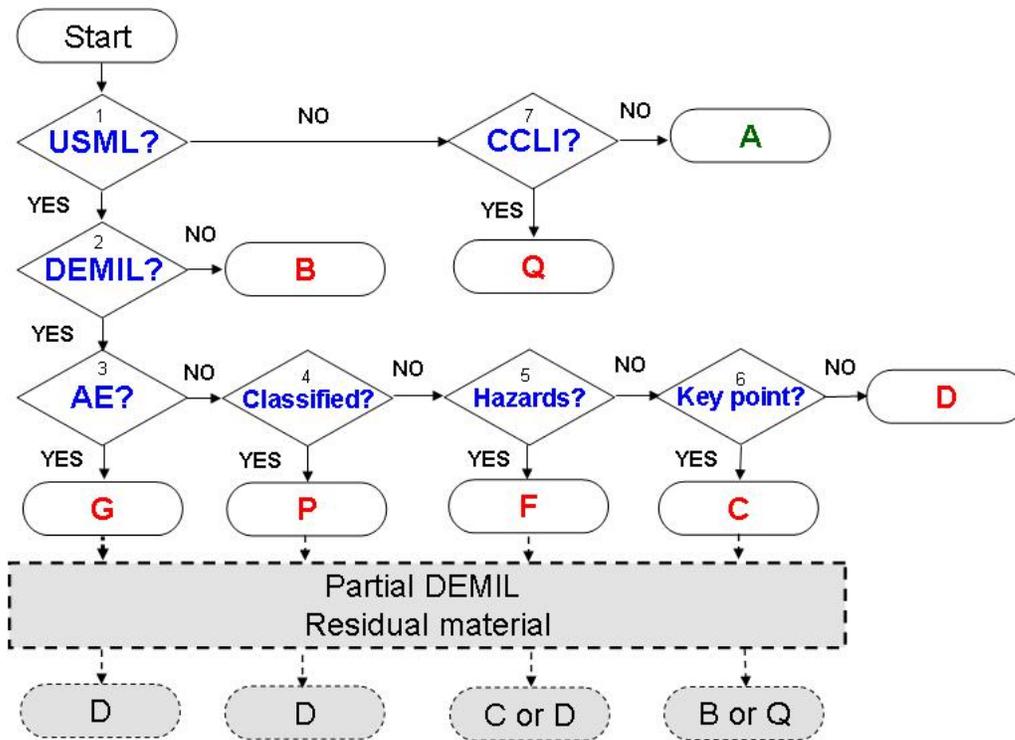


Table 2. Steps for Determining DEMIL Codes

|  |
|--|
| Step 1: Is the item on the USML?   |
| 1a. Review part 121 of title 22, Code of Federal Regulations (Reference (f)) at <a href="http://www.pmdtc.state.gov/regulations_laws/itar.html">http://www.pmdtc.state.gov/regulations_laws/itar.html</a> to determine if the item is controlled by the USML.                    |
| 1b. If the item is on the USML, go to Step 2; if not, go to Step 7.  |
| Step 2: Does the item require DEMIL?   |
| 2a. Review Appendix 1 of this enclosure.   |
| 2b. Determine if the item is identified with a DEMIL code of C, D, E, F, P, or G.<br>Note: These codes are examples and cannot be confirmed until completion of all steps.   |
| 2c. If yes, go to Step 3; if not, assign DEMIL code "B."   |
| Step 3: Is the item either classified or unclassified AE?  |
| 3a. Review the definition for AE in this Manual.   |
| 3b. Based on item technical and logistics information determine if the item falls within the definition of AE.   |
| 3c. If the item is AE assign DEMIL code "G", with residual DEMIL code "D"; if the item is not AE, go to Step 4.  |
| Step 4: Is the item classified?  |
| 4a. Determine the item's security classification from the system's Original Classification Authority (OCA) issued Security Classification Guidelines or other derived technical and logistics information.   |
| 4b. If the item's classification level is CONFIDENTIAL or higher assign DEMIL code "P", with residual DEMIL code "D"; if not, go to Step 5.  |
| Step 5: Are DEMIL hazards present? Are there some special provisions (e.g., environmental hazards, safety, health hazards, required occupational expertise) that exist?  |
| 5a. Assess whether the item contains hazardous constituents that will cause environmental or personnel safety concerns during physical performance of DEMIL. (See Federal Standard-313 (Reference (g)) and item technical and logistics information for hazardous constituents.) |
| 5b. Assess whether the item presents a physical safety hazard which would create a personnel safety risk during physical performance of DEMIL. (See item technical information and procedures for potential safety hazards.)   |
| 5c. If the item contains hazardous constituents and/or presents a physical safety hazard or requires occupational expertise, assign DEMIL code "F", with residual DEMIL code "C" or "D"; if not, go to Step 6.   |
| Step 6: Is Key Point DEMIL appropriate?  |
| 6a. Review the definition of Key Points (for DEMIL) in this Manual.  |
| 6b. Determine if the DEMIL requirement is for a portion which can be removed or a feature which can have a focused physical DEMIL applied in lieu of total destruction.  |
| 6c. If Key Point DEMIL is appropriate assign DEMIL code "C", with residual DEMIL code "B" or "Q"; if not, assign DEMIL code "D."   |
| Step 7: Is the item on the Commerce Control List (CCL)? (See Appendix 2.)  |
| 7a. Review part 774 of title 15, Code of Federal Regulations (Reference (h)) at: <a href="http://www.access.gpo.gov/bis/ear/ear_data.html">http://www.access.gpo.gov/bis/ear/ear_data.html</a>   |
| 7b. Determine if the item is specified on the CCL under a specific Export Control Classification Number (ECCN).  |
| 7c. If a specific ECCN applies, assign DEMIL code "Q"; if not, assign DEMIL code "A."  |

Appendixes

Assigning DEMIL codes to MLI

Assigning DEMIL codes to CCLI

APPENDIX 1 TO ENCLOSURE 3

ASSIGNING DEMIL CODES TO MLI

1. INTRODUCTION. This appendix supports Table 2 of Enclosure 3 and provides recommended DEMIL codes for MLI. Tables 3 through 23 in this appendix correlate to the categories in part 121 of Reference (f). If the item is not listed in this appendix or has been determined not to be MLI, review the CCL and determine if the item has a specific ECCN. Then refer to Appendix 2 of Enclosure 3 for assigning DEMIL codes to CCLI.

2. GENERAL INFORMATION. The following information is relevant to all categories in Tables 3 through 23 in this appendix.

a. Each item in Tables 3 through 23 has a recommended DEMIL code that is normally assigned to it. The codes in Tables 3 through 23 are to be used as a guide only. A coder must evaluate each item using the DEMIL code assignment process in Enclosure 3 of this volume. After the item has been evaluated using the DEMIL code assignment process, a code from this appendix may be assigned to the item.

b. Significant military equipment (SME) specified in Tables 3 through 23 are designated with a black diamond symbol (◆).

c. Interpretations and exclusions for the articles in each category are provided at the end of their respective category table.

d. Technical data for the articles that require DEMIL shall also require destruction.

e. The paragraphs in each category correspond to those in the ITAR. In some cases, additional clarifying examples and paragraphs have been added by the DoD

f. Types of material that must also be evaluated using the DEMIL code assignment process in Enclosure 3 of this Volume to determine where they fit on the USML and their DEMIL requirements include:

(1) Research and development (R&D) material relating to the categories in this appendix. This material is often unique, will not have an NSN assigned, and may not have the extent of documentation available as would be for a production version. Specialized knowledge for development of DEMIL procedures may be required.

(2) Partially complete materials may arise due to discontinuation of a manufacturing process or as an outcome of a repair or parts cannibalization process. Procedures for the complete item should be used and tailored based on the unique configuration variations. These include, but are not limited to, forgings, castings, extrusions, and machined bodies. (See subpart 121.10 of Reference (f) for additional information.)

(3) Special tooling used in the production, manufacture, or repair of any MLI will be demilitarized by total destruction, but only if they are used to produce the final dimension, shape, or configuration of the MLI and the MLI requires DEMIL. Examples of special tooling include templates, molds, dummy part masters, jigs, dies, gauges, and fixtures.

3. MAJOR AND MINOR COMPONENTS. Every category in this appendix makes a distinction between major and minor components. See subpart 121.8 of Reference (f) for additional information.

4. SYSTEMS

a. Major weapon systems as end-items will appear in this appendix under one category (e.g., A-10 Thunderbolt in Category VIII “Aircraft and Associated Equipment”).

b. Equipment and components (e.g., military electronics, fire control, armament) may appear in different categories than the category of the major weapon system it is used in. For example, an aircraft bombsight is found in Category XII, “Fire Control, Range Finder, Optical, and Guidance and Control Equipment,” rather than in Category VIII, “Aircraft and Associated Equipment.” Also, a cannon for a tank is found in Category II, “Guns and Armament.” See Figure 2 for further examples of subsystems being located in other categories.

Figure 2. Example of a Category VIII A-10 Attack Aircraft With Components From Other Categories

|  |  |
|--|--|
|  |  |
| Category VIII  | Aircraft and Associated Equipment<br>Tail Assembly.<br>Pylons.<br>Aircraft Engine (TF34-GE-100 turbofans). |
| Category II  | Guns and Armament 30 mm GAU-8/A)   |
| Category III   | Ammunition.  |
| Category IV  | Bombs and missiles (Mk-82/84, AGM Maverick).   |
| Category XI  | Communications (Electronic countermeasures).   |
| Category XII   | Fire Control, Optical and Guidance Control.  |

Table 3. Category I. Firearms, Close Assault Weapons, and Combat Shotguns

| DEMIL Code | Description  |
|------------|--|
| D          | ◆ (a) Non-automatic and semi-automatic firearms to .50 caliber (12.7 millimeters (mm)), inclusive.   |
| D          | ◆ (b) Fully automatic firearms to .50 caliber (12.7mm), inclusive.   |
| D          | ◆ (c) Firearms or other weapons (e.g., insurgency-counterinsurgency and close assault weapons systems) having a special military application regardless of caliber.  |
| D          | ◆ (d) Combat shotguns. This includes any shotgun with a barrel length less than 18 inches.   |
| D          | ◆ (e) Silencers, mufflers, and sound and flash suppressors for the articles listed in this category and their specifically designed, modified, or adapted components and parts.  |
| D          | (f) Riflescopes manufactured to military specifications. DEMIL codes for night sighting devices are located in paragraph (c) of Category XII (see Table 14).   |
| D          | ◆ (g) Barrels, cylinders, receivers (frames), or complete breech mechanisms for the articles listed in this category.  |
| D          | (h) Major components, parts, accessories, and attachments specifically designed or modified for the articles listed in this category. For example, this includes but is not limited to:<br><ul style="list-style-type: none"> <li data-bbox="256 1402 963 1440">D - Gun mounts including bipods or tripods.</li> <li data-bbox="256 1461 591 1499">D - Magazines.</li> <li data-bbox="256 1520 846 1558">D - Metallic parts and components.</li> </ul>   |
| D          | (i) Technical data and defense services directly related to the defense articles listed in paragraphs (a) through (h) of this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles are included in this category. |



Table 3. Category I. Firearms, Close Assault Weapons, and Combat Shotguns, Continued

| DEMIL Code   | Description  |
|--|--|
|  | This includes information in the form of blueprints, drawings, photographs, plans, instructions or documentation.                                    |
| B  | (j) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in paragraphs (a) through (h) of this category. |
| D  | (k) Non-combat shotguns, pyrotechnic pistols, starter guns, and ground signal projectors.  |
| C  | (l) Military test equipment containing specifically designed military key point components listed in Tables 3 through 23.                            |
| B  | (m) Military test equipment not containing components listed in Tables 3 through 23.   |
| <p>INTERPRETATIONS:</p> <p>These interpretations explain and amplify the terms used in this table:</p> <p>(1) A firearm is a weapon not over .50 caliber (12.7 mm) which is designed to expel a projectile by the action of an explosive or which may be readily converted to do so.</p> <p>(2) A rifle is a shoulder firearm, which can discharge a bullet through a rifled barrel 16 inches or longer.</p> <p>(3) A carbine is a lightweight shoulder firearm with a barrel under 16 inches in length.</p> <p>(4) A pistol is a hand-operated firearm having a chamber integral with or permanently aligned with the bore.</p> <p>(5) A revolver is a hand-operated firearm with a revolving cylinder containing chambers for individual cartridges.</p> <p>(6) A submachine gun, “machine pistol” or “machine gun” is a firearm originally designed to fire, or have the capability of being fired, fully automatically by a single pull of the trigger.</p> <p>EXCLUSIONS:</p> <p>The coverage by the USML in this category excludes the items that are export regulated in Reference (h) by the DoC:</p> <ul style="list-style-type: none"> <li>○ Any non-combat shotgun with a barrel length of 18 inches or longer; however, the DoD has determined that all shotguns shall be demilitarized.</li> <li>○ BB, pellet, paint ball, and muzzle loading (black powder) firearms.</li> <li>○ Riflescopes and sighting devices that are not manufactured to military specifications.</li> </ul> |  |

Table 3. Category I. Firearms, Close Assault Weapons, and Combat Shotguns, Continued

| DEMIL<br>Code | Description  |
|---------------|--|
|               | <ul style="list-style-type: none"><li data-bbox="248 344 1417 449">○ Accessories and attachments (e.g., belts, slings, after market rubber grips, cleaning kits) for firearms that do not enhance the usefulness, effectiveness, or capabilities of the firearm, components, and parts.</li></ul> <p data-bbox="196 478 1417 548">See ECCNs 0A018, 0A918, 0A984, 0A987, 1A984, 1C018, and 2B018 covered by the EAR in accordance with Reference (h) for similar items.</p> |



Table 4. Category II. Guns and Armament

| DEMIL Code | Description   |
|------------|---|
| C          | ♦ (a) Guns over .50 caliber (12.7mm), whether towed, airborne, self-propelled, or fixed, including, but not limited to, howitzers, mortars, cannons, and recoilless rifles.   |
| C          | (b) Flame throwers specifically designed or modified for military applications.   |
| C          | (c) Apparatus and devices for launching or delivering ordnance, other than those articles controlled in Category IV (see Table 6).  |
| D          | <p>♦ (d) Kinetic energy weapon systems specifically designed or modified for destruction or rendering mission-abort of a target. The kinetic energy weapons systems in this category include but are not limited to:</p> <ul style="list-style-type: none"> <li>D - Coilguns.</li> <li>D - Homing seeker, guidance, or divert propulsion (lateral acceleration) systems for projectiles.</li> <li>D - Launch systems and subsystems capable of accelerating masses larger than 0.1 grams to velocities in excess of 1.6 kilometers (km) per second, in single or rapid-fire modes, using methods such as electromagnetic, electrothermal, plasma, light gas, or chemical.</li> <li>D - Mass drivers.</li> <li>D - Prime power generation, electric armor, energy storage, thermal management; conditioning, switching or fuel-handling equipment; and the electrical interfaces between power supply gun and other turret electric drive function.</li> <li>D - Railguns.</li> <li>D - Ram accelerators.</li> <li>D - Target acquisition, tracking fire control, or damage assessment systems.</li> </ul> |



Table 4. Category II. Guns and Armament, Continued

| DEMIL Code | Description  |
|------------|--|
| D          | (e) Signature control materials (e.g., parasitic, structural, coatings, screening), techniques, and equipment specifically designed, developed, configured, adapted, or modified to alter or reduce the signature (e.g., muzzle flash suppression, radar, infrared (IR), visual, laser/electro-optical, acoustic) of defense articles controlled by this category. |
| D          | ♦ (f) Engines specifically designed or modified for the self-propelled guns and howitzers in this category.  |
| D          | (g) Tooling and equipment specifically designed or modified for the production of defense articles controlled by this category.  |
| C          | (h) Test and evaluation equipment and test models specifically designed or modified for the articles controlled by this category. This includes, but is not limited to, diagnostic instrumentation and physical test models.   |
| C          | (i) Autoloading systems for electronic programming of projectile function for the defense articles controlled in this category.  |
| D          | (j) Major components, parts, accessories, and attachments specifically designed or modified for the articles in this category. This includes, but is not limited to:   |
| D          | - Armor plates.  |
| D          | - Breechblocks.  |
| D          | - Breech chambers.   |
| D          | - Breech couplings.  |
| D          | - Breech housings.   |
| D          | - Breechplugs.   |
| D          | - Breechrings.   |
| D          | - Breechyokes.   |
| D          | - Buffer mechanisms.   |
| F          | - Equilibrators (Must be demilitarized prior to turn-in for disposition).  |
| D          | - Feeder mechanisms (including those for auto-cannon).   |

Table 4. Category II. Guns and Armament, Continued

| DEMIL Code | Description  |
|------------|--|
| D          | - Firing mechanisms.   |
| D          | - Flame hiders.  |
| D          | - Flame thrower operating mechanisms.  |
| D          | - Gun carriages.   |
| D          | - Gun mounts.  |
| D          | - Muzzle breaks.   |
| D          | - Receivers.   |
| F          | - Recoil mechanisms (must be demilitarized prior to turn-in for disposition).  |
| F          | - Recuperators (must be demilitarized prior to turn-in for disposition).   |
| D          | - Release mechanisms.  |
| D          | - Trunnion blocks.   |
| D          | - Tubes and gun barrels to include liners and sleeves.   |
| D          | - Turret rings.  |
| D          | (k) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated SME. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation. |
| C          | (l) Commercial engines specifically modified or configured for the vehicles listed in this category.   |
| D          | (m) Armor plate associated with items in this category.  |
| B          | (n) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in this category.   |

