

MIL-E-7125A
 6 December 1982
SUPERSEDING
 MIL-E-7125
 13 February 1951

MILITARY SPECIFICATION

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE, TECHNICAL

This specification is approved for use by all
 Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers technical grade ethylene glycol monoethyl ether acetate (EGMEEA), also known as 2-ethoxyethyl acetate.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

NN-P-71	-	Pallets, Material Handling, Wood, Stringer Construction, 2-Way and 4-Way (Partial)
PPP-C-96	-	Cans, Metal, 28 Gage and Lighter
PPP-B-585	-	Boxes, Wood, Wirebound
PPP-B-601	-	Boxes, Wood, Cleated-Plywood
PPP-B-621	-	Boxes, Wood, Nailed and Lock-Corner
PPP-B-636	-	Boxes, Shipping, Fiberboard

: Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, US Army Armament Research and Development Command, ATTN: DRDAR-TSC-S, Aberdeen Proving Ground, MD 21010 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 6810

MIL-E-7125A

STANDARDS

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-147 - Palletized Unit Loads
- MIL-STD-1168 - Ammunition Lot Numbering
- MIL-STD-1188 - Commercial Packaging of Supplies and Equipment

(Copies of specifications, standards, handbooks, drawings, and publications required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. The issues of the documents which are indicated as DoD adopted shall be the issue listed in the current DoDISS and the supplement thereto, if applicable.

ASTM STANDARDS

- D268 - Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Material
- D1078 - Distillation Range of Volatile Organic Liquids
- D1193 - Reagent Water
- D1209 - Color of Clear Liquids (Platinum - Cobalt Scale)
- D1296 - Odor of Volatile Solvents and Diluents
- D1613 - Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products
- D3545 - Alcohol Content and Purity of Acetate Esters By Gas Chromatography
- D3621 - Water in Acetate Esters

(Application for copies should be addressed to ASTM, 1916 Race Street, Philadelphia, PA 19103.)

(Industry association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

MIL-E-7125A

3. REQUIREMENTS

3.1 Chemical and physical characteristics. EGMEA shall conform to the chemical and physical characteristics of table I when tested as specified in 4.2.4.1.

TABLE I. Chemical and physical characteristics

Characteristic	Requirement
Color, platinum-cobalt	No. 15 max
Odor	Characteristic
Specific gravity, 20°/20°C	0.973 to 0.976
Acidity, percent by weight (as acetic acid)	0.02 max
Water, percent by weight	0.10 max
Purity, percent by weight	99.0 min
Alcohol, percent by weight (as 2-ethoxy ethanol)	0.5 max
Distillation range:	
Initial boiling point, °C	150 min
Dry point, °C	160 max

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Quality conformance inspection.

4.2.1 Lotting. A lot shall consist of the EGMEA produced by one manufacturer, at one plant, from the same materials, and under essentially the same manufacturing conditions provided the operation is continuous. In the event the process is a batch operation, each batch shall constitute a lot (see 6.3). Each lot shall be identified and controlled in accordance with MIL-STD-1168.

4.2.2 Sampling.

4.2.2.1 For examination of packaging. Sampling shall be conducted in accordance with MIL-STD-105.

MIL-E-7125A

4.2.2.2 For EGMEEA test (see 6.5). Sampling shall be conducted in accordance with table II. A representative specimen of approximately 1 liter shall be removed from each sample container and placed in a suitable clean, dry container labeled to identify the lot and container from which it was taken.

TABLE II. Sampling for EGMEEA test

: Number of containers in batch or lot :	Number of sample containers :
: 2 to 25 :	: 2 :
: 26 to 150 :	: 3 :
: 151 to 1,200 :	: 5 :
: 1,201 to 7,000 :	: 8 :
: 7,001 to 20,000 :	: 10 :
: Over 20,000 :	: 20 :

4.2.2.3 For container leakage test. Sampling shall be conducted in accordance with MIL-STD-105.

4.2.3 Inspection procedure.

4.2.3.1 For examination of packaging. The sample unit shall be one filled unit or shipping container, as applicable, ready for shipment. Sample unit and shipping containers shall be examined for the following defects using an AQL of 2.5 percent defective:

- (a) Contents per containers not as specified
- (b) Container not as specified
- (c) Container closure not as specified
- (d) Container damaged or leaking
- (e) Can seams not as specified
- (f) Fiberboard liners or partitions missing or not as specified
- (g) Unitization not as specified
- (h) Marking incorrect, missing, or illegible

4.2.3.2 For EGMEEA test. Each sample specimen taken in 4.2.2.2 shall be tested as specified in 4.2.4. Failure of any test by any specimen shall be cause for rejection of the lot represented.

4.2.3.3 For container leakage test. The sample unit shall be one container. The sample containers selected in 4.2.3.3 shall be tested as specified in 4.2.5 using an AQL of 1.5 percent defective.

4.2.4 EGMEEA tests (see 6.5). Water in accordance with ASTM D1193 and reagent grade chemicals shall be used throughout the tests. Where applicable, blank determinations shall be run and corrections applied where significant. Tests shall be conducted as follows:

MIL-E-7125A

4.2.4.1 ASTM test methods. Determine the chemical and physical characteristics of the specimen in accordance with the applicable ASTM test method specified in table III.

