



AEROSPACE MATERIAL SPECIFICATION

AMS-R-81903™

REV. A

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Superseding AMS-R-81903

Remover, Acid Activated,
for Amine-Cured Epoxy Coating Systems

RATIONALE

This document contains mature technology and is not likely to change in the foreseeable future.

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NOTICE

This document has been taken directly from U.S. Military Specification MIL-R-81903A(AS), Amendment 2, Notice 1, and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. The initial release of this document is intended to replace MIL-R-81903A(AS), Amendment 2, Notice 1. Any part numbers established by the original specification remain unchanged.

The original Military Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, and (b) the use of the existing government specification or standard format.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DOD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this SAE technical document.

1. SCOPE:

1.1 Scope:

This specification covers the requirements for removers used on amine-cured epoxy coating systems (see 6.1).

1.2 Classification:

Coating removers covered by this specification shall be of the following types and classes as specified (see 6.2).

Type I	Hydroxyacetic acid activated
Type II	Formic acid activated
Type III	Activated by a blend of hydroxyacetic acid and formic acid

Class 1 -	Phenolic
Class 2 -	Non-Phenolic

2. APPLICABLE DOCUMENTS:

The following publications, of the issues in effect on date of invitation for bids or request for bids or request for proposal, form a part of this specification to the extent specified herein.

2.1 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

QQ-A-250/4	Aluminum Alloy 2024, Plate and Sheet
QQ-A-250/5	Aluminum Alloy Alclad 2024, Plate and Sheet
QQ-A-250/13	Aluminum Alloy Alclad 7075, Plate and Sheet
QQ-P-416	Plating, Cadmium (Electrodeposited)
PPP-P-704	Pail, Metal: (Shipping, Steel, 1 through 12 gallons)
TT-T-291	Thinner, Paint, Mineral Spirits, Regular and Odorless
MIL-C-5541	Chemical Conversion Coating on Aluminum and Aluminum Alloys
MIL-C-83286	Coating, Urethane, Aliphatic Isocyanate, for Aerospace Applications
MIL-S-7952	Steel, Sheet and Strip, Uncoated Carbon (1020 and 1025) (Aircraft Quality)
MIL-A-8625	Anodic Coatings, for Aluminum and Aluminum Alloys
MIL-T-9046	Titanium and Titanium Alloy, Sheet, Strip and Plate
MIL-P-23377	Primer Coating, Epoxy Polyamide, Chemical and Solvent Resistant
FED-STD-141	Paint, Varnish, Lacquer and Related Materials, Methods of Inspection, Sampling and Testing

2.1 (Continued):

FED-STD-313 Material Safety Data Sheet, Preparation and Submission of

MIL-STD-105 Sampling Procedures and Tables for Inspection by Attributes

MIL-STD-129 Marking for Shipment and Storage

2.2 National Motor Freight Traffic Association, Inc., Agent Publications:

Available from National Motor Freight Traffic, Tariff Department, 1616 P Street, N. W., Washington, DC 20036.

National Motor Freight Classification

2.3 Uniform Classification Committee, Agent Publications:

Available from Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.

Uniform Freight Classification Rules

2.4 Department of Transportation Publications:

Available from Superintendent of Documents, Government Printing Office, Washington, DC 20402.

49 CFR 100-199 Department of Transportation (DOT) Regulations for the Transportation of Explosive and Other Dangerous Articles by Land and Water

3. REQUIREMENTS:

3.1 Qualification:

The coating remover furnished under this specification shall be products which are qualified for listing on the applicable qualified products list at the time set for opening of bids (see 4.3 and 6.3). In addition, the retention of the coating remover on the applicable qualified products list shall be dependent on periodic verification of continued compliance with the requirements of this specification (see 4.3.1).

3.2 Material:

The remover covered by this specification shall consist of organic solvents, evaporation retarders, and other ingredients needed to impart properties which conform to the requirements specified herein.

3.2.1 Composition: The formulation of the remover shall be optional with the manufacturer, except that it shall be restricted by other requirements specified herein. Type I shall contain hydroxyacetic acid but no formic acid. Type III shall be a blend of hydroxyacetic and formic acids. Removers which contain phenol, cresol, or any derivatives thereof shall be classified as Class 1 products. Removers which contain no phenol, cresol or any derivatives thereof shall be classified as Class 2 products.

3.2.2 Toxicity: The material shall have no adverse effect on the health of personnel when used for its intended purpose in accordance with the directions specified herein. The remover shall contain no components which produce noxious vapors in such concentrations as to be an annoyance to personnel during coating removal operations under conditions of adequate ventilation while exercising caution to avoid prolonged contact with the skin and while observing Occupational Safety and Health Administration (OSHA) guidelines. Questions pertaining to the toxic effect shall be referred by the procuring activity to the appropriate departmental medical service who will act as an advisor to the procuring activity (see 6.5).

3.3 Consistency and flow:

When tested as specified in 4.5.1, the remover shall flow to a point within 18 and 23 cms in five minutes.

3.4 Flammability:

When the remover is tested as specified in 4.5.2, it shall not continue to burn longer than 3 seconds after removal of the flame.

3.5 Effect on metals:

When the remover is tested as specified in 4.5.3 on the metals listed in table I (see 4.5.3.1), there shall be no discoloration or evidence of corrosion. Slight discoloration of cadmium plated steel panels shall not be considered objectionable.

3.6 Rinsability:

The remover, when tested as specified in 4.5.4, shall be rinsable with water. If residue or noticeable water break occurs it shall not adversely affect the drying or adhesion of an applied polyurethane system.

3.7 Paint stripping efficiency:

The remover, when tested as specified in 4.5.5, shall remove epoxy finish from all panels specified in table II (see 4.5.5.1) better than the control formula product (see 4.5.5.2).