Table 4. Category II. Guns and Armament, Continued

| DEMIL Code   | Description   |
|--|---|
| C  | (o) Military test equipment containing specifically designed military key point components listed in the categories of this appendix. |
| B  | (p) Military test equipment not containing components listed in the categories of this appendix.                                      |
| <p>INTERPRETATIONS:</p> <p>The articles in this category include any end item, component, accessory, attachment part, firmware, software or system designed or manufactured using technical data and defense services controlled by this category.</p> <p>The articles specifically designed or modified for military application controlled in this category include any article specifically developed, configured, or adapted for military application (see ECCNs 2B018 and 2B232 covered by the EAR in accordance with Reference (h) for similar items).</p> |   |

Table 5. Category III. Ammunition and Ordnance

| DEMIL Code | Description   |
|------------|---|
| G          | ♦ (a) Ammunition and ordnance for the articles listed in Categories I and II (see Tables 3 and 4).  |
| B          | (b) Ammunition and ordnance handling equipment specifically designed or modified for the articles controlled in this category, such as belting, linking, and de-linking equipment.  |
| D          | (c) Equipment and tooling specifically designed or modified for the production of defense articles controlled in this category.   |
| D          | <p>(d) Major components, parts, accessories, attachments, and associated equipment specifically designed or modified for the articles in this category. This includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>D - Ammunition manufacturing and loading machines.</li> <li>G - Armor piercing ammunition, cores, and components.</li> <li>G - Cartridges.</li> <li>G - Detonating devices for ammunition.</li> <li>C - ♦ Guidance and control components for the articles in this category.</li> <li>G - Incendiary ammunition agents; except those having dual military and commercial use.</li> <li>D - Metallic and composite sabots.</li> <li>G - Primers and components.</li> <li>D - Rotating bands.</li> <li>D - Specialized containers.</li> <li>D - ♦ Non-explosive safing, arming, and fuzing components (including target detection and localization devices) for the articles listed in this category.</li> </ul> |



Table 5. Category III. Ammunition and Ordnance, Continued

| DEMIL Code   | Description   |
|--|---|
| D  | (e) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions or documentation. |
| D  | (f) Projectiles over .50 caliber that have had their energetic material removed.  |
| B  | (g) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in this category.<br><br>- All other components, parts, accessories, attachments, and associated equipment for the articles listed in this category.   |
| C  | (h) Military test equipment containing specifically designed military key point components listed in the categories of this appendix.   |
| B  | (i) Military test equipment not containing components listed in the categories of this appendix.  |
| <p>INTERPRETATIONS:</p> <p>The components, parts, accessories, and attachments for the defense articles controlled in this category include, but are not limited to:</p> <ul style="list-style-type: none"> <li>- Cartridge cases.</li> <li>- Powder bags (or other propellant charges).</li> <li>- Bullets.</li> <li>- Jackets.</li> <li>- Cores.</li> <li>- Shells (excluding shotgun shells).</li> <li>- Projectiles (including canister rounds and submunitions).</li> </ul> |   |

Table 5. Category III. Ammunition and Ordnance, Continued

| DEMIL Code | Description   |
|------------|---|
|            | <ul style="list-style-type: none"> <li>- Boosters.</li> <li>- Firing components.</li> <li>- Primers.</li> <li>- Other detonating devices for the defense articles controlled in this category.</li> </ul> <p>The articles listed in this category include any end-item, component, accessory, attachment, part, firmware, software, or system designed or manufactured using technical data and defense services controlled by this category.</p> <p>The articles specifically designed or modified for military application controlled in this category include any article specifically developed, configured, or adapted for military application.</p> <p><b>EXCLUSIONS:</b></p> <p>This category does not control expended cartridge cases for Category I, paragraphs (a) and (b) items identified in Table 3 of this volume. See Volume 3 of this Manual for special processing of expended cartridge cases.</p> <p>This category does not control cartridge and shell casings that, prior to release from DoD control, have been rendered useless beyond the possibility of restoration for use as a cartridge or shell casing by means of heating, flame treatment, mangling, crushing, cutting, or popping.</p> <p>Equipment and tooling in this category does not include equipment for hand-loading ammunition (see ECCNs 0A018 and 0A986 covered by the EAR in accordance with Reference (h) for similar items).</p> |

Table 6. Category IV. Launch Vehicles, Guided Missiles, Ballistic Missiles, Rockets, Torpedoes, Bombs, and Mines

| DEMIL Code  | Description  |
|---|--|
| <p>G</p> <p>G</p> <p>G</p> <p>D</p>                                     | <p>◆ (a) Rockets (including, but not limited to, meteorological and other sounding rockets), bombs, grenades, torpedoes, depth charges, and land and naval mines, as well as launchers for such articles, and demolition blocks and blasting caps.</p> <ul style="list-style-type: none"> <li>- All hand and rifle grenades and similar items of all types, including, but not limited to, high explosive, practice, incendiary, smoke, tear gas, and other chemical and sectional grenades.</li> <li>- Flares, aircraft, smoke and incendiary.</li> <li>- M79 Grenade Launcher, M203 Grenade Launcher, Mark (Mk) 19 Modification (Mod) 3 Grenade Launcher, M320 Grenade Launcher, Mk 13 Mod 0 Grenade Launcher, etc.</li> </ul> |
| <p>C</p>  | <p>◆ (b) Launch vehicles and missile and anti-missile systems including, but not limited to, guided, tactical, and strategic missiles, launchers, and systems.</p>   |
| <p>D</p> <p>D</p> <p>D</p> <p>D</p> <p>D</p> <p>D</p> <p>G</p> <p>D</p> | <p>(c) Apparatus, devices, and materials for the handling, control, activation, monitoring, detection, protection, discharge, or detonation of the articles listed in this category. This includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>- Bomb ejectors.</li> <li>- Bomb fins, canards, and control surfaces.</li> <li>- Bomb racks and shackles.</li> <li>- Bomb shackle release units.</li> <li>- Fuze arming devices.</li> <li>- Fuzes and components specifically designed, modified, or configured for items listed in this category.</li> <li>- Guidance systems equipment and parts.</li> </ul>   |





Table 6. Category IV. Launch Vehicles, Guided Missiles, Ballistic Missiles, Rockets, Torpedoes, Bombs, and Mines, Continued

| DEMIL Code | Description   |
|------------|---|
| D          | - Guided missile launchers and specialized handling equipment, including transporters, cranes, and lifts designed to handle articles in this category for preparation and launch from fixed and mobile sites.   |
| D          | - Hardened missile launching facilities.  |
| D          | - Ignitors.   |
| D          | - Intervalometers.  |
| D          | - Launching racks and projectors.   |
| G          | - Propellant-actuated devices.  |
| D          | - Pistols (exploders).  |
| D          | - Robots, robot controllers, and robot end-effectors specially designed or modified for military applications.  |
| D          | - Thermal batteries.  |
| D          | - Torpedo and guided missile boosters.  |
| D          | - Torpedo tubes.  |
| D          | ♦ (d) Missile and space launch vehicle power plants.  |
| G          | ♦ (e) Military explosive excavating devices.  |
| D          | ♦ (f) Ablative materials fabricated or semi-fabricated from advanced composites (e.g., silica, graphite, carbon, carbon/carbon, and boron filaments) for the articles listed in this category, that are derived directly from or specifically developed or modified for defense articles. |
| G          | ♦ (g) Non-nuclear warheads for rockets and guided missiles.   |

Table 6. Category IV. Launch Vehicles, Guided Missiles, Ballistic Missiles, Rockets, Torpedoes, Bombs, and Mines, Continued

| DEMIL Code  | Description  |
|---|--|
| D   | (h) Major components, parts, accessories, attachments, and associated equipment specifically designed or modified for the articles listed in this category. This includes, but is not limited to:  |
| D   | - Containers.  |
| D   | - Power supplies.  |
| D   | - Nuclear weapons related materiel.  |
| D   | (i) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions or documentation. |
| B   | (j) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in this category. This includes, but is not limited to, cable assemblies and wiring harnesses.  |
| C   | (k) Military test equipment containing specifically designed military key point components listed in the categories of this appendix.  |
| B   | (l) Military test equipment not containing components listed in the categories of this appendix.   |
| <p>INTERPRETATIONS:</p> <p>For information on the Missile Control Technology Regime, see subpart 121.16 of Reference (f).</p> <p>EXCLUSIONS:</p> <p>Military demolition blocks and blasting caps referred to in paragraph (a) of Category IV do not include the following articles:</p> <ul style="list-style-type: none"> <li>- Electric squibs.</li> <li>- No. 6 and No. 8 blasting caps, including electric ones.</li> </ul> |  |

Table 6. Category IV. Launch Vehicles, Guided Missiles, Ballistic Missiles, Rockets, Torpedoes, Bombs, and Mines, Continued

| DEMIL Code | Description   |
|------------|---|
|            | <ul style="list-style-type: none"><li>- Delay electric blasting caps (including No. 6 and No. 8 millisecond caps).</li><li>- Seismograph electric blasting caps (including SSS, Static-Master, Virbrocap SR, and SEISMO SR).</li><li>- Oil well perforating devices.</li></ul> <p>See ECCNs 1C117, 7A115, 9A007, 9A008, 9A010, 9A101, 9A115, and 9A116 covered by the EAR in accordance with Reference (h) for similar items.</p> |

Table 7. Category V. Explosives and Energetic Materials, Propellants, Incendiary Agents, and Their Constituents

| DEMIL Code | Description  |
|------------|--|
| G          | ♦ (a) Explosives and mixtures (see subpart 121.1 of Reference (f) for a complete list).  |
| G          | ♦ (b) Propellants, including:  |
| G          | – Any United Nations (UN) Class 1.1 solid propellant with a theoretical specific impulse (under standard conditions) of more than 250 seconds for non-metallized, or 270 seconds for metallized compositions.                                    |
| G          | – Any UN Class 1.3 solid propellant with a theoretical specific impulse (under standard conditions) of more than 230 seconds for non-halogenized, or 250 seconds for non-metallized compositions.  |
| G          | – Propellants having a force constant of more than 1,200 kilojoules per kilogram (kg).   |
| G          | – Propellants that can sustain a steady-state burning rate more than 38mm/s under standard conditions (as measured in the form of an inhibited single strand) of 6.89 megapascal (Mpa) (68.9 bar) pressure and 294 Kelvin (K) (21° Celsius (C)). |
| G          | – Elastomer modified cast double based propellants with extensibility at maximum stress greater than 5% at 233K (-40°C).   |
| G          | – Any propellant containing substances listed in Category V (see Table 7).   |
| G          | – Any other propellant not elsewhere identified in this category specifically designed, modified, adapted, or configured (e.g., formulated) for military application.  |
| G          | – Propellant fillers.  |
| G          | (c) Pyrotechnics, fuels, and related substances, and mixtures, including but not limited to explosive bridgewire devices (pyrotechnic squib) (see subpart 121.1 of Reference (f) for a complete list).   |



Table 7. Category V. Explosives and Energetic Materials, Propellants, Incendiary Agents, and Their Constituents, Continued

| DEMIL Code   | Description  |
|--|--|
| G  | (d) Oxidizers (see subpart 121.1 of Reference (f) for a complete list).  |
| G  | ◆ (e) Binders and mixtures (see subpart 121.1 of Reference (f) for a complete list).   |
| G  | (f) Additives (see subpart 121.1 of Reference (f) for a complete list).  |
| G  | (g) Precursors (see subpart 121.1 of Reference (f) for a complete list).   |
| D  | (h) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation. |
| <p><b>INTERPRETATIONS:</b></p> <p>Category V contains explosives, energetic materials, propellants, pyrotechnics, and specially formulated fuels for aircraft, missile and naval applications. Explosives are solid, liquid, or gaseous substances or mixtures of substances, which, in their primary, booster, or main charges in warheads, demolition, or other military applications, are required to detonate.</p> <p>Paragraph (c) of this category does not control boron and boron carbide enriched with boron-10 (20% or more of total boron-10 content).</p> <p>The resulting product of the combination of any controlled or non-controlled substance compounded or mixed with any item controlled by the categories in this appendix is also subject to the controls of this category.</p> <p><b>EXCLUSIONS:</b></p> <p>See ECCNs 1B108, 1C011, 1C018, 1C111, 1C239, and 1C992 covered by the EAR in accordance with Reference (h) for similar items.</p> |  |

Table 8. Category VI. Vessels of War and Special Naval Equipment

| DEMIL Code   | Description   |
|--|---|
| C  | ♦ (a) Warships, amphibious warfare vessels, landing craft, mine warfare vessels, patrol vessels, and any vessels specifically designed or modified for military purposes.   |
| C  | (b) Patrol craft without armor, armament, or mounting surfaces for weapon systems more significant than .50 caliber machine guns or equivalent, and auxiliary vessels.  |
| <p>D</p> <p>D</p> <p>D</p> <p>D</p> <p>D</p> <p>D</p> <p>D</p> <p>D</p> <p>F</p> <p>F</p> <p>F</p> | <p>♦ (c) Turrets and gun mounts, arresting gear, special weapons systems, protective systems, catapults, mine sweeping equipment (including mine countermeasures equipment deployed by aircraft), and other significant naval systems specifically designed or modified for combatant vessels. This includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>- Armament.</li> <li>- Hulls (warships only).</li> <li>- Missile systems.</li> <li>- Naval-unique prime propulsion engines.</li> <li>- “Quiet Operation-Application” Submarine Annular Ball Bearings.</li> <li>- Radomes.</li> <li>- Sonar domes.</li> <li>- Submarine propellers and blades.</li> <li>- Submarine storage batteries (propulsion related).</li> <li>- Submarine Safety (SUBSAFE) Special Material Identification Code X1-X6 items.</li> </ul> |



Table 8. Category VI. Vessels of War and Special Naval Equipment, Continued

| DEMIL Code | Description  |
|------------|--|
| B          | (d) Harbor entrance detection devices (magnetic, pressure, and acoustic) and controls.   |
| C          | ◆ (e) Naval nuclear propulsion plants, their land prototypes, and special facilities for their construction, support, and maintenance. This includes any machinery, device, component, or equipment specifically developed, designed, or modified for use in such plants or facilities.  |
| D          | <p>(f) Major components, parts, accessories, attachments, and associated equipment specifically designed or modified for the articles in this category. This includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>- Momsen lung.</li> <li>- Steinke hood.</li> <li>- Submarine escape immersion equipment.</li> </ul>   |
| D          | (g) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation. |
| B          | <p>(h) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in paragraphs (a) through (g) of this category. This includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>- Level I/SUBSAFE non-nuclear plant valves.</li> <li>- Cable assemblies and wiring harnesses.</li> </ul>  |
| C          | (i) Military test equipment containing specifically designed military items listed in the categories of this appendix.   |
| B          | (j) Military test equipment not containing components listed in the categories of this appendix.   |

Table 8. Category VI. Vessels of War and Special Naval Equipment, Continued

| DEMIL Code   | Description |
|--|-------------|
| <p>INTERPRETATIONS:</p> <p>Vessels of war means vessels, waterborne or submersible, designed, modified, or equipped for military purposes, including vessels described as developmental, “demilitarized,” or decommissioned. For additional information regarding vessels of war in Category VI, see subpart 121.15 of Reference (f).</p> <p>EXCLUSIONS:</p> <p>See ECCNs 0A002, 8A018, and 8A992 covered by the EAR in accordance with Reference (h) for similar items.</p> |             |



Table 9. Category VII. Tanks and Military Vehicles

| DEMIL Code | Description   |
|------------|---|
| C          | ♦ (a) Military type armed or armored vehicles, military railway trains, and vehicles specifically designed or modified to accommodate mountings for arms or other specialized military equipment or fitted with such items.   |
| D          | ♦ (b) Military tanks, combat engineer vehicles, bridge launching vehicles, half-tracks, tank destroyers, and gun carriers.  |
| C          | (c) Military trucks, trailers, hoists, and skids specifically designed, modified, or equipped to mount or carry weapons listed in Categories I, II, and IV of this enclosure or for carrying and handling the articles in paragraph (a) of Categories III and IV of this enclosure. |
| D          | ♦ (d) Military recovery vehicles.   |
| D          | ♦ (e) Amphibious vehicles.  |
| D          | ♦ (f) Engines specifically designed or modified for the vehicles listed in paragraphs (a), (b), and (e) of this category.   |
| D          | (g) Major components, parts, accessories, attachments, and associated equipment specifically designed or modified for the articles listed in this category. This includes, but is not limited to:   |
| C          | - Commercial engines specifically modified or configured for the vehicles listed in this category.  |
| D          | - Military turbochargers and superchargers.   |
| D          | - Military-unique combat vehicle transmissions including final drive assemblies.  |
| D          | - Pneumatic tire casings of a kind designed to be bullet-proof or to run when deflated.   |
| D          | - Slip rings.   |
| E          | - Tank track and track components including, but not limited to, road wheels, idler arms, and sprockets.  |