TABLE III. ASTM test methods

Requirement	ASTM test method
Color	D1209
Odor	D1296
Specific gravity	D268
Acidity	D1613
Water	D3621
Purity	D3545
Alcohol	D3545
Distillation range	D1078

4.2.5 Container leakage test. Place the container in each of the following positions, and leave it in each for a period of 15 minutes:

- (a) Upright
- (b) Upside down
- (c) On one side (or one quadrant)
- (d) On one end (or second quadrant)
- (e) On other side (or fourth quadrant)

Examine the container after each period for any evidence of leakage.

5. PACKAGING

5.1 Unit packing. EGMEEA shall be unit packed level A or industrial, as specified (see 6.2).

5.1.1 Level A. A quantity of 1 US gallon (gal) (+1 or -0 fluid ounces) of EGMEEA shall be unit packed in a clean, dry, nominal 1-gal, tin-plate style F can conforming to type V, class 4, oblong of PPP-C-96, furnished with either a bridge or fold over type handle. The screw-cap closure shall be metal, furnished with a resilient liner, faced with a material impervious to the EGMEEA and moisture. The closure shall be torqued closed to a torque within a range as specified by the can manufacture. The seams of the can shall be sealed with material impervious to the EGMEEA. There shall be no evidence of leakage when tested as specified in 4.2.5.

5.1.2 Industrial. The EGMEEA shall be unit packed in accordance with MIL-STD-1188.

MIL-E-7125A

5.2 Packing. The EGMEEA shall be packed level A, B or industrially as specified (see 6.2).

5.2.1 Level A. Six 1-gal cans of EGMEEA, unit packed as specified, shall be packed upright in a close-fitting box in one layer of two rows of three cans. The box shall conform to class 3, style optional of PPP-B-585; overseas type, style A, B, I or J of PPP-B-601; or class 2, style 4 of PPP-B-621. All boxes shall be for a type 2 load. All inside faces of each box shall be lined with fiberboard. Fiberboard half-slotted partitions shall be used to form a close-fitting cell for each can. The cell shall be between 1/8 and 1/4 inch higher than the height of the can, and the box shall be sized to accommodate this height. Cans shall be uniformly arranged in the box with either all closures toward the opposite sides of the box, or all closures facing the same direction. Lateral motion of contents shall be prevented by inserting fiberboard pads wherever needed. The boxes shall be closed and reinforced as specified in the appendix to the applicable box specification.

5.2.2 Level B. Six cans of EGMEEA shall be packed level B in the same manner as for level A except that the box shall conform to grade V3c of PPP-B-636.

5.2.3 Industrial. The EGMEEA shall be packed in accordance with MIL-STD-1188.

5.3 Unitization. Level A and B packs of EGMEEA shall be palletized in accordance with the applicable requirements of MIL-STD-147 using load type I and the pallet conforming to type IV of NN-P-71. Industrial packs shall be unitized to assure carrier acceptance, safe delivery from supply source to destination, and stable stacking in storage.

5.4 Marking. Level A and B containers and pallet loads shall be marked in accordance with MIL-STD-129. Industrial containers shall be marked in accordance with MIL-STD-1188. Each container shall be marked to show the batch or lot number and date of manufacture of the EGMEEA. In addition, each container shall be durably and legibly marked with the following precautionary marking:

HAZARDS!

Toxic by Ingestion
Toxic by Absorption
Combustible Liquid

WARNING! HARMFUL IF SWALLOWED OR ABSORBED THROUGH SKIN.

Avoid contact with eyes, skin, and clothing.
Wash thoroughly after handling.

MIL-E-7125A

First Aid: If swallowed, induce vomiting by sticking finger down throat or by giving soapy or strong salty water to drink. Repeat until vomit is clear. Call a physician. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash clothing before re-use. (Discard contaminated shoes.)

6. NOTES

6.1 Intended use. EGMEEA is intended for use in the manufacture and application of organic protective coatings used on aircraft.

6.2 Ordering data. Acquisition documents should specify the title, number, and date of this specification, and the level of unit packing and packing required (see 5.1 and 5.2).

6.3 Batch. A batch is defined as that quantity of material which has been manufactured by some unit chemical process or subjected to some physical mixing operation intended to make the final product substantially uniform.

6.4 Significant places. For the purpose of determining conformance with this specification, an observed or calculated value should be rounded off "to the nearest unit" in the last right-hand place of figures used in expressing the limiting value, in accordance with the rounding-off method of ASTM E29.

6.5 Sampling and testing precautions. This specification covers inspection of chemical material which is potentially hazardous to personnel. EGMEEA is toxic by ingestion and toxic by absorption. All applicable safety rules, regulations, and procedures must be followed in the handling and processing of this material.

Custodians:

Army - EA
Air Force - 68

Review activities:

Army - MD
Navy - AS
DLA - GS

User activity:

Army - AR

Preparing activity:

Army - EA

Project No. 6810-B342

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE
3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION <i>(Mark one)</i> <input type="checkbox"/> VENDOR <input type="checkbox"/> USER <input type="checkbox"/> MANUFACTURER <input type="checkbox"/> OTHER <i>(Specify):</i> _____
b. ADDRESS <i>(Street, City, State, ZIP Code)</i>	
5. PROBLEM AREAS	
a. Paragraph Number and Wording:	
b. Recommended Wording:	
c. Reason/Rationale for Recommendation:	
6. REMARKS	
7a. NAME OF SUBMITTER <i>(Last, First, MI) – Optional</i>	b. WORK TELEPHONE NUMBER <i>(Include Area Code) – Optional</i>
c. MAILING ADDRESS <i>(Street, City, State, ZIP Code) – Optional</i>	8. DATE OF SUBMISSION <i>(YYMMDD)</i>