URGENT

TB 1-1500-351-23-1

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

AUTHORIZED INTERIM APPROVALS FOR METHYL ETHYL KETONE (MEK) IN ARMY AVIATION

Headquarters, Department of the Army, Washington, DC
30 November 1998

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes, or if you know of a way to improve these procedures, please let us know. Mail your letter of DA Form 2028 (Recommended Changes to Publication and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, US Army Aviation and Missile Command, ATTN: AMSAM-MMC-LS-LP, Redstone Arsenal, AL 35898-5230. You may also submit your recommended changes by email directly to ls-lp@redstone.army or by fax 256-842-6546/DSN 788-6546. A reply will be furnished directly to you. Instruction for sending an electronic 2028 may be found at the back of this manual immediately preceding the hard copy 2028.

Paragraph ..... Page

PRECAUTIONARY DATA, WARNINGS

WARNING: Refer to Material Safety Data Sheet (MSDS) for safety precautions and personnel protection required when using any of the solvents listed in this TB.

WARNING: This applies to all of the chemicals called out in this TB.

FLAMMABLE: Do not use near open flames or any other ignition source, near welding areas or on hot surfaces. Do not smoke when using the solvents and do not use solvents where others are smoking. Vapors of most of these products are heavier than air and may collect in low confined areas, forming explosive mixtures with air.

WARNING: This applies to all the chemicals called out in this TB.

HAZARDOUS VAPORS: Adequate ventilation is required to avoid prolonged exposure to solvent vapors by personnel.

1. Purpose.
The purpose of this TB is to alert the user community of the approved interim substitutes for methyl dthyl ketone (MEK) in Army aviation maintenance.

2. Background.
On 1 September 1998, the new Aerospace National Emissions Standards for Hazardous Air Pollutants (NESHAP) became effective. Army Aviation maintenance facilities may be required to comply with NESHAP. It is the responsibility of your organizations to determine compliance requirements for the Aerospace NESHAP. The Army's Major Commands have indicated that MEK is a major contributor to air pollution at the aviation maintenance facilities. Aviation systems maintenance documentation requires the use of MEK in the repair and overhaul of aviation weapon systems.

3. Interim Alternatives to MEK.
AMCOM, Aviation Research, Development and Engineering Center (AVRDEC), Materials Engineering, has identified interim substitutes to MEK that can be used in maintenance procedures. The use of the approved interim substitutes is not mandatory.

a. Desoclean 45.
Desoclean 45 is authorized as a replacement for MEK in aviation system maintenance documents. Desoclean 45 has received approval for use as a drop in replacement for MEK in all AMCOM Aviation Technical Manuals (TMs) and Depot Maintenance Work Requirements (DMWRs).

Contains Hazardous Air Pollutants (HAPs), vapor pressure of less than 45 mmHg at 70°F

Courtaulds Aerospace
5430 San Fernando Road
P.O. Box 1800
Glendale, CA 91209

Sales Contact: 1-800-237-6649 (Application Support Center)
CAGE Code: 85570
Cleaning Compound, Solvent
Part Number: 02X413

NSN (newly assigned)
6850-01-458-4691

b. DS-108.

DS-108 may replace MEK in aviation system maintenance documents for the following applications only: 1) cleaning prior to painting, 2) cleaning prior to applying sealants and 3) cleaning prior to Fluorescent Penetrant Inspection (FPI).

DS-108 is a slow evaporating solvent. After cleaning with DS-108, parts must be left to dry for at least 10 minutes prior to painting or applying sealants. For use prior to FPI, parts cleaned with DS-108 must be followed by isopropyl alcohol to remove DS-108 from the surface and the cracks.

DS-108 does not contain HAPs and has a vapor pressure of less than 7 mmHg at 70°F

Dynamold Solvents Inc.
2905 Shamrock Ave.
Ft. Worth, TX 76107

Sales Contact: (817) 335-0862
Web Site: http://www.dynamold.com
Fax: (817) 877-5203

CAGE Code: 30256
Cleaning Solvent, General Purpose
Part number: DS-108

NSNs:

7930-01-367-0994	24	1 pint squeeze bottles
7930-01-367-0995	4	1 gallon jugs
7930-01-367-0996	1	5 gallon jug
7930-01-367-0997	1	55 gallon drum

c. Acetone/Aliphatic Naptha.

Acetone or aliphatic naphtha may replace MEK for cleaning prior to applying sealants, only. Acetone and aliphatic naphtha do not contain HAPs.

