



# AEROSPACE MATERIAL SPECIFICATION

AMS1742

Issued	2007-07
Reaffirmed	2015-04

Compound, Alkaline Solvent Cleaner  
Aircraft Turbine Engine Components  
Room Temperature Application

## RATIONALE

AMS1742 has been reaffirmed to comply with the SAE five-year review policy.

### 1. SCOPE

#### 1.1 Form

This specification covers a solvent cleaning compound in the form of a liquid.

#### 1.2 Application

This product has been used typically for removal of oils, greases, and other soils from aircraft turbine engine parts by wiping the parts at room temperature, but usage is not limited to such application.

#### 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.

#### 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](http://www.sae.org).

ARP1755                      Effect of Cleaning Agents on Aircraft Engine Materials, Stock Loss Test Method

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## 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 1568	Sampling and Chemical Analysis of Alkylbenzene Sulfonates
ASTM D 2667	Biodegradability of Alkylbenzene Sulfonates
ASTM F 519	Mechanical Hydrogen Embrittlement Evaluation of Plating Processes and Service Environments
ASTM F 945	Stress Corrosion of Titanium Alloys by Aircraft Engine Cleaning Materials

## 3. REQUIREMENTS

### 3.1 Composition

Shall be optional with the manufacturer but, when prepared in accordance with manufacturer's instructions, shall form a homogeneous solution, with no solid sediment at room temperature, meeting the requirements of 3.2.

### 3.2 Properties

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

#### 3.2.1 Stock Loss

Test panels of alloys or electrodeposits shall not incur stock loss exceeding 0.000025 inch (0.635  $\mu\text{m}$ ) per surface and plasma deposited coatings shall not incur stock loss exceeding 0.0001 inch (2.5  $\mu\text{m}$ ) when tested in accordance with ARP1755, Category 12. Stock loss figures shall be reported for all materials specified in ARP1755, Category 12. Vendor shall indicate where remover is not recommended for particular alloys or surface coatings.

#### 3.2.2 Surface Attack

Test panels and bars used for the stock loss test of 3.2.1 shall neither exhibit pitting nor show visual evidence of degradation, when examined at 50X magnification under good oblique surface lighting conditions.

#### 3.2.3 Hot Corrosion

Cleaner shall neither produce visual corrosion nor localized microscopic corrosion where the depth of attack is greater than 0.0003 inch (0.0075 mm), determined in accordance with 3.2.3.1 on the alloys shown in Table 1.

TABLE 1 - HOT CORROSION PARAMETERS

Panel Material	Bake Temperature °F	Bake Temperature °C
AMS 4025 Aluminum Alloy	399	204
AMS 4037 Aluminum Alloy	399	204
AMS 4911 Titanium Alloy	900	482
AMS 4916 Titanium Alloy	900	482
AMS 5040 Carbon Steel, nickel- cadmium plated as in AMS 2416	849	454
AMS 5040 Carbon Steel, coated with MIL-C-81751, Type I, Class 4	750	399
AMS 5504 Stainless Steel	1051	566
AMS 5510 Stainless Steel	1600	871
AMS 5536 Nickel Alloy	1600	871
AMS 5544 Nickel Alloy	1600	871
AMS 5608 Cobalt Alloy	1600	871