Table 9. Category VII. Tanks and Military Vehicles, Continued

| DEMIL Code   | Description  |
|--|--|
| D  | - Turret rings.  |
| D  | (h) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation. |
| B  | (i) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in paragraphs (a) through (g) of this category including, but not limited to: <ul style="list-style-type: none"> <li>- Deep water fording kits.</li> <li>- Military bridges.</li> <li>- Rubber track pads.</li> <li>- Spider gear assembly.</li> <li>- Wire harnesses.</li> </ul>   |
| C  | (j) Military test equipment containing specifically designed military items listed in the categories of this enclosure.  |
| B  | (k) Military test equipment not containing components listed in the categories of this enclosure.  |
| <p>INTERPRETATIONS:</p> <p>The following explains and amplifies the terms used in this category and elsewhere in this appendix.</p> <p>(1) An amphibious vehicle, as listed in paragraph (e) of this category, is an automotive vehicle or chassis, which embodies all-wheel drive, is equipped to meet special military requirements, and which has sealed electrical system or adaptation features for deep water fording.</p> <p>(2) The articles listed in this category include any end item, component, accessory, attachment, part, firmware, software, or system designed or manufactured using technical data and defense services controlled by this category.</p> <p>EXCLUSIONS:</p> <p>See ECCN 2B018 and 9A018 covered by the EAR in accordance with Reference (h) for similar items.</p> |  |

Table 10. Category VIII. Aircraft and Associated Equipment

| DEMIL Code | Description  |
|------------|--|
| C          |  <p>♦ (a) Aircraft, including, but not limited to, helicopters, non-expansive balloons, unmanned aerial vehicles (UAVs), and lighter-than-air aircraft, which are specifically designed, modified, or equipped for military purposes. This includes, but is not limited to, military purpose and type designated aircraft that may be used for such military purposes:</p> <ul style="list-style-type: none"> <li>(1) Gunnery:<br/>A – Attack, AH – Attack Helicopter, AC – Attack Transport, AQ – Attack AV – Attack vertical take-off and landing (VTOL)/short take-off and landing (STOL), UAV, F – Fighter, FA – Fighter Attack, OA – Observation Attack, P – Patrol, UH – Utility Helicopter, V – VTOL/STOL</li> <li>(2) Bombing:<br/>A – Attack, B – Bomber, F – Fighter, FA – Fighter Attack, FB – Fighter Bomber</li> <li>(3) Rocket or missile launching:<br/>A – Attack, AH – Attack Helicopter, AV – Attack VTOL/STOL, OA – Observation Attack, F – Fighter, FA – Fighter Attack, UH – Utility Helicopter, V – VTOL/STOL</li> <li>(4) Electronic and other surveillance:<br/>E – Special Electronic Installation, EH – Special Electronic Installation Helicopter, O – Observation, OH – Observation Helicopter, SH – Antisubmarine Helicopter, Q – UAV</li> <li>(5) Reconnaissance:<br/>O – Observation, P – Patrol, R – Reconnaissance, RQ – UAV, SR – Surveillance &amp; Recon, U – Utility</li> <li>(6) Refueling:<br/>KC – Tanker/Transport</li> <li>(7) Aerial mapping:<br/>C – Transport, E – Special Electronic Installation, O – Observation, R – Reconnaissance, U – Utility</li> </ul> |

Table 10. Category VIII. Aircraft and Associated Equipment, Continued

| DEMIL Code | Description   |
|------------|---|
|            | <p>(8) Military liaison:<br/>C – Transport, M – Multi-mission, U – Utility, UH – Utility Helicopter, V – Staff</p> <p>(9) Cargo carrying or dropping:<br/>C – Transport, CH – Transport Helicopter, H – Search and Rescue/Medevac, U – Utility, UH – Utility Helicopter, V – VTOL/STOL</p> <p>The exception is demilitarized cargo aircraft which are DEMIL code Q / IC-6 controlled under CCLI-ECCN 9A991.a.1, bearing “C” designations using reciprocating engines only and numbered; and so long as they have not been specifically equipped, re-equipped, or modified for military operations: C–45 through C–118 inclusive, C–121 through C–125 inclusive, and C–131.</p> <p>(10) Personnel dropping:<br/>C – Transport, CH – Transport Helicopter, U – Utility, UH – Utility Helicopter, V – VTOL/STOL</p> <p>(11) Airborne warning and control:<br/>P – Patrol, U – Utility, V – VTOL/STOL</p> <p>(12) Military training:<br/>T – Trainer, TA – Attack Trainer</p> <p>The exception is Trainer aircraft bearing “T” designations and using reciprocating engines or turboprop engines with less than 600 horsepower (Shaft Horsepower) which are DEMIL code Q / IC-6 controlled under CCLI-ECCN 9A018.a and demilitarized “T” aircraft under CCLI-ECCN 9A991.a.2, so long as they have not been specifically equipped, re-equipped, or modified for military operations.</p> |
| C          | ♦ (b) Military aircraft engines, except reciprocating engines, specifically designed or modified for the aircraft listed in paragraph (a) of this category.   |
| G          | ♦ (c) Cartridge-actuated devices utilized in emergency escape of personnel and airborne equipment (including, but not limited to, airborne refueling equipment) specifically designed or modified for use with the aircraft and engines of the types listed in paragraphs (a) and (b) of this category.   |
| B          | (d) Launching and recovery equipment for the articles listed in paragraph (a) of this category, if the equipment is specifically designed or modified for military use. Fixed land-based arresting gear is not included in this category.   |

Table 10. Category VIII. Aircraft and Associated Equipment, Continued

| DEMIL Code | Description  |
|------------|--|
| D          | ♦ (e) Inertial navigation systems, aided or hybrid inertial navigation systems, inertial measurement units, and attitude and heading reference systems (AHRS) specifically designed, modified, or configured for military use and all specifically designed components, parts, and accessories. For other inertial reference systems and related components, refer to paragraph (d) of Category XII.   |
| C          | (f) Developmental aircraft, engines, and components specifically designed, modified, or equipped for military uses or purposes, or developed principally with U.S. DoD funding, excluding such aircraft, engines, and components subject to the jurisdiction of the DoC.   |
| C          | ♦ (g) Ground effect machines specifically designed or modified for military use, including, but not limited to, surface effect machines and other air cushion vehicles, and all components, parts, accessories, attachments, and associated equipment specifically designed or modified for use with such machines.  |
| D          | <p>(h) Major components, parts, accessories, attachments, and associated equipment (including ground support equipment) specifically designed or modified for the articles listed in paragraphs (a) through (e) of this category, excluding aircraft tires and propellers used with reciprocating engines. This includes, but is not limited to:</p> <ul style="list-style-type: none"> <li data-bbox="256 1066 784 1098">D - Aircraft fuselage/airframe.</li> <li data-bbox="256 1129 1247 1161">D - Aircraft mounted cannon electric drive assemblies and mounts.</li> <li data-bbox="256 1192 553 1224">D - Airfoils.</li> <li data-bbox="256 1255 740 1287">D - Specialized containers.</li> <li data-bbox="256 1318 789 1350">D - Balanced material orifices.</li> <li data-bbox="256 1381 938 1413">G - Cargo/personnel parachute with cutter.</li> <li data-bbox="256 1444 1360 1476">D - Components and parts incorporating radar absorbing material or stealth.</li> <li data-bbox="256 1507 1422 1581">D - Digital engine controls (e.g., full authority digital engine controls and digital electronic engine controls).</li> <li data-bbox="256 1612 740 1644">D - Flight control surfaces.</li> <li data-bbox="256 1675 1422 1812">D - Hot section components specifically designed for the military (i.e., combustion chambers and liners; high pressure turbine blades, vanes, disks and related cooled structure; cooled low pressure turbine blades, vanes, disks and related cooled structure; cooled augmenters; and cooled nozzles).</li> <li data-bbox="256 1843 621 1875">D - Landing gear.</li> </ul> |

Table 10. Category VIII. Aircraft and Associated Equipment, Continued

| DEMIL Code   | Description  |
|--|--|
| D  | - Main rotor assembly.   |
| D  | - Stabilizers or tail assembly (empennage).  |
| D  | - Tail rotor assembly.   |
| D  | - Wings including pylons.  |
| D  | (i) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation. Also see subpart 125.4 of Reference (f) for exemptions for this category. |
| B  | (j) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed. This includes, but is not limited to: <ul style="list-style-type: none"> <li>- Drop tanks.</li> <li>- Ground loading assemblies.</li> <li>- Height indicator for cargo transport aircraft.</li> <li>- Liquid oxygen converters used in aircraft.</li> <li>- Non-specialized containers.</li> <li>- Non-stealth aircraft skin.</li> <li>- Non-supporting brackets.</li> <li>- Cable assemblies and wiring harnesses.</li> </ul>   |
| C  | (k) Military test equipment containing specifically designed military items listed in the categories of this appendix.   |
| B  | (l) Military test equipment not containing components listed in the categories of this appendix.   |
| <p>INTERPRETATIONS:</p> <p>Aircraft means aircraft designed, modified, or equipped for a military purpose, including aircraft described as “demilitarized.” All aircraft bearing an original military designation are included in Category VIII. However, the following military aircraft, demilitarized (not specifically</p> |  |

Table 10. Category VIII. Aircraft and Associated Equipment, Continued

| DEMIL Code | Description   |
|------------|---|
|            | <p>equipped or modified for military operation and not elsewhere specified) and parts and components are controlled under CCLI-ECCN 9A991 as DEMIL code “Q” with an IC of 6:</p> <ul style="list-style-type: none"> <li>(a) Utility aircraft bearing “U” designations and using reciprocating engines only.</li> <li>(b) All liaison aircraft bearing an “L” designation.</li> <li>(c) All observation aircraft bearing “O” designations and using reciprocating engines.</li> <li>(d) Civil aircraft, and parts and components, not elsewhere specified.</li> <li>(e) Pressurized aircraft breathing equipment, not elsewhere specified; and specially designed parts not elsewhere specified.</li> </ul> <p>Developmental aircraft, engines, and components , having no commercial application and which have been specifically designed for military uses or purposes, or developed principally with U.S. DoD funding, shall be considered eligible for a CCL license when actually applied to a commercial aircraft or commercial aircraft engine program. Exporters may seek to establish commercial application on a case-by-case basis through the submission of documentation demonstrating application to a commercial program by requesting an export license application from DoC. For broad categories of aircraft, engines, or components, a commodity jurisdiction from the Department of State (DoS) is required.</p> <p>EXCLUSIONS:</p> <p>Category XII(d) and Category VIII(e) do not include quartz rate sensors if such items:</p> <ul style="list-style-type: none"> <li>(i) Are integrated into and included as an integral part of a commercial primary or commercial standby instrument system for use on civil aircraft prior to export or exported solely for integration into such a commercial primary or standby instrument system, and</li> <li>(ii) When the exporter has been informed in writing by the DoS that a specific quartz rate sensor integrated into a commercial primary or standby instrument system has been determined to be subject to the licensing jurisdiction of the DoC.</li> </ul> <p>For controls in these circumstances, see the CCL. In all other circumstances, quartz rate sensors remain under the licensing jurisdiction of the DoS under Category XII(d) or Category VIII(e) of the USML and subject to the controls of the ITAR.</p> <p>See ECCNs 1A001, 9A011, 9A018, 9A101, 9A991, and 9A992 covered by the EAR in accordance with Reference (h) for similar items.</p> |

Table 11. Category IX. Military Training Equipment and Training

| DEMIL Code | Description   |
|------------|---|
| C          | (a) Training equipment specifically designed, modified, configured, or adapted for military purposes, including, but not limited to, weapons system trainers, radar trainers, gunnery training devices, antisubmarine warfare trainers, target equipment, armament training units, pilotless aircraft trainers, navigation trainers, and human-rated centrifuges.   |
| C          | (b) Simulation devices for the items listed in this appendix.   |
| D          | (c) Tooling and equipment specifically designed or modified for the production of articles controlled in this category.   |
| D          | (d) Major components, parts, accessories, attachments, and associated equipment specifically designed, modified, configured, or adapted for the articles listed in paragraphs (a), (b) and (c) of this category.  |
| D          | (e) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation (see interpretation 3 of “defense services” in subpart 120.9 of Reference (f)). |
| B          | (f) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in this category. This includes but is not limited to cable assemblies and wiring harnesses.   |
| C          | (g) Military test equipment containing specifically designed military items listed in the categories of this appendix.  |





Table 11. Category IX. Military Training Equipment and Training, Continued

| DEMIL Code   | Description  |
|--|--|
| B  | (h) Military test equipment not containing components listed in the categories of this appendix. |
| <p>INTERPRETATIONS:</p> <p>The following interpretations explain and amplify terms used in this category:</p> <p>(1) The weapons systems trainers in paragraph (a) of this category include individual crew stations and system specific trainers.</p> <p>(2) The articles in this category include any end item, component, accessory, part, firmware, software, or system that has been designed or manufactured using technical data and defense services controlled in this category.</p> <p>(3) The defense services and related technical data in the interpretations section of this category include software and associated databases that can be used to simulate trainers, battle management, test scenarios and models, and weapons effects. In any instance when the military training transferred to a foreign person does not use articles controlled in the USML, the training may nevertheless be a defense service that requires authorization in accordance with this appendix (see subparts 120.9 and 124.1 of Reference (f) for additional information on military training).</p> <p>EXCLUSIONS:</p> <p>See ECCN 9A018 covered by the EAR in accordance with Reference (h) for similar items.</p> |  |

Table 12. Category X. Protective Personnel Equipment and Shelters

| DEMIL Code | Description   |
|------------|---|
| D          | (a) Protective personnel equipment specifically designed, developed, configured, adapted, modified, or equipped for military applications. This includes, but is not limited to:  |
| D          | (1) Body armor, also known as flak suits (front, back, groin, and apron) or bulletproof vests.  |
| D          | (2) Clothing to protect against or reduce detection by radar, IR, or other sensors at wavelengths greater than 900 nanometers, and the specially treated or formulated dyes, coatings, and fabrics used in its design, manufacture, and production. |
| E          | - Military combat uniforms with installed or integrated identification friend or foe (IFF) technology (see the interpretations section of this category for more information).  |
| B          | (3) Anti-gravity suits (G-suits).   |
| B          | (4) Pressure suits capable of operating at altitudes above 55,000 feet above sea level.   |
| B          | (5) Atmosphere diving suits designed, developed, modified, configured, or adapted for use in rescue operations involving submarines controlled in this appendix.  |
| D          | (6) Helmets specially designed, developed, modified, configured, or adapted to be compatible with military communication hardware or optical sights or slewing devices.   |
| D          | - Advanced combat helmet.   |
| D          | - Air crewmen's protective headgear.  |

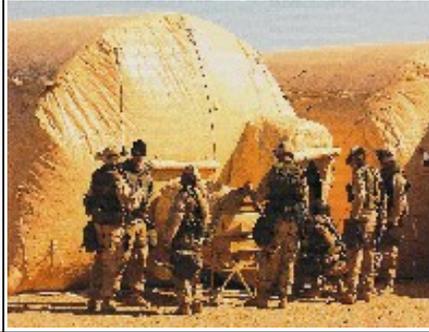


Table 12. Category X. Protective Personnel Equipment and Shelters, Continued

| DEMIL Code | Description   |
|------------|---|
| D          | – Combat vehicle crewmen helmet.  |
| D          | – Light weight helmet.  |
| B          | – Personnel armor system for ground troops kevlar helmet.   |
| D          | (7) Goggles, glasses, or visors designed to protect against lasers or thermal flashes discharged by an article subject to this appendix. Night vision goggles and equipment are covered in Category XII.  |
| D          | (b) Permanent or transportable shelters specifically designed and modified to protect against the effects of these articles covered by this appendix:   |
| D          | (1) Ballistic shock or impact.  |
| F          | (2) Nuclear, biological, or chemical contamination.   |
| C          | (3) Communication shelters.   |
| D          | (c) Tooling and equipment specifically designed or modified for the production of articles controlled in this category.   |
| D          | (d) Major components, parts, accessories, attachments, and associated equipment specifically designed, modified, configured, or adapted for use with the articles listed in paragraphs (a) through (c) of this category.  |
| D          | (e) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation. |
| B          | (f) Minor components, parts, accessories, attachments, and associated equipment not otherwise enumerated above.   |
| C          | (g) Military test equipment containing specifically designed military items listed in the categories of this appendix.  |
| B          | (h) Military test equipment not containing components listed in the categories of this appendix.  |

