

NATIONAL AEROSPACE STANDARD

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC., 1725 DE SALES STREET, N. W., WASHINGTON 6, D. C.

FED SUP CLASS

6850

1.0 SCOPE

This specification covers the performance requirements for water-solvent type wipe-off cleaning materials for shop soil removal to replace hydrocarbon solvent type wipe-off cleaning materials. The term "shop soil" shall incorporate any soil which may have accumulated on parts of assemblies during storage or handling in manufacturing operations and which must be removed to permit further processing such as painting, sealing, and the application of adhesives, decals and dry film lubricants. Typical soils covered in this specification include, but are not limited to, dust, finger prints, oils, greases, etc.

2.0 APPLICABLE DOCUMENTS

P-S-661 Dry Cleaning Solvent

ASTM B 185 - 43T Method of Total Immersion Corrosion Test for Non-Ferrous Metal

QQ-A-355 - Aluminum Alloy - Plate and Sheet - 2024 Bare

QQ-M-44 - Magnesium Alloy - Plate and Sheet

3.0 REQUIREMENTS

3.1 Compatibility with Aircraft Materials

The cleaning compound shall be compatible with and have no deleterious effect on any material listed in 3.8 and 4.7 nor any previously applied chemical surface treatment which it may contact.

3.2 Composition

The composition of the cleaning compound shall be restricted only by the requirements of this specification. The product may be supplied in solid form (preferred is a free flowing, essentially dust-free product), or in the form of a water solution (concentrate), the concentration of which shall be high. The maximum concentration shall be determined by the concentration of a saturated solution at 32°F. The solids content of the concentrate shall be tested by any suitable method.

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NO Superseding Standard

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PROCUREMENT
SPECIFICATION
NONE

TITLE

SHOP SOIL REMOVER - WATER BASE

CLASSIFICATION

SPECIFICATION

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3.0 REQUIREMENTS (CONT'D)

3.3 Solubility

The cleaning compound shall be, or form, a homogeneous water solution. When tested in accordance with 4.3 the solution shall not contain more than 0.1 percent insoluble matter.

3.4 pH Value

The pH value of a dilute solution in water shall not vary more than $\pm .1$ from the value established qualifications.

3.5 Stability Requirements

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3.5.1 Aging

3.5.1.1 Solid Material - After storage for 1 year in a closed container under normal storage conditions the product shall not show a change in its conditions and shall conform to the requirements in this specification. (see NOTE in following item.)

3.5.1.2 Solution - The solution shall maintain its original properties over a period of 1 year when stored in a closed container under normal storage conditions.

NOTE: Normal storage conditions shall be defined as a temperature range from 20°F to 120°F and any relative humidity.

3.5.2 Hard Water Stability

The turbidity of a hard-water solution, prepared and measured as specified in 4.5, after 24 hours shall be no greater than 10 p.p.m. calculated as SiO₂.

3.5.3 Short-Term Heat and Cold Stability

The solid material or the solution in water shall not show a change of properties after a 6 hour exposure to either a temperature of 140°F or 0°F.

3.6 Toxicity and Disposal

The cleaning compound shall not contain ingredients for which the degree of hazard has not been appraised nor any combination of ingredients which might be hazardous to health or noxious when used in accordance with the directions for use. The compound shall not present waste disposal problems and specifically shall not contain chromium (Cr⁶⁺).

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3.7 Emulsibility

When the solution is tested in accordance with 4.6 the emulsion formed shall show no more than 2 milliliters of free oil nor shall there be more than 5 milliliters of free water.

3.8 Cleaning Ability

NOTE: No test methods are outlined in this specification due to the complexity of the various methods, that may be used by different companies.

The cleaner shall show satisfactory soil removal on the following substrates:

- 3.8.1 Bare Metals (to permit chemical film treatment, touch-up, structural bonding, or the application of decals, dry film lubricants, adhesives, etc.)
- 3.8.2 Chemically Coated and Anodized Surfaces (to permit painting, sealing and the application of decals, dry film lubricants, adhesives, etc.)
- 3.8.3 Primed Surfaces (to permit the application of a topcoating material, etc.)
- 3.8.4 Fibreglass Laminates (to permit the application of paints, decals, adhesives, etc.)
- 3.8.5 Vinyl (to permit the application of silk screening decals, etc.)
- 3.9 Corrosion of Metals

The cleaning solution shall cause no more corrosion than the control when tested in accordance with paragraph 4.7.

4.0 TEST METHODS

4.1 Standard Test Solutions

4.1.1 Cleaner

Solid Materials

Prepare standard cleaner solutions by dissolving the solid at the optimum rate recommended by the manufacturer in distilled or de-ionized water.

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