Cage Code: 81348
Acetone, Technical
Part Number: O-A-51

NSNs:

6810-00-223-2739	1 pint (can)
6810-00-194-9477	1 pint (bottle)
6810-01-003-0262	1 gallon
6810-00-184-4796	5 gallons
6810-00-281-1864	54 gallons

Cage Code: 81348

Naphtha, Aliphatic
Part Number: TT-N-95

NSN's:

6810-00-238-8119	1 gallon
6810-00-265-0664	5 gallons
6810-00-238-8117	55 gallons

d. MIL-T-81772

MIL-T-81772 (Thinner for aircraft coating) may replace MEK for cleaning prior to painting. MIL-T-81772 is a blend of MEK, methyl isobutyl ketone (MIBK), acetates, toluene and xylene depending on the types (i.e. types I, II or III). The specification does not limit vapor pressure. To meet NESHAP, a MIL-T-81772 solvent must be specified with a vapor pressure less than 45mmHg at 70°F when ordering.

MIL-T-81772 (Thinner for Aircraft Coating)

Chemical Specialists and Development Inc.
DBA CSD INC
2210 Hackberry Ln
P.O. Box 687
Conroe, TX 77305

Sales Contact: 409-756-1065

Cage Code: 4N760
Thinner, Aliphatic Polyurethane Coating
Part Number: Thinner, Aircraft Coating

NSN'S:

8010-00-181-8079	5 gallons
8010-00-181-8080	1 gallon
8010-00-280-1751	55 gallon drum

Ashland Chemical, Inc.
5200 Blazer Pky
Dublin, OH 43017
Sales Contact: (614) 790-3333
Cage Code: 5A188
Thinner, Epoxy
Part Number: Solvent Blend T 81772 Type 2 Rev

NSN:

8010-01-200-2637	1 gallon

4. Deviation from Documentation.

   This authority to deviate from aircraft system technical maintenance documents is to be used only where documentation calls out the use of MEK. No deviation for other cleaning processes and chemicals are authorized without individual process approval from AMCOM. AMCOM will approve additional substitutes for MEK as they are qualified. At that time, changes to documentation will be published in the TMs and DMWRs for AMCOM systems only.

5. AMCOM Environmental Technology Team Hotline.

   AMCOM continues to reduce the Army's dependency on Hazardous Materials (Hazmat) and Ozone Depleting Chemicals (ODC) as a business practice. Maintenance documentation is being revised upon substitute application approval from responsible organizations within AMCOM. Until documentation is revised, the AMCOM Environmental Technology Team (ETT) Hotline is available to assist in the selection/approval of substitutes for specific MEK applications. Your organization may request ODC and Hazmat assistance from the ETT Hotline. The ETT is also a source for application specific approval for use of other products as replacements to ODCs and other hazardous materials.

   DSN 897-1711
   COM (256) 313-1711
   FAX DSN 645-0749
   FAX COM (256) 955-0749
   e-mail: ett-hotline @redstone.army.mil
   web page: http://www.ett.redstone.army.mil

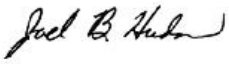
6. Point of Contact.

   Primary technical point of contact for this Technical Bulletin is Mr. Edward Allen, AMSAMRA-EMP, DSN 645-0660 or commercial (256) 955-0660, fax is DSN 645-0749. Email is allen-ek@redstone.army.mil.

By Order of the Secretary of the Army:

DENNIS J. REIMER
General, United States Army
Chief of Staff

Official:



JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
04868

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THE METRIC SYSTEM AND EQUIVALENTS

'NEAR MEASURE

. Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

'VEIGHTS

Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 lb.
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

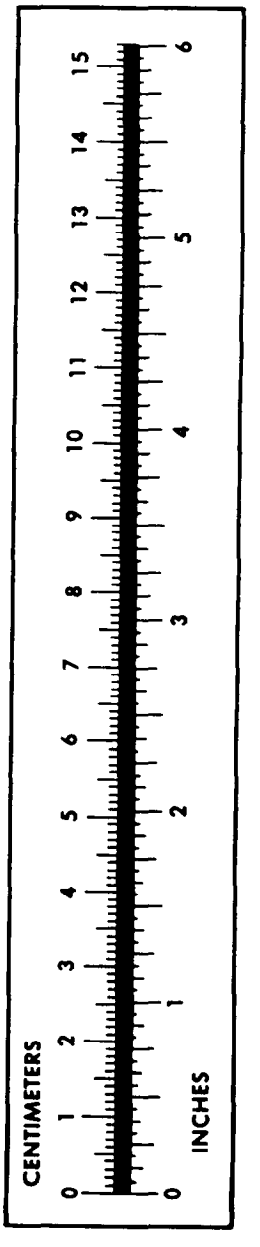
TEMPERATURE

5/9(°F - 32) = °C
212° Fahrenheit is evuivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5C° + 32 =°F

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
ıts	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
lometers per Liter	Miles per Gallon	2.354
meters per Hour	Miles per Hour	0.621



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