Table 12. Category X. Protective Personnel Equipment and Shelters, Continued

| DEMIL Code | Description   |
|------------|---|
|            | <p>INTERPRETATIONS:</p> <p>The following interpretations explain and amplify the terms used in this category and throughout this appendix:</p> <p>(1) The body armor covered by this category does not include Type I, Type II, Type IIA, or Type IIIA as defined by the National Institute of Justice Classification;</p> <ul style="list-style-type: none"> <li>- Type I (22 long rifle; 380 automatic Colt pistol): This armor protects against .22 caliber and 380 bullets.</li> <li>- Type II (9 millimeter (mm); 357 Magnum): This armor protects against 9 mm and 357 Magnum bullets.</li> <li>- Type IIA (9 mm; 40 Smith &amp; Wesson (S&amp;W): This armor protects against 9 mm and 40 S&amp;W bullets.</li> <li>- Type IIIA (High Velocity 9 mm; 44 Magnum): This armor protects against 9 mm and 44 Magnum bullets.</li> </ul> <p>More information can be found at: <a href="http://www.ojp.usdj.gov/">http://www.ojp.usdj.gov/</a></p> <p>(2) The articles in this category include any end item, component, accessory, attachment, part, firmware, software, or system that has been designed or manufactured using technical data and defense services controlled in this category;</p> <p>(3) Pressure suits in paragraph (a) (4) of this category include full and partial suits used to simulate normal atmospheric pressure conditions at high altitude.</p> <p>Personal protective equipment applicable to nuclear, biological, &amp; chemical defense can be found in Category XIV (f) (4).</p> <p>These uniforms may contain IFF technology and special patterns:</p> <ul style="list-style-type: none"> <li>- Army combat uniform.</li> <li>- Marine pattern- marine corps combat utility uniform.</li> <li>- Navy working uniform.</li> <li>- Airmen's battle uniform.</li> <li>- Three color woodland battle dress uniform.</li> <li>- Three and six color desert camouflage uniform.</li> </ul> |

Table 12. Category X. Protective Personnel Equipment and Shelters, Continued

| DEMIL<br>Code | Description   |
|---------------|---|
|               | <ul style="list-style-type: none"><li>- Aircrew and combat vehicle crewman uniforms.</li><li>- Army multicam uniforms.</li></ul> <p>EXCLUSIONS:<br/>See ECCNs 0A018, 0A979, 0A988, and 1A005 covered by the EAR in accordance with Reference (h) for similar items.</p> |

Table 13. Category XI. Military Electronics



| DEMIL Code | Description   |
|------------|---|
| D          | (a) Electronic equipment not included in Category XII of this appendix that is specifically designed, modified, or configured for military application. This equipment includes, but is not limited to:               |
| D          | <ul style="list-style-type: none"> <li>◆ (1) Underwater sound equipment to include active and passive detection, identification, tracking, and weapons control equipment.</li> </ul>                                  |
| D          | <ul style="list-style-type: none"> <li>- Sonar domes.</li> </ul>  |
| D          | <ul style="list-style-type: none"> <li>◆ (2) Underwater acoustic active and passive countermeasures and counter-countermeasures.</li> </ul>   |
| C          | <ul style="list-style-type: none"> <li>(3) Radar systems, with capabilities such as:</li> </ul>   |
| C          | <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>◆ (i) Search.</li> </ul> </li> </ul>   |
| C          | <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>◆ (ii) Acquisition.</li> </ul> </li> </ul>   |
| C          | <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>◆ (iii) Tracking.</li> </ul> </li> </ul>   |
| C          | <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>◆ (iv) Moving target indication.</li> </ul> </li> </ul>  |
| C          | <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>◆ (v) Imaging radar systems.</li> </ul> </li> </ul>  |
| C          | <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>(vi) Any ground air traffic control radar, which is specifically designed or modified for military application.</li> </ul> </li> </ul> |
| D          | <ul style="list-style-type: none"> <li>◆ (4) Electronic combat equipment, such as:</li> </ul>   |
| D          | <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>(i) Active and passive countermeasures.</li> </ul> </li> </ul>   |
| D          | <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>(ii) Active and passive counter-countermeasures.</li> </ul> </li> </ul>  |

Table 13. Category XI. Military Electronics, Continued

| DEMIL Code | Description  |
|------------|--|
| D          | (iii) Radios (including transceivers) specifically designed or modified to interfere with other communication devices or transmissions.  |
| C          | ◆ (5) Command, control, and communications systems to include radios (transceivers), navigation, and identification equipment.   |
| D          | - All IFF receivers, transmitters, and associated equipment.   |
| D          | - Emergency radio receiver-transmitter equipment and beacons designed to operate on peculiar military, interagency, or international distress signal frequencies, such as 8364 KCS, 500 KCS, 121.5 MC, 282.8 MC, and 243.0 MC.   |
| D          | (6) Computers specifically designed or developed for military application and any computer specifically modified for use with any defense article listed in any category of the USML.  |
| D          | (7) Any experimental or developmental electronic equipment specifically designed or modified for military application or specifically designed or modified for use with a military system.   |
| D          | ◆ (b) Electronic systems or equipment specifically designed, modified, or configured for intelligence, security, or military purposes for use in search, reconnaissance, collection, monitoring, direction-finding, display, analysis, and production of information from the electromagnetic spectrum and electronic systems or equipment designed or modified to counteract electronic surveillance or monitoring. A system meeting this definition is controlled under this appendix even in instances where any individual pieces of equipment constituting the system may be subject to the controls of another U.S. Government agency. Such systems or equipment include, but are not limited to, those: |
| D          | (1) Designed or modified to use cryptographic techniques to generate the spreading code for spread spectrum or hopping code for frequency agility. This does not include fixed code techniques for spread spectrum.  |
| D          | (2) Designed or modified using burst techniques (e.g., time compression techniques) for intelligence, security, or military purposes.  |

Table 13. Category XI. Military Electronics, Continued

| DEMIL Code | Description  |
|------------|--|
| D          | (3) Designed or modified for the purpose of information security to suppress the compromising emanations of information-bearing signals. This covers TEMPEST suppression technology and equipment meeting or designed to meet Government TEMPEST standards, but is not intended to include equipment designed to meet Federal Communication Commission commercial electro-magnetic interference standards or equipment designed for health and safety. |
| D          | (c) Major components, parts, accessories, attachments, and associated equipment specifically designed or modified for use with the equipment in paragraphs (a) and (b) of this category. This includes, but is not limited to:   |
| D          | - Accelerometers.  |
| D          | - Amplifiers.  |
| D          | - Antenna feedhorns.   |
| D          | - Antennas.  |
| D          | - Circuit card assemblies (CCA).   |
| D          | - Collimators.   |
| D          | - Delay lines.   |
|            | - Electron tubes (vacuum tubes) (See Category XI Interpretation). Types of electron tubes include but are not limited to:  |
| F          | (i) Traveling wave.  |
| F          | (ii) Cathode ray.  |
| F          | (iii) Klystron.  |
| F          | (iv) Magnetron.  |
| D          | - Encoders and decoders.   |
| D          | - Frequency generators.  |



Table 13. Category XI. Military Electronics, Continued

| DEMIL Code | Description  |
|------------|--|
| D          | - Frequency sensitive radio frequency (RF) components.                                       |
| D          | - Identification plates or decals that reveal any military offensive or defensive advantage. |
| D          | - Indicators.  |
| D          | - Intervalometers.   |
| D          | - Logic circuits.  |
| D          | - Memory circuits.   |
| D          | - Microcircuits (also see Category XV (d)).  |
| D          | - Microprocessors.   |
| D          | - Military crystals.   |
| D          | - Modulators, de-modulators, and modulation circuits.  |
| D          | - Noise generators.  |
| D          | - Oscillators.   |
| D          | - Performance data plates.   |
| D          | - Printed circuit boards/cards.  |
| D          | - Processors.  |
| D          | - RF heads, cavities, and components.  |
| D          | - Radomes.   |
| D          | - Solid-state devices.   |
| D          | - Synchronizers.   |
| D          | - Tuning coils.  |
| D          | - Waveguides and all their components.   |

Table 13. Category XI. Military Electronics, Continued

| DEMIL Code  | Description  |
|---|--|
| D   | (d) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation. |
| B   | (e) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in this category. This includes but is not limited to: <ul style="list-style-type: none"> <li>- Power supplies (e.g. Tactical Power Supply PP-6224C/U, Tactical Mobile Electric Power PP-2953D/U).</li> <li>- Cable assemblies and wiring harnesses.</li> </ul>   |
| C   | (f) Military test equipment containing specifically designed military items listed in the categories of this appendix.   |
| B   | (g) Military test equipment not containing components listed in the categories of this appendix.   |
| <p>INTERPRETATIONS:</p> <p>Electron tubes that contain radioactive isotopes such as Cesium-137 (Cs-137), Nickel-63 (Ni-63), Radium-226 (Ra-226), Strontium-90 (Sr-90), or Thorium-232 (Th-232); and/or hazardous materiel such as beryllium oxide, barium oxide, etc. shall be assigned DEMIL code "F." For DEMIL code "Q": CCL-ECCNs 3A001.b.1, 3A228, 3A231, and 3E003.g. may apply.</p> <p>EXCLUSIONS:</p> <p>See ECCNs 3A001, 3A991, 4A001, 4A102, 4A994, 5A001, 5A002, 5A992, and 6A008 covered by the EAR in accordance with Reference (h) for similar items.</p> |  |

Table 14. Category XII. Fire Control, Range Finder, Optical and Guidance and Control Equipment

| DEMIL Code | Description  |
|------------|--|
| D          | <p>◆ (a) Fire control systems; gun and missile tracking and guidance systems; gun range, position, height finders, spotting instruments, and laying equipment; aiming devices (electronic, optic, and acoustic); bomb sights, bombing computers, military television sighting and viewing units, and periscopes for the articles listed in this appendix.</p>  |
| D          | <p>◆ (b) Lasers specifically designed, modified, or configured for military application including those used in military communication devices, target designators and range finders, target detection systems, and directed energy weapons.</p>   |
| C          | <p>◆ (c) IR focal plane array detectors specifically designed, modified, or configured for military use; image intensification and other night sighting equipment or systems specifically designed, modified, or configured for military use; second generation and succeeding generation military image intensification tubes specifically designed, developed, modified, or configured for military use; and IR, visible, and ultraviolet (UV) devices specifically designed, developed, modified, or configured for military application.</p> <ul style="list-style-type: none"> <li>- IFF.</li> <li>- Night vision goggles and equipment.</li> </ul> |
| C          | <p>◆ (d) Inertial platforms and sensors for weapons or weapon systems; guidance, control and stabilization systems except for those systems covered in Category VIII; includes quartz rate sensors.</p>  |
| D          | <p>(e) Major components, parts, accessories, attachments, and associated equipment specifically designed or modified for the articles listed in paragraphs (a) through (d) of this category. This includes but is not limited to:</p>  |



Table 14. Category XII. Fire Control, Range Finder, Optical and Guidance and Control Equipment, Continued

| DEMIL Code | Description  |
|------------|--|
| D          | - Aiming device mounts.  |
| D          | - Astro-compasses.   |
| D          | - CCAs.  |
| D          | - Detectors.   |
| D          | - Gyroscopes.  |
| D          | - Identification plates or decals that reveal any military offensive or defensive advantage.   |
| D          | - Military accelerometers.   |
| D          | - Optical elements.  |
| D          | - Optical filters.   |
| D          | - Performance data plates.   |
| D          | - Star trackers.   |
| D          | (f) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation. |
| B          | (g) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in this category. This includes but is not limited to cable assemblies and wiring harnesses.  |
| C          | (h) Military test equipment containing specifically designed military items listed in the categories of this appendix.   |
| B          | (i) Military test equipment not containing components listed in the categories of this appendix.   |

Table 14. Category XII. Fire Control, Range Finder, Optical  
and Guidance and Control Equipment, Continued

| DEMIL<br>Code | Description   |
|---------------|---|
|               | <p>INTERPRETATIONS:</p> <p>Military second and third generation image intensification tubes and military IR focal plane arrays identified in this category are licensed by the DoC (ECCN 6A002A and 6A003A)) when part of a commercial system (i.e., those systems originally designed for commercial use). This does not include any military system comprised of non-military specification components. Replacement tubes or focal plane arrays identified in this paragraph that are exported for commercial systems are subject to the controls of part 121 of Reference (f).</p> <p>For aircraft, inertial reference systems and related components refer to Category VIII.</p> <p>For the purposes of subparagraph (c), second and third generation image intensification tubes are defined as having a peak response within the 0.4 to 1.05 micron wavelength range and incorporating a microchannel plate for electron image amplification having a hole pitch (center-to-center spacing) of less than 25 microns and having either:</p> <ul style="list-style-type: none"> <li>(a) An S-20, S-25 or multialkali photocathode; or</li> <li>(b) A gallium arsenide, gallium indium arsenide, or other compound semiconductor photocathode.</li> </ul> <p>EXCLUSIONS:</p> <p>See ECCNs 0A918, 6A002, 7A003, 7A115, 7A116, 7A117, and 7A994 covered by the EAR in accordance with Reference (h) for similar items.</p> |

Table 15. Category XIII. Auxiliary Military Equipment

| DEMIL Code | Description   |
|------------|---|
| B          | (a) Cameras and specialized processing equipment, photo interpretation, stereoscopic plotting, and photogrammetry equipment that is specifically designed, developed, modified, adapted, or configured for military purposes, and components specifically designed or modified .  |
| D          | <p>(b) Military information security assurance systems and equipment, cryptographic devices, software, and components specifically designed, developed, modified, adapted, or configured for military applications (including command, control, and intelligence applications). This includes:</p> <p>D (1) Military cryptographic (including key management) systems, equipment assemblies, modules, integrated circuits, components, or software that are capable of maintaining secrecy or confidentiality of information, or information systems, including equipment and software for tracking, telemetry, and control encryption and decryption.</p> <p>D (2) Military cryptographic (including key management) systems, equipment, assemblies, modules, integrated circuits, and components or software that are capable of generating spreading or hopping codes for spread spectrum systems or equipment.</p> <p>D (3) Military cryptanalytic systems, equipment, assemblies, modules, integrated circuits, components, or software.</p> <p>D (4) Military systems, equipment, assemblies, modules, integrated circuits, components, or software providing certified or certifiable multi-level security or user isolation exceeding Evaluation Assurance Level 5 of the Security Assurance Evaluation Criteria and software to certify such systems, equipment, or software.</p> <p>D (5) Ancillary equipment specifically designed, developed, modified, adapted, or configured for the articles listed in paragraphs (b) (1), (2), (3), and (4) of this category.</p> |



Table 15. Category XIII. Auxiliary Military Equipment, Continued

| DEMIL Code            | Description  |
|-----------------------|--|
| B<br>B<br>B<br>B      | (c) Self-contained diving and underwater breathing apparatus such as:<br>(1) Closed and semi-closed (rebreathing) apparatus.<br>(2) Specially designed components and parts for use in the conversion of open-circuit apparatus to military use.<br>(3) Articles exclusively designed for military use with self-contained diving and underwater swimming apparatus.   |
| B                     | (d) Carbon/carbon billets and preforms not elsewhere controlled in this appendix (e.g., Category IV) which are reinforced with continuous unidirectional tows, tapes, or woven cloths in three or more dimensional planes (e.g., 3D, 4D) specifically designed, developed, modified, configured, or adapted for defense articles.  |
| D<br>B<br>G           | (e) Armor (e.g., organic, ceramic, metallic, slat, composite), components, parts, and accessories excluding hardware such as nuts, bolts, washers, and screws not elsewhere controlled in this appendix which have been specifically designed, developed, modified, configured, or adapted for a military application.<br>- Armored brackets.<br>- Reactive armor.   |
| D<br>D                | (f) Structural materials, including carbon/carbon and metal matrix composites, plate, forgings, castings, welding consumables, and rolled and extruded shapes that have been specifically designed, developed, configured, modified, or adapted for defense articles.<br>- Any item or material incorporating stealth technology not elsewhere specified in this appendix.   |
| B<br>F<br>G<br>B<br>D | (g) Concealment and deception equipment specifically designed, developed, modified, configured, or adapted for military application, including, but not limited to, special paints, decoys, smoke, or obscuration equipment and simulators and components, parts, and accessories specifically designed, developed, modified, configured, or adapted .<br>- Non-explosive chaff.<br>- Explosive chaff.<br>- Non-specialized netting.<br>- Specialized camouflage, concealment, and deception netting incorporating materials designed to mask thermal IR, UV, microwave radar and multi-millimeter wave band signatures. |

Table 15. Category XIII. Auxiliary Military Equipment, Continued

| DEMIL Code | Description   |
|------------|---|
| B          | (h) Energy conversion devices for producing electrical energy from nuclear, thermal, or solar energy, or from chemical reactions that are specifically designed, developed, modified, configured, or adapted for military application.  |
| B          | (i) Metal embrittling agents.   |
| D          | ♦ (j) Hardware and equipment that has been specifically designed or modified for military applications and that is associated with the measurement or modification of system signatures for detection of defense articles. This includes, but is not limited to, signature measurement equipment, reduction techniques and codes, signature materials and treatments, and signature control design methodology.   |
| D          | (k) Tooling and equipment specifically designed or modified for the production of articles controlled in this category.   |
| D          | (l) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME (see also subpart 123.20 of Reference (f)). Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation. |
| B          | (m) Chemiluminescent compounds and solid-state devices specifically designed or modified for military application.  |
| D          | (n) Major components, parts, accessories, attachments, and associated equipment specifically designed, modified, configured, or adapted for the articles listed in this category.   |
| B          | (o) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in this category. This includes, but is not limited to, cable assemblies and wiring harnesses.   |
| C          | (p) Military test equipment containing specifically designed military items listed in the categories of this appendix.  |
| B          | (q) Military test equipment not containing components listed in the categories of this appendix.  |



