

**AEROSPACE  
MATERIAL  
SPECIFICATION**

Submitted for recognition as an American National Standard

SAE AMS 1374

Issued 7-1-86

**REMOVER, PAINT  
Alkaline, Hot-Tank Type**

**1. SCOPE:**

- 1.1 Form: This specification covers two types of an alkaline, hot-tank type paint remover in the form of a liquid.
- 1.2 Application: Primarily for use as a stripper for polyurethane/epoxy painted aircraft wheels, landing gear, etc.
- 1.3 Classification: Paint remover covered by this specification is classified as follows:

Type I , Class 1 - Phenolic, Sealed  
Type I , Class 2 - Phenolic, Unsealed

Type II, Class 1 - Non-Phenolic, Sealed  
Type II, Class 2 - Non-Phenolic, Unsealed

- 1.3.1 If a specific type and class is not specified, either type and class may be supplied.

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications and Aerospace Recommended Practices shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

- 2.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096.

SAE Technical Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

AMS documents are protected under United States and international copyright laws. Reproduction of these documents by any means is strictly prohibited without the written consent of the publisher.

**REAFFIRMED**

10/91

### 2.1.1 Aerospace Material Specifications:

- AMS 2350 - Standards and Test Methods
- AMS 2471 - Anodic Treatment of Aluminum Alloys, Sulfuric Acid Process, Undyed Coating
- AMS 2475 - Protective Treatments, Magnesium Alloys
- AMS 2825 - Material Safety Data Sheets
- AMS 4037 - Aluminum Alloy Sheet and Plate, 4.4Cu - 1.5Mg - 0.60Mn (2024; -T3 Flat Sheet, -T351 Plate)
- AMS 4041 - Aluminum Alloy Sheet and Plate, Alclad, 4.4Cu - 1.5Mg - 0.60Mn (Alclad 2024 and 1-1/2% Alclad 2024-T3 Flat Sheet; 1-1/2% Alclad 2024-T351 Plate)
- AMS 4049 - Aluminum Alloy Sheet and Plate, Alclad, 5.6Zn - 2.5Mg - 1.6Cu 0.23Cr (Alclad 7075; -T6 Sheet, -T651 Plate)
- AMS 4377 - Magnesium Alloy Sheet and Plate, 3.0Al - 1.0Zn (AZ31B-H24)
- AMS 4911 - Titanium Alloy Sheet, Strip, and Plate, 6Al - 4V, Annealed
- AMS 5045 - Steel Sheet and Strip, 0.25 max Carbon, Hard Temper

### 2.1.2 Aerospace Recommended Practices:

- ARP 1511 - Corrosion of Low-Embrittling Cadmium Plate by Aircraft Maintenance Chemicals
- ARP 1512 - Corrosion of Aluminum Alloys by Aircraft Maintenance Chemicals, Sandwich Test

### 2.2 ASTM Publications. Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103

- ASTM D93 - Flash Point by Pensky-Martens Closed Tester
- ASTM D1568 - Sampling and Chemical Analysis of Alkylbenzene Sulfonates
- ASTM F483 - Total Immersion Corrosion Test for Aircraft Maintenance Chemicals
- ASTM F519 - Mechanical Hydrogen Embrittlement Testing of Plating Processes and Aircraft Maintenance Chemicals

### 2.3 U.S. Government Publications: Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

#### 2.3.1 Military Specifications:

- MIL-P-23377 - Primer Coating, Epoxy Polyamide, Chemical and Solvent Resistant
- MIL-C-83286 - Coating, Polyurethane, for Aircraft Applications

#### 2.3.2 Military Standards:

- MIL-STD-794 - Parts and Equipment, Procedures for Packaging and Packing of

### 3. TECHNICAL REQUIREMENTS:

- 3.1 Material: Shall be an alkaline liquid meeting the requirements of 3.2. Type I shall contain phenols, cresols, or both. Type II shall contain no phenols or cresols. Class 1 remover shall contain a water or oil seal at not more than 15% by volume, Class 2 remover shall not contain a seal.
- 3.2 Properties: The product shall conform to the following requirements; tests shall be performed in accordance with specified test methods on the product supplied in concentrated form:

