

AEROSPACE MATERIAL SPECIFICATION

SAE AMS1370A

Issued 1996-03
Reaffirmed 2007-02
Revised 2008-03

Superseding AMS1370

Compound, Rust Remover, Liquid
Aircraft and Aerospace Components, Immersion Tank Method

RATIONALE

This specification was revised to meet current verbiage required by SAE standards with no technical changes.

1. SCOPE

1.1 Form

This specification covers a concentrated rust removing compound in the form of a liquid to be diluted with water for use either at ambient or elevated temperature.

1.2 Application

This compound has been used typically for the removal of oxides from ferrous components during manufacture or at overhaul, but usage is not limited to such applications. This product may be acidic or highly alkaline and may not be suitable for processing aluminum components. Avoid mixed metals during processing.

1.2.1 This compound is not for use on aircraft turbine engine components. For such applications, refer to AMS1379.

1.3 Safety - Hazardous Materials

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

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2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

AMS1379	Compound, Alkaline Rust Remover, Aircraft Turbine Engine Components
AMS2825	Material Safety Data Sheets
AMS5045	Steel, Sheet and Strip, 0.25 Carbon, Maximum, Hard Temper

2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM D 56	Flash Point by Tag Closed Tester
ASTM D 1193	Reagent Water
ASTM F 483	Total Immersion Corrosion Test for Aircraft Maintenance Chemicals

3. TECHNICAL REQUIREMENTS

3.1 Material

Shall consist of a liquid concentrate blended with additives as necessary to meet the requirements of 3.1.1 and 3.2.

3.1.1 The product shall be readily soluble in water with moderate agitation to produce a homogeneous solution, determined by adding 25 mL product to 75 mL water, conforming to ASTM D 1193, Type IV, in a 100 mL stoppered graduated cylinder, and cycling the stoppered cylinder through ten inversions. The resultant mixture shall show no evidence of layering or precipitates. Caution, heat may be generated.

3.2 Properties

The product shall conform to the following requirements; tests shall be performed in accordance with specified test methods on the product in maximum concentration and at maximum operating temperature recommended by the manufacturer.

3.2.1 Flash Point

Shall be not lower than 212 °F (100 °C), determined in accordance with ASTM D 56.

3.2.2 Total Immersion Corrosion

Panels, tested in accordance with ASTM F 483, shall not produce a weight change greater than that shown in Table 1.

TABLE 1 - PERMISSIBLE WEIGHT CHANGE

Test Specimen	Type of Compound	Maximum Weight Change mg/cm ² per 24 hours
AMS5045	Alkaline product	0.8
	Acidic product	Report loss

3.2.3 Storage Stability

When stored in unopened delivery containers, the product shall, on opening after 12 months, be free from precipitates, be homogeneous, and shall meet the requirement of 3.1.1.

3.2.4 Performance

Product, when used in accordance with manufacturer's recommendations, shall, to the satisfaction of purchaser, remove oxides from ferrous components such that the surface of the components can be inspected.

3.2.5 Quality

The product, as received by purchaser, shall be homogeneous and free from precipitates.

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 the performance of all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the product conforms to specified requirements.

4.2 Classification of Tests

4.2.1 Acceptance Tests

Solubility (3.1.1) and flash point (3.2.1) are acceptance tests and shall be performed on each lot.

4.2.2 Preproduction Tests

All technical requirements are preproduction tests and shall be performed prior to, or on, the initial shipment of the product to a purchaser, when a change in ingredients and/or processing requires reapproval as in 4.4.2, and when purchaser deems confirmatory test to be required.

4.3 Sampling and Testing

Sufficient product shall be taken at random from each lot to perform all required tests. The number of determinations for each requirement shall be as specified in the applicable test procedure or, if not specified therein, not less than two.

4.3.1 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.

4.3.2 A statistical sampling plan, acceptable to purchaser, may be used in lieu of sampling as in 4.3.

4.4 Approval

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

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

4.5 Reports

The vendor of the product shall furnish with each shipment a report showing the results of tests to determine conformance to the acceptance test requirements and stating the product conforms to the other technical requirements. This report shall include purchase order number, lot number, AMS1370A, manufacturer's identification, and quantity.

- 4.5.1 A material safety data sheet conforming to AMS2825, or equivalent, shall be supplied to each purchaser prior to, or concurrent with, the report of preproduction test results, or if preproduction testing be waived by purchaser, concurrent with the first shipment of the product for production use. Each request for modification of product formulation shall be accompanied by a revised data sheet for the proposed formulation.

4.6 Resampling and Retesting

If any specimen used in the above tests fails to meet the specified requirements, disposition of the product may be based on the results of testing three additional samples for each original nonconforming specimen. Failure of any retest specimen to meet the specified requirements shall be cause for rejection of the product represented. Results of all tests shall be reported.

5. PREPARATION FOR DELIVERY

5.1 Packaging and Identification

- 5.1.1 Product shall be packaged in containers of a type and size acceptable to purchaser.
- 5.1.2 A lot of product may be packaged in small quantities and delivered under the basic lot approval provided lot identification is maintained.
- 5.1.3 Each container shall be legibly marked with not less than AMS1370A, purchase order number, manufacturer's identification, lot number, and quantity.
- 5.1.4 Containers of compound shall be prepared for shipment in accordance with commercial practice and in compliance with applicable rules and regulations pertaining to the handling, packaging, and transportation of the compound to ensure carrier acceptance and safe delivery.

6. ACKNOWLEDGMENT

A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

7. REJECTIONS

Product not conforming to this specification, or to modifications authorized by purchaser, shall be subject to rejection.

8. NOTES

- 8.1 A change bar (|) located in the left margin is for the convenience of the user in locating areas where technical revisions, not editorial changes, have been made to the previous issue of this document. An (R) symbol to the left of the document title indicates a complete revision of the document, including technical revisions. Change bars and (R) are not used in original publications, nor in documents that contain editorial changes only.