Table 15. Category XIII. Auxiliary Military Equipment, Continued

| DEMIL Code | Description  |
|------------|--|
|            | <p>INTERPRETATIONS:</p> <p>The following interpretations explain and amplify terms used in this category and elsewhere in this appendix:</p> <p>(1) Paragraph (d) of this category does not control carbon/carbon billets and preforms where reinforcement in the third dimension is limited to interlocking of adjacent layers only, and carbon/carbon 3D, 4D, etc., end items that have not been specifically designed or modified for military applications (e.g., brakes for commercial aircraft or high speed trains);</p> <p>(2) Metal embrittlement agents in paragraph (i) of this category are non-lethal weapon substances that alter the crystal structure of metals within a short time span that severely weaken metals by chemically changing their molecular structure. These agents are compounded in various substances to include adhesives, liquids, aerosols, foams, and lubricants.</p> <p>EXCLUSIONS:</p> <p>See ECCNs 1C101, 1C107, 1C202, 2B018, 5A002, 5A992, 8A018, and 9A110 covered by the EAR in accordance with Reference (h) for similar items.</p> |

Table 16. Category XIV. Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment

| DEMIL Code | Description   |
|------------|---|
| G          |     |
| G          | <p>◆ (a) Chemical agents, including:</p>  |
| G          | <p>(1) Nerve agents:</p>  |
|            | <p>(i) O-Alkyl (equal to or less than C<sub>10</sub>, including cycloalkyl) alkyl (Methyl, Ethyl, n-Propyl, or Isopropyl) phosphonofluoridates, such as Sarin (GB): O-Isopropyl methyl-phosphonofluoridate (Chemical Abstracts Service (CAS) 107-44-8) (Chemical Weapons Convention (CWC) Schedule 1A), and Soman (GD): O-Pinacolyl methylphosphonofluoridate (CAS 96-64-0) (CWC Schedule 1A).</p> <p>(ii) O-Alkyl (equal to or less than C<sub>10</sub>, including cycloalkyl) N, N-dialkyl (Methyl, Ethyl, n-Propyl or Isopropyl) phosphoramidocyanidates, such as Tabun (GA): O-Ethyl N, N-dimethyl-phosphoramidocyanidate (CAS 77-81-6) (CWC Schedule 1A).</p> <p>(iii) O-Alkyl (H or equal to or less than C<sub>10</sub>, including cycloalkyl) S-2-dialkyl (Methyl, Ethyl, n-Propyl, or Isopropyl) aminoethyl alkyl (Methyl, Ethyl, n-Propyl or Isopropyl) phosphonothiolates and corresponding alkylated and protonated salts, such as VX: O-Ethyl S-2-diisopropylaminoethyl methyl phosphonothiolate (CAS 50782-69-9) (CWC Schedule 1A).</p> |
| G          | <p>(2) Amiton: O, O-Diethyl S-[2(diethylamino)ethyl] phosphorothiolate and corresponding alkylated or protonated salts (CAS 78-53-5) (CWC Schedule 2A).</p>   |
| G          | <p>(3) Vesicant agents:</p>   |

Table 16. Category XIV. Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment, Continued

| DEMIL Code | Description   |
|------------|---|
| G          | <p>(i) Sulfur mustards, such as 2-Chloroethylchloromethylsulfide (CAS 2625-76-5) (CWC Schedule 1A); Bis(2-chloroethyl)sulfide (CAS 505-60-2) (CWC Schedule 1A); Bis(2-chloroethylthio)methane (CAS 63839-13-6) (CWC Schedule 1A); 1,2-bis (2-chloroethylthio)ethane (CAS 3563-36-8) (CWC Schedule 1A); 1,3-bis (2-chloroethylthio)-n-propane (CAS 63905-10-2) (CWC Schedule 1A); 1,4-bis (2-chloroethylthio)-n-butane (CWC Schedule 1A); 1,5-bis (2-chloroethylthio)-n-pentane (CWC Schedule 1A); Bis (2-chloroethylthiomethyl)ether (CWC Schedule 1A); Bis (2-chloroethylthioethyl)ether (CAS 63918-89-8) (CWC Schedule 1A).</p> <p>(ii) Lewisites, such as 2-chlorovinylchloroarsine (CAS 541-25-3) (CWC Schedule 1A); Tris (2-chlorovinyl) arsine (CAS 40334-70-1) (CWC Schedule 1A); Bis (2-chlorovinyl) chloroarsine (CAS 40334-69-8) (CWC Schedule 1A).</p> <p>(iii) Nitrogen mustards, such as HN1: bis (2-chloroethyl) ethylamine (CAS 538-07-8) (CWC Schedule 1A); HN2: bis (2-chloroethyl) methylamine (CAS 51-75-2) (CWC Schedule 1A); HN3: tris (2-chloroethyl) amine (CAS 555-77-1) (CWC Schedule 1A).</p> <p>(iv) Ethyldichloroarsine.</p> <p>(v) Methyldichloroarsine.</p> <p>(4) Incapacitating agents, such as:</p> <p>(i) 3-Quinuclidinyl benzilate (CAS 6581-06-2) (CWC Schedule 2A).</p> <p>(ii) Diphenylchloroarsine (CAS 712-48-1).</p> <p>(iii) Diphenylcyanoarsine.</p> |
| G          | <p>♦ (b) Biological agents and biologically derived substances specifically developed, configured, adapted, or modified for the purpose of increasing their capability to produce casualties in humans or livestock, degrade equipment, or damage crops.</p>  |
| G          | <p>♦ (c) Chemical agent binary precursors and key precursors, as follows:</p> <p>(1) Alkyl (Methyl, Ethyl, n-Propyl or Isopropyl) phosphonyl difluorides, such as DF: Methyl Phosphonyldifluoride (CAS 676-99-3) (CWC Schedule 1B); Methylphosphinyldifluoride.</p>   |

Table 16. Category XIV. Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment, Continued

| DEMIL Code | Description  |
|------------|--|
|            | <p>(2) O-Alkyl (H or equal to or less than C<sub>10</sub>, including cycloalkyl) O-2-dialkyl (methyl, ethyl, n-Propyl, or isopropyl) aminoethyl alkyl (methyl, ethyl, N-propyl, or isopropyl) phosphonite and corresponding alkylated and protonated salts, such as QL: O-Ethyl-2-di-isopropylaminoethyl methylphosphonite (CAS 57856-11-8) (CWC Schedule 1B).</p> <p>(3) Chlorosarin: O-Isopropyl methylphosphonochloridate (CAS 1445-76-7) (CWC Schedule 1B).</p> <p>(4) Chlorosoman: O-Pinakolyl methylphosphonochloridate (CAS 7040-57-5) (CWC Schedule 1B).</p> <p>(5) DC: Methylphosphonyl dichloride (CAS 676-97-1) (CWC Schedule 2B); Methylphosphinyldichloride.</p>                                |
| G          | <p>(d) Tear gases and riot control agents including:</p> <p>(1) Adamsite (Diphenylamine chloroarsine) (CAS 578-94-9).</p> <p>(2) CA (Bromobenzyl cyanide) (CAS 5798-79-8).</p> <p>(3) CN (Phenylacetyl chloride or w-Chloroacetophenone) (CAS 532-27-4).</p> <p>(4) CR (Dibenz-(b,f)-1,4-oxazephine) (CAS 257-07-8).</p> <p>(5) CS (o-Chlorobenzylidenemalononitrile or o-Chlorobenzalmalononitrile) (CAS 2698-41-1).</p> <p>(6) Dibromodimethyl ether (CAS 4497-29-4).</p> <p>(7) Dichlorodimethyl ether (CAS 542-88-1).</p> <p>(8) Ethyldibromoarsine (CAS 683-43-2).</p> <p>(9) Bromo acetone.</p> <p>(10) Bromo methylethylketone.</p> <p>(11) Iodo acetone.</p> <p>(12) Phenylcarbylamine chloride.</p> |

Table 16. Category XIV. Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment, Continued

| DEMIL Code | Description   |
|------------|---|
|            | (13) Ethyl iodoacetate.   |
| G          | <p>(e) Defoliants such as:</p> <p>(1) Agent Orange (2, 4, 5-Trichlorophenoxyacetic acid mixed with 2, 4-dichlorophenoxyacetic acid).</p> <p>(2) Butyl 2-chloro-4-fluorophenoxyacetate.</p>  |
| C          | <p>◆ (f) Equipment and its components, parts, accessories, and attachments specifically designed or modified for military operations and compatibility with military equipment:</p> <p>C (1) The dissemination, dispersion, or testing of the chemical agents, biological agents, tear gases and riot control agents, and defoliants listed in paragraphs (a), (b), (d), and (e), respectively, of this category.</p> <p>C (2) The detection, identification, warning, or monitoring of the chemical agents and biological agents listed in paragraphs (a) and (b) of this category.</p> <p>D - M8 or M9 Chemical Defense Paper.</p> <p>C (3) Sample collection and processing of the chemical agents and biological agents listed in paragraphs (a) and (b) of this category.</p> <p>F (4) Individual protection against the chemical and biological agents listed in paragraphs (a) and (b) of this category.</p> <p>F - Canister and filter elements.</p> <p>F - Chemical defense equipment.</p> <p>F - Chemical, biological, radiological, and nuclear uniforms such as joint service lightweight integrated suit technology.</p> <p>F - Mask face piece.</p> <p>F - Toxicological, biological, and radiological masks and filters.</p> |

Table 16. Category XIV. Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment, Continued

| DEMIL Code | Description   |
|------------|---|
| C          | (5) Collective protection against the chemical agents and biological agents listed in paragraphs (a) and (b) of this category.  |
| C          | (6) Decontamination or remediation of the chemical agents and biological agents listed in paragraphs (a) and (b) of this category.  |
| B          | (g) Antibodies, polynucleoides, biopolymers, or biocatalysts specifically designed or modified for use with articles controlled in paragraph (f) of this category.  |
| B          | (h) Medical countermeasures, including pre- and post-treatments, vaccines, antidotes, and medical diagnostics, specifically designed or modified for use with the chemical agents listed in paragraph (a) of this category and vaccines with the sole purpose of protecting against biological agents identified in paragraph (b) of this category. Examples include barrier creams specifically designed to be applied to skin and personal equipment to protect against vesicant agents controlled in paragraph (a) of this category; and atropine auto injectors specifically designed to counter nerve agent poisoning. |
| B          | (i) Modeling or simulation tools specifically designed or modified for chemical or biological weapons design, development, or employment. The concept of modeling and simulation includes software covered by paragraph (m) of this category specifically designed to reveal susceptibility or vulnerability to biological agents or materials listed in paragraph (b) of this category.  |
| B          | (j) Test facilities specifically designed or modified for the certification and qualification of articles controlled in paragraph (f) of this category.   |
| B          | (k) Equipment, components, parts, accessories, and attachments, exclusive of incinerators (including those which have specially designed waste supply systems and special handling facilities), specifically designed or modified for destruction of the chemical agents in paragraph (a) or the biological agents in paragraph (b) of this category. This destruction equipment includes facilities specifically designed or modified for destruction operations.  |
| D          | (l) Tooling and equipment specifically designed or modified for the production of articles controlled in paragraph (f) of this category.  |

Table 16. Category XIV. Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment, Continued

| DEMIL Code   | Description  |
|--|--|
| D  | (m) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME (see subpart 125.4 of Reference (f) for exemptions). Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation. |
| D  | (n) Major components, parts, accessories, attachments, and associated equipment specifically designed, modified, configured, or adapted for the articles listed in this category.  |
| B  | (o) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in this category. This includes, but is not limited to, chemical agent resistant coating (CARC) (On shelf). If CARC is on an item, it takes on the code of that item to which it is applied.  |
| C  | (p) Military test equipment containing specifically designed military items listed in the categories of this appendix.   |
| B  | (q) Military test equipment not containing components listed in the categories of this appendix.   |
| <p>INTERPRETATIONS:</p> <p>The following interpretations explain and amplify the terms used in this category and elsewhere in this appendix.</p> <p>(1) A chemical agent, as described in paragraph (a) of this category, is a substance having military application, which by its ordinary and direct chemical action, produces a powerful physiological effect.</p> <p>(2) The biological agents or biologically derived substances in paragraph (b) of this category are those agents and substances capable of producing casualties in humans or livestock, degrading equipment, or damaging crops and which have been modified for the specific purpose of increasing such effects. Examples of such modifications include increasing resistance to UV radiation or improving dissemination characteristics. This does not include modifications made only for civil applications (e.g., medical or environmental use).</p> |  |

Table 16. Category XIV. Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment, Continued

| DEMIL Code | Description   |
|------------|---|
|            | <p>(3) The destruction equipment controlled in this category related to biological agents in paragraph (b) is that equipment specifically designed to destroy only the agents identified in paragraph (b) of this category.</p> <p>(4) Pertaining to items in paragraph (f)(4):</p> <p>(i) The individual protection against the chemical and biological agents controlled in this category includes military protective clothing and masks, but not those items designed for domestic preparedness (e.g., civil defense). Domestic preparedness devices for individual protection that integrate components and parts identified in this subparagraph are licensed by the DoC when such components are:</p> <p>(A) Integral to the device.</p> <p>(B) Inseparable from the device.</p> <p>(C) Incapable of replacement without compromising the effectiveness of the device.</p> <p>(ii) Components and parts identified in this subparagraph exported for integration into domestic preparedness devices for individual protection are subject to the controls of the ITAR.</p> <p>(5) Technical data and defense services in paragraph (l) include libraries, databases, and algorithms specifically designed or modified for use with articles controlled in paragraph (f) of this category.</p> <p>(6) The tooling and equipment covered by paragraph (l) of this category includes molds used to produce protective masks, over-boots, and gloves controlled in paragraph (f) and leak detection equipment specifically designed to test filters controlled in paragraph (f) of this category.</p> <p>(7) The resulting product of the combination of any controlled or non-controlled substance compounded or mixed with any item controlled in this appendix is also subject to the controls of this category.</p> <p><b>EXCLUSIONS:</b></p> <p>This category does not control formulations containing 1% or less CN or CS or individually packaged tear gases or riot control agents for personal self-defense purposes.</p> <p>Paragraphs (a) and (d) of Category XIV do not include:</p> |



Table 16. Category XIV. Toxicological Agents, Including Chemical Agents, Biological Agents, and Associated Equipment, Continued

| DEMIL Code | Description  |
|------------|--|
|            | <p>(1) Cyanogen chloride.</p> <p>(2) Hydrocyanic acid.</p> <p>(3) Chlorine.</p> <p>(4) Carbonyl chloride (Phosgene).</p> <p>(5) Ethyl bromoacetate.</p> <p>(6) Xylyl bromide.</p> <p>(7) Benzyl bromide.</p> <p>(8) Benzyl iodide.</p> <p>(9) Chloro acetone.</p> <p>(10) Chloropicrin (trichloronitromethane).</p> <p>(11) Fluorine.</p> <p>(12) Liquid pepper.</p> <p>See ECCNs 1A004, 1A005, and 1A984 covered by the EAR in accordance with Reference (h) for similar items.</p> |

Table 17. Category XV. Spacecraft Systems and Associated Equipment



| DEMIL Code | Description  |
|------------|--|
| D          | ♦ (a) Spacecraft, including communications satellites, remote sensing satellites, scientific satellites, research satellites, navigation satellites, experimental satellites, and multi-mission satellites.  |
| C          | (b) Ground control stations for telemetry, tracking, and control of spacecraft or satellites, or employing any of the cryptographic items controlled under Category XIII of this appendix.   |
| D          | <p>(c) Global positioning system (GPS) receiving equipment specifically designed, modified, or configured for military use; or GPS receiving equipment with any of these characteristics:</p> <p>D (1) Designed for encryption or decryption (e.g., Y-Code) of GPS precise positioning service signals.</p> <p>D (2) Designed for producing navigation results above 60,000 feet altitude and at 1,000 knots velocity or greater.</p> <p>D (3) Specifically designed or modified for use with a null steering antenna or including a null steering antenna designed to reduce or avoid jamming signals.</p> <p>D (4) Designed or modified for use with unmanned air vehicle systems capable of delivering at least a 500 kg payload to a range of at least 300 km.</p> <p>GPS receivers designed or modified for use with military unmanned air vehicle systems with less capability are considered to be specifically designed, modified, or configured for military use and covered under paragraph (c)(4) of this category.</p> |
| D          | <p>(d) Radiation-hardened microelectronic circuits that meet or exceed all five characteristics:</p> <p>(1) A total dose of <math>5 \times 10^5</math> Rads (silicon (Si)) or <math>5 \times 10^5</math> centigrays (cGy)</p>  |