3.2.1 Corrosion of Metal Surfaces:

- 3.2.1.1 Total Immersion Corrosion: The product shall neither show evidence of corrosion of the panels nor cause a weight change of any panel greater than the following, determined in accordance with ASTM F483:

Test Panel	Weight Change mg/cm <sup>2</sup> per 24 hr
AMS 4037 Aluminum Alloy	0.3
AMS 4041 Aluminum Alloy	0.3
AMS 4045 Aluminum Alloy	0.3
AMS 4377 Magnesium Alloy, dichromate treated as in AMS 2475	0.2
AMS 4911 Titanium Alloy	0.1
AMS 5045 Carbon Steel	0.8

- 3.2.1.2 Sandwich Corrosion: Specimens, after test, shall show a rating not worse than 1, determined in accordance with ARP 1512.
- 3.2.1.3 Low-Embrittling Cadmium Plate: Panels coated with low-embrittling cadmium plate shall not show a weight change greater than 0.3 mg/cm<sup>2</sup> per 24 hr, determined in accordance with ARP 1511.
- 3.2.2 Hydrogen Embrittlement: The product shall be non-embrittling, determined in accordance with ASTM F519, Types 1a, 1c, or 2a, at recommended operating temperature.
- 3.2.3 Flash Point: Shall be not lower than 60°C (140°F), determined in accordance with ASTM D93, and should exceed the maximum operating temperature by at least 5°C (10°F).
- 3.2.4 Performance: The product, used in accordance with manufacturer's recommendations, shall remove epoxy polyamine/aliphatic isocyanate urethane, epoxy polyamine/epoxy polyamide, or both topcoat paint systems from substrates, determined in accordance with 4.5.1. Product shall remove not less than 90% of the paint within 1 hr without brushing.
- 3.2.5 Storage Stability: Concentrated product, stored for 6 months in a 1 gal (4 L) glass bottle, shall show no visible evidence of deterioration and shall conform to the other requirements of 3.2.

3.3 Quality: The product, as received by purchaser, shall be homogeneous within one-phase products and within each phase of two-phase products and free from foreign materials detrimental to usage of the product.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of the product shall supply all samples for vendor's tests and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.5. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the product conforms to the requirements of this specification.

4.2 Classification of Tests:

4.2.1 Acceptance Tests: Tests to determine conformance to requirements for total immersion corrosion (3.2.1.1) and performance (3.2.4) are classified as acceptance tests and shall be performed on each lot.

4.2.2 Preproduction Tests: Tests to determine conformance to all technical requirements of this specification are classified as preproduction tests and shall be performed prior to or on the initial shipment of a product to a purchaser, when a change in material, processing, or both requires reapproval as in 4.4.2, and when purchaser deems confirmatory testing to be required.

4.2.2.1 For direct U.S. Military procurement, substantiating test data and, when requested, preproduction test material shall be submitted to the cognizant agency as directed by the procuring activity, contracting officer, or request for procurement.

4.3 Sampling: Shall be in accordance with ASTM D1568; a lot shall be all product produced in a single production run from the same batches of raw materials under the same fixed conditions and presented for vendor's inspection at one time.

4.4 Approval:

4.4.1 Sample remover shall be approved by purchaser before remover for production use is supplied, unless such approval be waived by purchaser. Results of tests on production remover shall be essentially equivalent to those on the approved sample.

4.4.2 Vendor shall use ingredients, manufacturing procedures, and methods of inspection on production remover which are essentially the same as those used on the approved sample remover. If necessary to make any change in ingredients or in manufacturing procedures, vendor shall submit for reapproval a statement of the proposed changes in material, processing, or both and, when requested, sample remover. Production remover made by the revised procedure shall not be shipped prior to receipt of reapproval.