Table 17. Category XV. Spacecraft Systems and Associated Equipment, Continued

| DEMIL Code | Description  |
|------------|--|
|            | <p>(2) A dose rate upset threshold of <math>5 \times 10^8</math> Rads (Si)/sec or <math>5 \times 10^8</math> cGy.</p> <p>(3) A neutron dose of <math>1 \times 10^{14}</math> n/cm<sup>2</sup> (1 MeV equivalent).</p> <p>(4) A single event upset rate of <math>1 \times 10^{-10}</math> errors/bit-day or less, for the CREME96 geosynchronous orbit, Solar Minimum Environment.</p> <p>(5) Single event latch-up free and having a dose rate latch-up threshold of <math>5 \times 10^8</math> Rads (Si) or <math>5 \times 10^8</math> cGy.</p>   |
| D          | <p>(e) All specifically designed or modified systems or subsystems, major components, parts, accessories, attachments, and associated equipment for the articles listed in this category, including the articles identified in section 1516 of Public Law 105–261 (Reference (i)): satellite fuel, ground support equipment, test equipment, payload adapter or interface hardware, replacement parts, and non-embedded solid propellant orbit transfer engines (see also Categories IV and V in this appendix for additional information).</p>  |
| D          | <p>(f) Technical data and defense services directly related to the articles listed in paragraphs (a) through (e) of this category, as well as detailed design, development, manufacturing, or production data for all spacecraft and specifically designed or modified components for all spacecraft systems. This paragraph includes all technical data, without exception, for all launch support activities (e.g., technical data provided to the launch provider on form, fit, function, mass, electrical, mechanical, dynamic, environmental, telemetry, safety, facility, launch pad access, and launch parameters, as well as interfaces for mating and parameters for launch). See subpart 124.1 of Reference (f) for the requirements for technical assistance agreements before defense services may be furnished even when all the information relied upon by the U.S. person in performing the defense service is in the public domain or is otherwise exempt from the licensing requirements of this subchapter. Technical data directly related to the manufacture or production of any article enumerated elsewhere in this category that is designated as SME shall itself be designated as SME. Further, technical data directly related to the manufacture or production of all spacecraft, notwithstanding the nature of the intended end use (e.g., even where the hardware is not SME), is designated as SME.</p> |
| B          | <p>(g) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in this category. This includes, but is not limited to, cable assemblies and wiring harnesses.</p>   |

Table 17. Category XV. Spacecraft Systems and Associated Equipment, Continued

| DEMIL Code  | Description  |
|---|--|
| C   | (h) Military test equipment containing specifically designed military items listed in the categories of this appendix. |
| B   | (i) Military test equipment not containing components listed in the categories of this appendix.                       |
| <p>INTERPRETATIONS:</p> <p>None</p> <p>EXCLUSIONS:</p> <p>The coverage by the USML does not include the following items unless specifically designed or modified for military application (see subpart 120.3 of Reference (f); for controls on these items, see Reference (h)):</p> <ol style="list-style-type: none"> <li>(1) Space qualified traveling wave tubes (also known as helix tubes or traveling wave tubes (TWTs)), microwave solid-state amplifiers, microwave assemblies, and traveling wave tube amplifiers operating at frequencies equal to or less than 31GHz.</li> <li>(2) Space qualified photovoltaic arrays having silicon cells or having single, dual, or triple junction solar cells that have gallium arsenide as one of the junctions.</li> <li>(3) Space qualified tape recorders.</li> <li>(4) Atomic frequency standards that are not space qualified.</li> <li>(5) Space qualified data recorders.</li> <li>(6) Space qualified telecommunications systems, equipment, and components not designed or modified for satellite uses.</li> <li>(7) Technology required for the development or production of telecommunications equipment specifically designed for non-satellite uses.</li> <li>(8) Space qualified focal plane arrays having more than 2,048 elements per array and having a peak response in the wavelength range exceeding 300nm but not exceeding 900nm.</li> <li>(9) Space qualified laser radar or light detection and ranging equipment.</li> </ol> <p>See ECCNs 0A002, 3A001, 5A001, 6A004, 7A005, and 9A004 covered by the EAR in accordance with Reference (h) for similar items.</p> |  |

Table 18. Category XVI. Nuclear Weapons, Design and Testing Related Items

| DEMIL Code | Description  |
|------------|--|
| D          | ♦ (a) Any article, material, equipment, or device which is specifically designed or modified for use in the design, development, or fabrication of nuclear weapons or nuclear explosive devices (see subpart 123.20 of Reference (f) and subparts 742.3 and 744.2 of Reference (h) for additional information).  |
| D          | ♦ (b) Any article, material, equipment, or device which is specifically designed or modified for use in the devising, carrying out, or evaluating of nuclear weapons tests or any other nuclear explosions (including for modeling or simulating the employment of nuclear weapons or the integrated operational use of nuclear weapons), except such items as are in normal commercial use for other purposes.  |
| F          | - Cold cathode tubes such as Krytrons and Sprytrons.   |
| D          | ♦ (c) Nuclear radiation detection and measurement devices specifically designed or modified for military applications.   |
| D          | (d) All specifically designed or modified major components, parts, accessories, attachments, and associated equipment for the articles listed in this category.  |
| D          | (e) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME (see subpart 125.4 of Reference (f) for exemptions). Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation. |

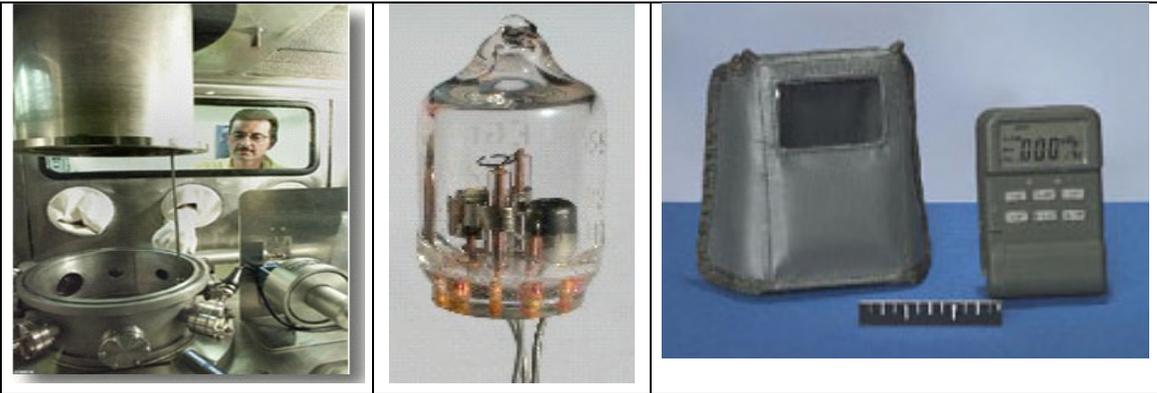


Table 18. Category XVI. Nuclear Weapons, Design and Testing Related Items, Continued

| DEMIL Code  | Description   |
|---|---|
| B   | (f) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in this category. This includes, but is not limited to, cable assemblies and wiring harnesses. |
| C   | (g) Military test equipment containing specifically designed military items listed in the categories of this appendix.  |
| B   | (h) Military test equipment not containing components listed in the categories of this appendix.  |
| <p>INTERPRETATIONS:</p> <p>None.</p> <p>EXCLUSIONS:</p> <p>See ECCNs 0A002, 0B001, 1A004, 1A290, 1A999, 1C202, and 1C230 covered by the EAR in accordance with Reference (h) for similar items.</p> |   |

Table 19. Category XVII. Classified Articles, Technical Data and Defense Services Not Otherwise Enumerated

|    |   |
|--|---|
| DEMIL Code   | Description   |
| P  | <p>◆ (a) All articles, technical data (as defined in subpart 120.10 of Reference (f)) and defense services (as defined in subpart 120.9 of Reference (f)) relating thereto which are classified in the interests of national security and which are not otherwise enumerated in the USML.</p> |
| <p><b>INTERPRETATIONS:</b></p> <p>Classified articles enumerated in Category XVII are designated as SME in accordance with subpart 120.7 of Reference (f).</p> |   |

Table 20. Category XVIII. Directed Energy Weapons



| DEMIL Code | Description   |
|------------|---|
| D          | ♦ (a) Directed energy weapon systems specifically designed or modified for military applications (e.g., destruction, degradation, or rendering mission-abort of a target). These include, but are not limited to: |
| D          | (1) Laser systems, including continuous wave or pulsed laser systems, specifically designed or modified to cause blindness.   |
| D          | (2) Lasers of sufficient continuous wave or pulsed power to effect destruction similar to the manner of conventional ammunition.  |
| D          | (3) Particle beam systems.  |
| D          | (4) Particle accelerators that project a charged or neutral particle beam with destructive power.   |
| C          | (5) High power RF systems.  |
| C          | (6) High pulsed power or high average power RF beam transmitters that produce fields sufficiently intense to disable electronic circuitry at distant targets.   |
| C          | (7) Prime power generation, energy storage, switching, power conditioning, thermal management, or fuel-handling equipment.  |
| C          | (8) Target acquisition or tracking systems.   |
| C          | (9) Systems capable of assessing target damage, destruction, or mission-abort.  |
| D          | (10) Beam-handling, propagation, or pointing equipment.   |
| D          | (11) Equipment with rapid beam slew capability for rapid multiple target operations.  |
| D          | (12) Negative ion beam funneling equipment.   |



Table 20. Category XVIII. Directed Energy Weapons, Continued

| DEMIL Code | Description   |
|------------|---|
| D          | (13) Equipment for controlling and slewing a high-energy ion beam.  |
| D          | (14) Mass drivers (electromagnetic accelerators).   |
| D          | (15) Microwave amplification by simulated emission of radiation (MASER).  |
| D          | (16) Lethal and non-lethal (such as active denial systems) RF microwave emitting bioeffect weapon systems.  |
| D          | ♦ (b) Equipment specifically designed or modified for the detection or identification of, or defense against, articles controlled in paragraph (a) of this category.  |
| D          | (c) Tooling and equipment specifically designed or modified for the production of defense articles controlled in this category.   |
| D          | (d) Test and evaluation equipment and test models specifically designed or modified for the defense articles controlled in this category. This includes, but is not limited to, diagnostic instrumentation and physical test models.  |
| D          | (e) Major components, parts, accessories, attachments, and associated equipment specifically designed or modified for the articles listed in paragraphs (a) through (d) of this category.   |
| D          | (f) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME (see subpart 125.4 of Reference (f) for exemptions). |
| B          | (g) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in this category. This includes, but is not limited to, cable assemblies and wiring harnesses.   |

Table 20. Category XVIII. Directed Energy Weapons, Continued

| DEMIL<br>Code | Description  |
|---------------|--|
|               | <p>INTERPRETATIONS:</p> <p>The following interpretations explain and amplify terms used in this category and elsewhere in this appendix:</p> <p>(1) The components, parts, accessories, attachments, and associated equipment include, but are not limited to, adaptive optics and phase conjugators components, space-qualified accelerator components, targets and specifically designed target diagnostics, current injectors for negative hydrogen ion beams, and space-qualified foils for neutralizing negative hydrogen isotope beams.</p> <p>(2) The particle beam systems in paragraph (a)(3) of this category include devices embodying particle beam and electromagnetic pulse technology and associated components and subassemblies (e.g., ion beam current injectors; particle accelerators for neutral or charged particles; beam handling and projection equipment; beam steering, fire control, and pointing equipment; test and diagnostic instruments; and targets) that are specifically designed or modified for directed energy weapon applications.</p> <p>(3) The articles controlled in this category include any end item, component, accessory, attachment, part, firmware, software, or system that has been designed or manufactured using technical data and defense services controlled in this category.</p> <p>(4) The articles specifically designed or modified for military application controlled in this category include any articles specifically developed, configured, or adapted for military application.</p> <p>EXCLUSIONS:</p> <p>See ECCNs 0A002 and 6A005 covered by the EAR in accordance with Reference (h) for similar items.</p> |

Table 21. Category XIX. Reserved

| DEMIL Code                | Description |
|---------------------------|-------------|
|                           | RESERVED    |
| INTERPRETATIONS:<br>None. |             |

Table 22. Category XX. Submersible Vessels, Oceanographic, and Associated Equipment

|  |  |
|--|--|
| DEMIL Code   | Description  |
| C  | ♦ (a) Submersible vessels, manned or unmanned, tethered or untethered, designed or modified for military purposes, or powered by nuclear propulsion plants.  |
| C  | ♦ (b) Swimmer delivery vehicles designed or modified for military purposes.  |
| D  | (c) Major equipment, components, parts, accessories, and attachments specifically designed or modified for any of the articles in paragraphs (a) and (b) of this category.   |
| D  | (d) Technical data and defense services directly related to the defense articles listed in this category and related to the manufacture or production of any defense articles listed in this category that are designated as SME shall themselves be designated as SME (see subpart 125.4 of Reference (f) for exemptions). Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles in this category. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation. |
| B  | (e) Minor components, parts, accessories, attachments, and associated equipment not otherwise listed in this category. This includes, but is not limited to, cable assemblies and wiring harnesses.  |
| C  | (f) Military test equipment containing specifically designed military items listed in the categories of this appendix.   |

Table 22. Category XX. Submersible Vessels, Oceanographic, and Associated Equipment, Continued

| DEMIL Code   | Description  |
|--|--|
| B  | (g) Military test equipment not containing components listed in the categories of this appendix. |
| <p>INTERPRETATIONS:</p> <p>Submarines that are “combatant warships” are contained in USML Category VI rather than Category XX.</p> <p>EXCLUSIONS:</p> <p>See ECCN 8A001 covered by the EAR in accordance with Reference (h) for similar items.</p> |  |

Table 23. Category XXI. Miscellaneous Articles

| DEMIL Code                           | Description  |
|--------------------------------------|--|
| D                                    | (a) Any article not specifically listed in the other categories of this appendix that has substantial military applicability and that is specifically designed, developed, configured, adapted, or modified for military purposes. The decision on whether any article may be included in this category shall be made by the DoS, Director, Office of Defense Trade Controls Policy. |
| D                                    | (b) Technical data (as defined in subpart 120.10 of Reference (f)) and defense services (as defined in subpart 120.9 of Reference (f)) directly related to the defense articles listed in paragraph (a) of this category.  |
| <p>INTERPRETATIONS:</p> <p>None.</p> |  |

APPENDIX 2 TO ENCLOSURE 3ASSIGNING DEMIL CODES TO CCLI

1. INTRODUCTION. This appendix will assist personnel responsible for assigning DEMIL codes to items not found on the USML (see Appendix 1 of Enclosure 3 for assistance in assigning DEMIL codes to property found on the USML). The CCL identifies all dual-use commodities, software, and technologies subject to the export licensing requirements of the DoC. Items not controlled by the USML or CCL become eligible for DEMIL code “A” assignment (see Table 1 for a complete list of the DEMIL codes).

2. CCL STRUCTURE. The CCL in part 774 of Reference (h) consists of 10 categories as shown in Table 24, and 5 groups as shown in Table 25, which are assigned to each category.

Table 24. CCL Categories

|            |  |
|------------|--|
| Category 0 | Nuclear Materials, Facilities and Equipment and Miscellaneous  |
| Category 1 | Materials, Chemicals, “Microorganisms”, and Toxins             |
| Category 2 | Materials Processing   |
| Category 3 | Electronics  |
| Category 4 | Computers  |
| Category 5 | Telecommunications (Part I) and Information Security (Part II) |
| Category 6 | Sensors and Lasers   |
| Category 7 | Navigation and Avionics  |
| Category 8 | Marine   |
| Category 9 | Propulsion Systems, Space Vehicles and Related Equipment       |

Table 25. CCL Groups

|         |   |
|---------|---|
| Group A | Systems, Equipment, and Components        |
| Group B | Test, Inspection and Production Equipment |
| Group C | Materials                                 |
| Group D | Software                                  |
| Group E | Technology                                |

3. ECCN STRUCTURE. A key in determining whether an item meets DEMIL code “Q” criteria depends on whether the item has a specific ECCN. All ECCNs are listed in the CCL in part 774 of Reference (h). The ECCN consists of five digits.

a. The first two digits identify the CCL category and group within the category as shown in Figure 3.

- b. The third digit as shown in Figure 4 identifies the reason(s) for control associated with items contained in the entry.
- c. The fourth digit identifies whether control of the item is for unilateral or multilateral concerns.
- d. The fifth digit is for sequential numbering on the CCL.
- e. These last three digits are not required for determining DEMIL code “Q.” However, they may be used to determine sensitive and non-sensitive items.

Figure 3. Example of an ECCN

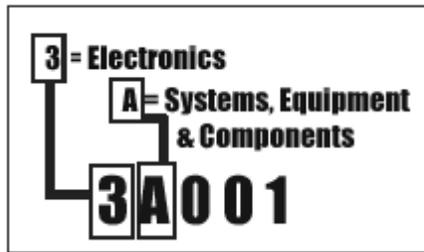
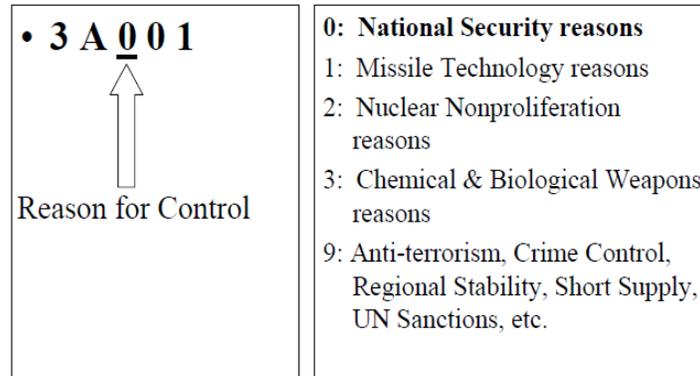


Figure 4. Reason for Control



4. READING AN ECCN.

- a. To narrow the search within the CCL category and group each ECCN will have a heading with a brief description as shown in Figure 5.



Figure 5. Example of an ECCN Heading

3A001 Electronic Components, as Follows (see List of Items Controlled).

b. After the brief description, there are three sections titled, “License Requirements,” “License Exceptions,” and “List of Items Controlled.” Of these, only the “List of Items Controlled” section impacts coding decisions.

(1) License Requirements. A country chart found in Supplement No. 1 to part 738 of Reference (h), contains certain licensing requirements based on destination and reason for control. See Figure 6 for all possible reasons for control and Figure 7 for an example of the Country Chart.

Figure 6. All Possible Reasons for Control

|   |                                    |
|---|------------------------------------|
| Reasons for Control are not mutually exclusive, items controlled within a particular ECCN may be controlled for more than one reason. |                                    |
| <b>AT</b> Anti-Terrorism  | <b>NS</b> National Security        |
| <b>CB</b> Chem & Bio wpns   | <b>NP</b> Nuclear Nonproliferation |
| <b>CC</b> Crime Control   | <b>RS</b> Regional Stability       |
| <b>CW</b> Chemical Weapons Convention   | <b>SS</b> Short Supply             |
| <b>EI</b> Encryption Items  | <b>UN</b> United Nations Embargo   |
| <b>FC</b> Firearms Convention   | <b>SI</b> Significant Items        |
| <b>MT</b> Missile Technology  | <b>SL</b> Surreptitious Listening  |

Figure 7. Country Chart

| Countries   | Reason for Control            |      |      |                          |      |                   |      |              |                    |      |
|-------------|-------------------------------|------|------|--------------------------|------|-------------------|------|--------------|--------------------|------|
|             | Chemical & Biological Weapons |      |      | Nuclear Nonproliferation |      | National Security |      | Missile Tech | Regional Stability |      |
|             | CB 1                          | CB 2 | CB 3 | NP 1                     | NP 2 | NS 1              | NS 2 | MT 1         | RS 1               | RS 2 |
| Afghanistan | X                             | X    | X    | X                        |      | X                 | X    | X            | X                  | X    |
| Albania     | X                             | X    |      | X                        |      | X                 | X    | X            | X                  | X    |
| Algeria     | X                             | X    |      | X                        |      | X                 | X    | X            | X                  | X    |

(2) License Exceptions. License exceptions are covered by part 740 of Reference (h).

(3) List of Items Controlled. It is important for the coder to review this section of an ECCN entry to determine if the item is controlled by the CCL and not the USML. This section

provides “Units,” “Related Controls,” “Related Definitions,” and “Items” applicable to the ECCN entry.

(a) Related Controls. Related Controls (see Figure 8) will indicate if another U.S. Government agency or department has authority over items related to those controlled by the entry.

Figure 8. Example of Related Controls

List of Items Controlled  
*Unit:* Number.  
*Related Controls:* 1.) The following commodities are under the export licensing authority of the Department of State, Directorate of Defense Trade Controls (22 CFR part 121) when “space qualified” and operating at frequencies higher than 31.8 GHz: helix tubes (TWTs) defined in 3A001.b.1.a.4.c; microwave solid state amplifiers defined in 3A001.b.4.b traveling wave tube amplifiers

(b) Related Definitions. Related Definitions (see Figure 9) identify, where applicable, definitions or parameters that apply to all items controlled by the ECCN entry. This information is unique to the entry.

Figure 9. Example of Related Definitions

*Related Definition:* This entry controls parachute systems designed for use in dropping personnel only.

(c) Items. The items controlled by the ECCN are listed following the word “Items.” As this term is not prominently displayed in an ECCN entry on the CCL, the coder must be careful when reading an ECCN for the first time to avoid missing this information and possibly interpreting the ECCN header as the definitive identification of what is controlled (see Figure 10 for an example). In some entries, the list is contained within the entry heading as shown in Figure 11.

Figure 10. Example of Items Header

*Related Definition:* This entry controls parachute systems designed for use in dropping personnel only.

*Items:*

a. Military trainer aircraft bearing “T” designations:

a.1. Using reciprocating engines; or

Figure 11. Example of Items Controlled in ECCN Heading

*Items:*

The list of items controlled is contained in the ECCN heading.

5. DEMIL CODING OF CCLI. Items with a specific ECCN receive DEMIL code “Q.” Items that do not have a specific ECCN receive DEMIL code “A.” Items assigned DEMIL code “A” are still subject to the EAR and designated “EAR99” for export control purposes only. There is an “EAR99” statement at the end of each CCL category as shown in Figure 12. See Enclosure 5 for information regarding sensitive and non-sensitive items related to DEMIL code “Q.”

Figure 12. “EAR99” Statement

EAR99 Items subject to the EAR that are *not* elsewhere specified in this CCL Category *or* in any other category in the CCL are designated by the number *EAR99*.

6. SENSITIVE AND NON-SENSITIVE CCLI. The DoD identified, based on the Deputy Assistant Secretary of Defense for Logistics and Materiel Readiness Memorandum (Reference (j)), a concern that some DEMIL code “Q” items are of greater concern for release. These items have been designated as sensitive and assigned a DEMIL integrity code (IC) of 3 as described in Table 26. The sensitivity determination is based on the reason for control as shown in Figure 13.

DEMIL code “Q” items identified as non-sensitive will normally be eligible for sale, but may be designated as “sensitive” on a case-by-case basis.

Figure 13. Reasons for Control Dictate Sensitive Versus Non-Sensitive

| SENSITIVE DEMIL Q _ IC-3   | NON-SENSITIVE DEMIL Q _ IC-6  |
|--|---|
| NS = National Security = 0<br>MT = Missile Technology = 1<br>NP = Nuclear Nonproliferation = 2<br>CB = Chemical & Biological Weapons = 3<br>CW = Chemical Weapons Convention = 3 | AT = Anti-Terrorism = 9<br>CC = Crime Control = 9<br>EI = Encryption Items = 9<br>FC = Firearms Convention = 9<br>RS = Regional Stability = 9<br>SS = Short Supply = 9<br>UN = United Nations Embargo = 9<br>SI = Significant Items = 9<br>SL = Surreptitious Listening = 9 |

7. EXCEPTIONS. Certain DEMIL code “Q” items are considered to pose such limited risk during a release from DoD control that they do not warrant even the limited controls applied to the non-sensitive category. The DDPO maintains a list of these items on the DoD DEMIL Program Website at <https://demil.osd.mil>.

ENCLOSURE 4DEMIL CODE CHALLENGE PROGRAM

1. INTRODUCTION. The DEMIL Code Challenge Program is a quality control measure that continually enhances the DEMIL effort by verifying the accuracy of a DEMIL code when a DoD activity turns in an excess item. If the code is thought to be inaccurate, it is challenged. Following verification, the code shall be changed for all like items entering the supply system. The DDCMO is responsible for the administration and maintenance of the DEMIL Code Challenge Program. The inventory control point (ICP) is responsible for the timely resolution of items submitted for challenge.
2. DEMIL ICs. DEMIL ICs are management codes that identify the validity of an item's DEMIL code as assigned by the ICP and verified by the DDCMO. The final decision is indicated by a DEMIL IC as defined in Table 26.

Table 26. DEMIL IC Descriptions

| Code  | Description  |
|-------|--|
| Blank | DEMIL code has not been reviewed by DDCMO.   |
| 0     | DEMIL code reviewed by DDCMO. Recommended DEMIL code and current ICP DEMIL code are not equal. Presently in collaboration cycle.   |
| 1     | DEMIL code reviewed by DDCMO, recommended DEMIL code adopted by ICP, or no DEMIL code change recommended.  |
| 2     | DEMIL code reviewed by DDCMO and accepted by ICP (DEMIL IC = 1) however, ICP has since overridden or changed code.   |
| 3     | Restricted items or sensitive CCLI. Requires MUT worldwide.  |
| 4     | DEMIL code could not be validated — insufficient technical data available.   |
| 5     | An item reviewed and coded by Service/Agency ICP - without DDCMO collaboration; or a Service or Agency ICP changed the DEMIL code prior to completion of IC-0 review/collaboration cycle.          |
| 6     | Non-Sensitive CCLI. Requires MUT overseas.   |
| 7     | Forced Concurrence. DDCMO has forced a DEMIL code change in FLIS. ICP has not responded to collaboration request (over 90 days old) or failed to update the DEMIL code in the ICP's legacy system. |
| 8     | ICP has non-concurred with a DDCMO recommended DEMIL code. Item DEMIL coding pending resolution.   |
| 9     | Reviewed by DLA Disposition Services-CPVO and approved for release to transfer, donation, and sale.  |

a. DEMIL Code Lock. DEMIL codes with a DEMIL IC of “1,” “3,” “6,” or “7” shall be locked to prevent arbitrary changes. The ICP retains absolute authority to request a change provided the change is fully coordinated with the DDCMO for validation and concurrence.

b. DEMIL Code Lock Change Procedure. To initiate a change to a DEMIL code that contains an IC of “1,” “3,” “6,” or “7,” submit an e-mail to the DDCMO at DCMO@dla.mil through the applicable Military Service DEMIL Program for coordination and resolution. E-mails should be titled “Locked DEMIL Code Recommendation,” and should include:

- (1) NSN.
- (2) Recommended DEMIL code.
- (3) Valid justification for the change with written supporting rationale based on enclosure and supporting documentation.
- (4) Point of contact information.

3. DEMIL CODE CHALLENGE PROCESS. The DEMIL code challenge process includes reviewing all challenges, responding to challenge originators, and forwarding to the applicable ICP as appropriate to stop duplication of challenges going forward.

a. Initiation. Any individual or activity who has access to the DDCMO Website at [http://www.dlis.dla.mil/DEMIL/demil\\_coding.asp](http://www.dlis.dla.mil/DEMIL/demil_coding.asp) may initiate DEMIL code challenges. DLA Disposition Services personnel generally submit DEMIL code challenges via the DLA Disposition Services Automated Information System. Required entries for challenge submission are cited on the DDCMO Website. Items identified within a critical Federal Supply Class (FSC) or by a key word can help personnel identify DEMIL code challenge candidates. See the Appendix to this enclosure for more information.

b. DDCMO Coordination with Military Departments. All DEMIL code challenges shall be coordinated with the appropriate Military Department for review prior to any changes taking place. The ICP shall evaluate the challenge and notify the DDCMO of the results of its evaluation within 90 days of receipt. Military Departments may enter into memorandums of agreement with the DDCMO to improve coordination and processing of DEMIL challenge actions. The results of the coordination process are as follows:

(1) Concurrence. If the ICP concurs with the challenge, the DDCMO shall formally change the DEMIL code in the FLIS. A DEMIL IC of “1” reflects this transaction and registers in the historical file to preclude subsequent multiple challenges on the same item in supply. See Table 1 for a list of ICs.

(2) No Response. If the DDCMO does not receive a response from the ICP within the 90-day timeframe, then the DDCMO shall formally change the DEMIL code in FLIS. A DEMIL IC of “7” reflects this transaction and flags the item as a forced concurrence.

(3) Non-concurrence. If the ICP and the DDCMO cannot agree on the appropriate DEMIL code on a submitted challenge within the 90-day timeframe, the DDCMO shall elevate the challenge in question to the DDPM and to the appropriate Military Department DEMIL Program Administrator for resolution. The DDPM and the Military Department DEMIL Program Administrator shall discuss and determine the appropriate DEMIL code and inform the DDCMO of their decision. Non-concurrences that cannot be resolved at the DDPM level shall be coordinated with the ASD(L&MR).

4. LONG TERM STORAGE (LTS) CHALLENGE. Challenging DEMIL codes “B” and sensitive “Q” property identified for LTS may be accomplished through the DLA Disposition Services Website at <http://www.drms.dla.mil/turn-in/bandq-lts.shtml>. See Enclosure 5 for more information regarding DEMIL codes “B” and “Q.”

#### Appendix

Critical FSGs, FSCs, and Key Words

APPENDIX TO ENCLOSURE 4CRITICAL FSGs, FSCs, AND KEY WORDS

1. GENERAL. This appendix contains a list of critical FSGs and FSCs (Table 27) and Key Words (Table 28) to use as a guide indicating the probability that an item requires DEMIL/TSC.

Table 27. Critical FSG/FSC

| FSG/FSC  | DESCRIPTION  |
|----------|--|
| 10 (All) | Weapons  |
| 11 (All) | Nuclear Ordnance   |
| 12 (All) | Fire Control Equipment   |
| 13 (All) | AE   |
| 14 (All) | Guided Missiles  |
| 1560     | Airframe Structural Components   |
| 1670     | Parachutes: Aerial Pick Up, Delivery, Recovery   |
| 1710     | Aircraft Landing Equipment   |
| 1720     | Aircraft Launching Equipment   |
| 1810     | Space Vehicles   |
| 1820     | Space Vehicle Components   |
| 1830     | Space Vehicle Remote Control Systems   |
| 1840     | Space Vehicle Launchers  |
| 1905     | Combat Ships and Landing Vessels   |
| 2305     | Ground Effect Vehicles   |
| 2330     | Trailers   |
| 2350     | Combat, Assault, and Tactical Vehicles, Tracked  |
| 2840     | Gas Turbines and Jet Engines, Aircraft, Prime Moving; and Components                       |
| 2845     | Rocket Engines and Components  |
| 2915     | Engine Fuel System Components, Aircraft and Missile Prime Movers                           |
| 3690     | Specialized Ammunition and Ordnance Machinery and Related Equipment                        |
| 4230     | Decontaminating and Impregnating Equipment   |
| 4470     | Nuclear Reactors   |
| 4921     | Torpedo Maintenance, Repair, and Checkout Specialized Equipment                            |
| 4923     | Depth Charges and Underwater Mines Maintenance, Repair, and Checkout Specialized Equipment |
| 4925     | Ammunition Maintenance, Repair, and Checkout Specialized Equipment                         |
| 4927     | Rocket Maintenance, Repair, and Checkout Specialized Equipment                             |
| 4931     | Fire Control Maintenance and Repair Shop Specialized Equipment                             |
| 4933     | Weapons Maintenance and Repair Shop Specialized Equipment                                  |



Table 27. Critical FSG/FSC, Continued

| FSG/FSC | DESCRIPTION  |
|---------|--|
| 4935    | Guided Missile Maintenance, Repair, and Checkout Specialized Equipment                       |
| 4960    | Space Vehicle Maintenance, Repair, and Checkout Specialized Equipment                        |
| 5810    | Communications Security (COMSEC) Equipment and Components                                    |
| 5811    | Other Cryptologic Equipment and Components   |
| 5820    | Radio and Television Communication Equipment, Except Airborne                                |
| 5821    | Radio and Television Communication Equipment, Airborne                                       |
| 5825    | Radio Navigation Equipment, Except Airborne  |
| 5826    | Radio Navigation Equipment, Airborne   |
| 5840    | Radar Equipment, Except Airborne   |
| 5841    | Radar Equipment, Airborne  |
| 5845    | Underwater Sound Equipment   |
| 5850    | Visible and Invisible Light Communication Equipment  |
| 5855    | Night Vision Equipment, Emitted and Reflected Radiation                                      |
| 5860    | Stimulated Coherent Radiation Devices, Components, and Accessories                           |
| 5865    | Electronic Countermeasures, Counter-Countermeasures, and Quick Reaction Capability Equipment |
| 5963    | Electronic Modules   |
| 5985    | Antennas, Waveguides, and Related Equipment  |
| 5998    | Electrical and Electronic Assemblies, Boards, Cards, and Associated Hardware                 |
| 5999    | Miscellaneous Electrical and Electronic Components   |
| 6615    | Automatic Pilot Mechanisms and Airborne Gyro Components                                      |
| 6920    | Armament Training Devices  |
| 6930    | Operation Training Devices   |
| 6940    | Communication Training Devices   |
| 8470    | Armor, Personal  |
| 8475    | Specialized Flight Clothing and Accessories  |

Table 28. Key Words

|                 |                            |                     |
|-----------------|----------------------------|---------------------|
| Ablative        | Doppler                    | Mine                |
| Accelerometer   | Ejector                    | Missile             |
| Afterburner     | Electromagnetic Pulse      | Modulator           |
| Aiming Device   | Electronic Countermeasures | Night Sight(ing)    |
| Amphibious      | Electronic Warfare         | Nuclear             |
| Amplifier       | Electro-Optical            | Optic (al)          |
| Antenna         | Encoder                    | Oscillator          |
| Armor           | Equilibrator               | Particle Beam       |
| Astro Compass   | Feeder (ammo)              | Periscope           |
| AHRS            | Filter RF                  | Processor(ing)      |
| Ballistic       | Fire Control               | Projectile          |
| Beacon          | Firing Mechanism           | Pylon               |
| Bomb(ing)       | Frequency Generator        | Radar               |
| Breech          | Guidance                   | Radome              |
| Camouflage      | Gunsighting                | Range Finder        |
| Carriage        | Gyro (scope)               | Receiver            |
| Cartridge       | Height Finder              | R&D                 |
| Cathode Ray     | IFF                        | Scope               |
| Chaff           | Image Intensifier          | Sight               |
| CCA             | Inertial                   | Sonar               |
| Classified      | IR                         | Spotting Device     |
| Cold Cathode    | Interception               | Spryton             |
| Collimator      | Klystron                   | Star Tracker        |
| Composite       | Krytron                    | Synchronizer        |
| COMSEC          | Laser                      | Target(ing)         |
| Countermeasures | Launcher                   | Telescopic          |
| Crypto          | Linker/Delinker            | Tempest             |
| Crystal         | Logic                      | Transmitter         |
| Decoder         | Magnetron                  | Traveling Wave Tube |
| Delay           | MASER                      | Waveguide           |
| Detonating      | Memory                     |                     |
| Detector        | Metal Embrittlng           |                     |

ENCLOSURE 5

SUPPLEMENTARY INFORMATION RELATED TO DEMIL CODES

1. INTRODUCTION. DoD personal property presents concerns for safe and controlled DEMIL that warrants expanded guidance. The appropriate controlled inventory item codes (CIIC) in Tables 61 and 192 of DoD 4100.39-M (Reference (k)) shall be assigned to further categorize classification, security, and storage applications and must be compatible with the associated DEMIL Code.

2. DEMIL CODE "G." DEMIL code "G" material consists of AE represented by items in USML categories III, IV, V, and XIV that must be rendered explosive-free prior to transfer of accountability and physical custody to a disposal activity. Much of this material consists of conventional ammunition for which the U.S. Army, as the single manager for conventional ammunition (SMCA) in accordance with DoDI 5160.68 (Reference (l)), is the primary agent. Military Service commands shall develop procedures following applicable AE requirements promulgated by the SMCA. DEMIL code "G" items will not be transferred to DLA or the General Services Administration (GSA) until material has been certified inert (see Volume 3 for inert certification requirements).

3. DEMIL CODE "P." DEMIL code "P" material includes material classified in the interest of National Security (Confidential, Secret, Top Secret, etc.). DEMIL of this material requires an action to destroy or remove the classified aspect of the material whether it is data or a physical feature. In cases where only data makes an item classified, a declassification action may not be sufficient to complete the DEMIL. Similarly, destruction of a classified physical feature may not be sufficient to fully demilitarize an item. Removal or DEMIL of sensitive markings or information shall be accomplished and certified prior to physical transfer to DLA Disposition Services or release from DoD control.

a. Specific instructions for destruction of classified material must be derived from guidelines issued by an original classification authority in accordance with DoD 5200.1-R (Reference (m)).

b. COMSEC items shall not be turned in to DLA Disposition Services. Disposition of COMSEC must conform to National Security Agency and Committee on National Security Systems policies (see <http://www.nsa.gov/>, <http://www.cnss.gov/>, and <http://csrc.nist.gov/> for information relating to COMSEC).

c. For an explanation of classified and sensitive item CIICs, see Table 61 of Reference (k).

d. For technical assistance in processing DEMIL code "P" material, DLA Supply Centers that have custody of DEMIL code P items must seek disposition instructions through the appropriate Military Service Engineering Support Activity. For additional information, see AR 715-13/DLAR 3200.1/NAVSUPINST 4120.30/AFR400-40/MCO4000.18C (Reference (n)).

e. DEMIL code “P” items will not be transferred to the DLA or the GSA until material has been certified as declassified (see Volume 3 for declassification certification requirements).

4. DEMIL CODE “F.” This code is normally assigned to DEMIL required property that presents environmental, safety, or health hazards as a result of DEMIL actions. Examples of such hazards include the presence of radioactive or toxic constituents, compressed gases, compressed springs, and batteries. DEMIL instructions for code “F” property are required to identify special provisions, required occupational expertise, and specific disposition directions.

a. Requirements. Items assigned DEMIL code “F” with an NSN shall have physical DEMIL instructions specific to the item available from the item manager or DEMIL administrator. The purpose of the instructions is to provide procedures on how to safely accomplish the DEMIL. The instructions must be entered into the DoD DEMIL code “F” instructions repository on the Army Electronic Product Support (AEPS) Website at <https://aeps2.ria.army.mil/>.

(1) Program executive offices, program managers, and engineering support activities introducing an item into the Federal Supply System and assigning or recommending data elements during provisioning have responsibility for initial development of DEMIL code “F” instructions. This is usually accomplished in coordination with the ICP.

(2) DEMIL code “F” instructions must be perpetuated by the losing inventory manager in support of a logistics reassignment transaction to the gaining inventory manager. These instructions can also be integrated into a DEMIL procedural plan in accordance with Enclosure 6 of this volume.

(3) The Centralized Cataloging Activity at DLA Logistics Information Service should not process cataloging action requests for a DEMIL code “F” item without requisite instructions attached stating that DEMIL instructions shall be posted on the AEPS network upon assignment of the NSN.

(4) Logistics reassignments of responsibility for DEMIL code “F” items from one ICP to another requires furnishing all historical data including DEMIL code “F” instructions to the gaining ICP. The gaining ICP shall coordinate responsibility with the engineering support activity for maintaining DEMIL code “F” instructions current.

b. DEMIL Code “F” Review. The DDCMO shall review new and existing items in the FLIS and shall report the status of new DEMIL code “F” items without DEMIL instructions to the DDPO.

c. DEMIL Instruction Development Guidelines. DEMIL instructions shall be developed early in the acquisition process when the technical data (e.g., drawings, manuals, and illustrations) becomes available. Instructions shall:

(1) Describe the steps necessary to gain access to or remove hazardous materials.

(2) Use existing documents, technical manuals, and illustrations.

(3) Identify any special processes or equipment.

(4) Identify items for retention (e.g., “materiel returns”) and who to contact for instructions on where to send these items (e.g., “shipping address”).

(5) Specify resulting DEMIL code following execution of the instructions; e.g., “after removing the hazard treat as residual DEMIL code ‘D.’ ”

(6) Include administrative information for all instructions (i.e., contact information, justification, and reference to applicable USML category and paragraph in Appendix 1 to Enclosure 3).

d. Entering Instructions. Procedures for entering DEMIL code “F” instructions to the AEPS database are available at <https://aeps2.ria.army.mil/>.

e. Retrieving Instructions. DEMIL code “F” instructions are available for retrieval from AEPS. All NSNs with a DEMIL code of “F” assigned are entered into AEPS. The item manager or applicable DEMIL program administrator shall provide instructions for items whose instructions are not posted on AEPS. The item manager can be located by the source of supply codes. If instructions are not available on AEPS, the item manager shall be contacted.

f. Providing DEMIL Code “F” Instructions to the Disposal Activity. Disposal activities (e.g., DLA Disposition Services) should not accept DEMIL code “F” items without the NSN and the requisite DEMIL instructions attached or a statement indicating instructions are posted on AEPS. Requirements to be fulfilled by the DEMIL code “F” instruction may require generator action to DEMIL prior to turn-in to DLA Disposition Services. This includes prohibiting the processing of DD Form 1348-1A, “Issue Release/Receipt Document” for DEMIL code “F” items through cross-docking locations.

(1) DEMIL code “F” residue may contain hazardous property that must be handled according to the requirements of Reference (g) and DoD 4160.21-M (Reference (o)). Alternate methods of DEMIL via hazardous waste (HW) disposal may be considered. Requests for this alternate method of DEMIL shall be made in accordance with Volume 1 of this Manual.

(2) Disposal activities discovering hazardous constituents in DEMIL-required property shall report the discovery to the turn-in activity and to their command activity. The command activity shall inform the DDCMO for DEMIL code change initiation. The turn-in activity may be held responsible for HW disposal costs.

5. DEMIL CODE “C.” Key points include designed parts, components, alignment points, attachment fittings or areas which, when demilitarized, cannot feasibly be restored and which are necessary factors in restoring the next higher assembly to design capability; e.g., “gun barrel, up-

armor kit, aircraft fuselage, wing spar attachment fittings.” (See the Glossary for the definition of “key points for DEMIL.”)

a. DEMIL instructions should be developed using existing disassembly procedures (if available) to remove the DEMIL required key points. Key points are assigned or treated as DEMIL code “D.” The remaining residual portion shall, at a minimum, be processed as DEMIL codes “B” or “Q.”

b. Parts and components required by the Military Services or the Defense Agencies should be reclaimed (see Reference (o) concerning reclamation programs).

c. Items submitted to a DLA Disposition Services for disposal must have either the key points already removed or the key points positively identified and tagged for removal by the DLA Disposition Services or other disposal activity. Key point NSNs, if applicable, shall be identified on DD Form 1348-1A, as well as on any attached identification tags.

6. DEMIL CODE “D.” DEMIL to the level of scrap shall ensure the requirements for DEMIL code “D” have been met (see the Glossary for the definition of “scrap”). Property sold with DEMIL as a condition of sale shall not be released without positive controls and the DEMIL witnessed by U.S. Government representatives unless otherwise authorized by the DDPM.

7. DEMIL CODE “E.” The DDPO reserves this code for their use only. DoD personal property assigned this code may be pending a commodity jurisdiction and are generally treated as DEMIL code “D.”

8. DEMIL CODE “B.” If not withdrawn during reutilization screening by an authorized recipient, DEMIL code “B” MLI will be held in LTS by DLA Disposition Services and be available for perpetual reutilization until deemed of no further use. The requirement for the DEMIL IC is waived for reutilization within the DoD. The requirement for the DEMIL IC is not waived for items being transferred out of DoD custody except when permitted pursuant to special legal authority." DEMIL code “B” MLI deemed of no further use will be MUT to the point of scrap worldwide by the DLA Disposition Services.

9. DEMIL CODE “Q”

a. Sensitive CCLI. Sensitive DEMIL code “Q” CCLI is assigned a DEMIL IC of “3.” Such CCLI will be held in LTS unless withdrawn for reutilization by an authorized recipient or deemed of no further use. The requirement for the DEMIL IC is waived for reutilization within the DoD. The requirement for the DEMIL IC is not waived for items being transferred out of DoD custody except when permitted pursuant to special legal authority." Sensitive DEMIL code “Q” CCLI deemed of no further use will be MUT to the point of scrap worldwide.

b. Non-sensitive CCLI. Non-sensitive DEMIL code “Q” CCLI is assigned a DEMIL IC of “6.” In the United States, such CCLI shall not be held in LTS and is eligible for the full range of disposal processing in accordance with Reference (o) and in conformance with Reference (f) prior to release from DoD control. Outside of the United States, such CCLI shall be MUT to the point of scrap.

10. DEMIL CODE “A.” This code is for items that are neither MLI nor CCLI. Items that have not been modified or redesigned and which are identical in design, structure, composition, and utility to an equivalent item in the commercial market, shall be coded DEMIL code “A.” For export purposes, these items are still subject to the EAR as “EAR99” according to part 734 of Reference (h). The lack or presence of the DEMIL IC shall not affect reutilization screening within the DoD, but only DEMIL code “A” items with DEMIL IC of “1,” “7,” or “9” are eligible for excess reutilization by special programs, surplus transfer, donation, and sales.

GLOSSARY

PART I. ABBREVIATIONS AND ACRONYMS

|           |   |
|-----------|---|
| AE        | ammunition and explosives   |
| AEPS      | Army Electronic Product Support                                     |
| AFR       | Air Force Regulation  |
| AHRS      | Attitude and Heading Reference Systems                              |
| AR        | Army Regulation   |
| ASD(L&MR) | Assistant Secretary of Defense for Logistics and Materiel Readiness |
|           |   |
| C         | Celsius   |
| CARC      | chemical agent resistant coating                                    |
| CAS       | Chemical Abstracts Service  |
| CCA       | circuit card assembly   |
| CCL       | Commerce Control List   |
| CCLI      | Commerce Control List Item  |
| CFR       | Code of Federal Regulations   |
| cGy       | centigray   |
| CIIC      | Controlled Inventory Item Code                                      |
| COMSEC    | Communications Security   |
| CPVO      | Controlled Property Verification Office                             |
| CWC       | Chemical Weapons Convention   |
|           |   |
| DDCMO     | DoD DEMIL Coding Management Office                                  |
| DDPM      | DoD DEMIL Program Manager   |
| DDPO      | DoD DEMIL Program Office  |
| DEMIL     | demilitarization  |
| DLA       | Defense Logistics Agency  |
| DLAR      | Defense Logistics Agency Regulation                                 |
| DoC       | Department of Commerce  |
| DoDD      | DoD Directive   |
| DoDI      | DoD Instruction   |
|           |   |
| EAR       | Export Administration Regulations                                   |
| ECCN      | Export Control Classification Number                                |
|           |   |
| FLIS      | Federal Logistics Information System                                |
|           |   |
| GPS       | Global positioning system   |
| GSA       | General Services Administration                                     |
|           |   |
| HW        | hazardous waste   |
|           |   |
| IC        | integrity code  |



|            |   |
|------------|---|
| ICP        | inventory control point   |
| IFF        | identification friend or foe  |
| IR         | Infrared  |
| ITAR       | International Traffic in Arms Regulations                             |
|            |   |
| K          | Kelvin  |
| kg         | Kilogram  |
|            |   |
| LTS        | long term storage   |
|            |   |
| MASER      | Microwave amplification by simulated emission of radiation            |
| MCO        | Marine Corps Order  |
| Mk         | Mark  |
| MLI        | Munitions List Item   |
| mm         | Millimeter  |
| Mod        | Modification  |
| Mpa        | Megapascal  |
| MUT        | mutilation  |
|            |   |
| NAVSUPINST | Naval Supply System Command Instruction                               |
| NIIN       | National Item Identification Number                                   |
| NSN        | National Stock Number   |
|            |   |
| RF         | radio frequency   |
|            |   |
| Si         | silicon   |
| SMCA       | single manager for conventional ammunition                            |
| SME        | significant military equipment  |
| STOL       | short take-off and landing  |
| SUBSAFE    | submarine safety  |
| S&W        | Smith & Wesson  |
|            |   |
| TSC        | trade security controls   |
| TWT        | traveling wave tube   |
|            |   |
| UAV        | unmanned aerial vehicle   |
| UN         | United Nations  |
| USD(AT&L)  | Under Secretary of Defense for Acquisition, Technology, and Logistics |
| USML       | U.S. Munitions List   |
| UV         | ultraviolet   |
|            |   |
| VTOL       | vertical take-off and landing   |

## PART II. DEFINITIONS

Unless otherwise noted, these terms and their definitions are for the purpose of this Volume.

accessories and attachments. Defined in Reference (f).

AE. Defined in DoD 6055.09-M (Reference (p)).

CCL. Defined in part 772 of Reference (h).

CCLI. Defined in part 774 of Reference (h).

components. Defined in Reference (f).

defense services. Defined in section 120.9 of Reference (f).

DEMIL. The act of eliminating the functional capabilities and inherent military design features from DoD personal property. Methods and degree range from removal and destruction of critical features to total destruction by cutting, crushing, shredding, melting, burning, etc. DEMIL is required to prevent property from being used for its originally intended purpose and to prevent the release of inherent design information that could be used against the United States. DEMIL applies to material in both serviceable and unserviceable condition.

DEMIL code. A code assigned to DoD personal property. It indicates the degree of required physical destruction, identifies items requiring specialized capabilities or procedures, and identifies items which do not require DEMIL but may require TSC. It is used throughout the life-cycle to identify control requirements required before release of DoD personal property from DoD control.

disposal. Defined in Reference (o).

disposition. The process of reusing, recycling, converting, redistributing, transferring, donating, selling, demilitarizing, treating, destroying, or fulfilling other end of life tasks or actions for DoD property.

DoD personal property. Defined in Reference (e).

dual-use. Defined in Reference (h).

ECCN. Defined in Reference (h).

end-items. Defined in Reference (f).

export. Defined in Reference (e).

key points (for DEMIL). The parts, major components, alignment points, attachment fittings or areas of SME which, when demilitarized, cannot feasibly be repaired, restored, replaced, improvised or commercially procured and which are necessary factors in restoring the next higher assembly to design capability. Key points are typically assigned their own NSNs and are treated as DEMIL code “D.”

materiel. Defined in Joint Publication 1-02 (Reference (q)).

major components. Components essential to the operation of an end-item and become key points for DEMIL.

minor components. Components that are elements of a major component that do not require DEMIL but may require MUT.

MLI. Any item contained on the USML listed in part 121 of Reference (f).

MUT. The act of making non-DEMIL required MLI or CCLI unfit for its intended purpose by cutting, tearing, scratching, crushing, breaking, punching, shearing, burning, neutralizing, etc.

parts. Defined in Reference (f).

power supplies. A source of electric power to operate electronic circuits.

residual DEMIL code. For the purposes of Volume 1 and 2 of this manual, a residual DEMIL code identifies DEMIL requirements that remain after partial treatment of DEMIL code “G,” “P,” “F,” and “C” materiel. Residual DEMIL codes do not replace established NSN DEMIL codes.

RF components. Components of a system that provide for information transmission via radio waves. Components include an antenna or dish directed toward a satellite as well as components often contained in a separate shelter or housing that is close to the antenna to reduce lost signal power and noise on reception. These components include power amplifiers, power splitters and combiners, modulators and demodulators, frequency converters, transformers, and oscillators.

scrap. Defined in Reference (e).

SME. Defined in Reference (f).

solid-state device. Electronic device that operates on the basis of the electric, magnetic, or optical properties of a solid material, especially one that uses a solid crystal in which an orderly three-dimensional arrangement of atoms, ions, or molecules is repeated throughout the entire crystal. Synthetic crystals of elements such as silicon, gallium arsenide, and germanium are used in transistors, rectifiers, and integrated circuits.

technical data. Defined in Reference (f).

TEMPEST. Defined in Reference (q).

TSC. Defined in Reference (e).

USML. A list, published by the DoS in part 121 of Reference (f), which delineates the articles, services and related technical data designated as defense articles and defense services.