

METRIC

VV-L-825B  
 AMENDMENT 2  
23 April 1993  
 SUPERSEDING  
 AMENDMENT 1  
 26 March 1991

## FEDERAL SPECIFICATION

## LUBRICATING OIL, REFRIGERANT COMPRESSOR, UNINHIBITED

This amendment, which forms a part of VV-L-825B, dated November 10, 1987, is approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies

## PAGE 2

2 1, Under "FEDERAL/STANDARDS" Delete "FED-STD-313 - Material Safety Data Sheets Preparation and the Submission of" and substitute "FED-STD-313 - Material Safety Data, Transportation Data and Disposal for Hazardous Materials furnished to Government Activities"

## PAGE 3

2 2, under "AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)", delete the following

"D 471 - Standard Test Method for Rubber Property - Effect of Liquids (DoD adopted)"

2 2, under "ASTM" Add "D 1744 - Standard Test Method for Water in Liquid Petroleum Products by Karl Fischer Reagent (DoD adopted)"

## PAGE 4

3 3 Delete and substitute

"3 3 Toxicity The oil shall have no adverse effect on the health of personnel when used for its intended purpose The oil shall contain no components which produce noxious vapors in such concentrations as to be an annoyance to personnel during formulation or normal use under conditions of adequate ventilation while exercising caution to avoid prolonged contact with the skin and while observing Occupational Safety and Health Administration (OSHA) guidelines Questions pertaining to the toxic effects shall be referred by the contracting activity to the Bureau of Medicine and Surgery (BUMED), Washington, DC, who will act as medical advisor to the contracting activity"

AMSC N/A

FSC 9150

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Conformance to safety and health shall be determined by a Health Hazard Risk Assessment (HHRA) in accordance with 4.6. Products meeting this requirement will be issued a letter of approval by the Naval Sea Systems Command. Letters of approval shall apply solely to those products specifically evaluated for toxicity. Formulation changes in the product shall require a re-evaluation of the product for toxicity and a new letter of approval. Approval letters will be in effect for a maximum of three years, after which, re-issue may be requested.

Manufacturers shall provide a copy of the approval letter applicable to products offered to the Contracting Activity before the product will be accepted (see 6.2). Questions pertaining to health hazards shall be referred to BUMED who will act as an advisor to the contracting agency."

Table I Delete and substitute

TABLE I Physical and chemical requirements

| Property                              | Type II               | Type III       | Type IV               | Test method      |
|---------------------------------------|-----------------------|----------------|-----------------------|------------------|
| Viscosity, cSt, 100°F                 | 60.2 - 81.0           | ---            | 29.0 - 37.1           | ASTM D 445       |
| Viscosity, cSt, 100°C (212°F)         | ---                   | 21.7 - 26.3    | ---                   | ASTM D 445       |
| Flash point, (°F), min                | 350 (177°C)           | 450 (232°C)    | 325 (163°C)           | ASTM D 92        |
| Pour point, °F, max                   | Minus 30 (minus 34°C) | 0 (minus 18°C) | Minus 40 (minus 40°C) | ASTM D 97        |
| Floc point, °F, max                   | Minus 50 (minus 46°C) | 0 (minus 18°C) | Minus 60 (minus 51°C) | ASHRAE 86        |
| Color                                 | Report                | Report         | Report                | ASTM D 1500      |
| Moisture* (max)                       | 35 ppm                | 35 ppm         | 35 ppm                | ASTM D 1744      |
| Total acid no., mg KOH/g, max         | 0.05                  | 0.05           | 0.05                  | ASTM D 974       |
| Dielectric, kV, min                   | 25                    | 20             | 25                    | ASTM D 877       |
| Aniline point, °F                     | 160° - 220            | ---            | 160° - 210            | ASTM D 611       |
| Gravity, °API                         | 21 - 28               | ---            | 22 - 30               | ASTM D 287       |
| Chemical stability, percent R-22, max | 1.5                   | ---            | 0.8                   | ASHRAE 97        |
| Corrosion                             | 1/                    | 1/             | 1/                    | ASTM D 130       |
| Bearing compatibility                 | Pass                  | Pass           | Pass                  | Method 3452 1 2/ |

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TABLE I Physical and chemical requirements (cont'd)

| Property                          | Type II | Type III | Type IV | Test method                  |
|-----------------------------------|---------|----------|---------|------------------------------|
| Journal bearing test <sup>3</sup> | Pass    | Pass     | Pass    | Method 3452 2 <sub>2</sub> / |
| Carbon residue, percent, max      | 0 3     | 1 25     | 0 2     | ASTM D 189                   |
| Ash, percent, max                 | 0 005   | 0 005    | 0 005   | ASTM D 482                   |

\*ppm = parts per million

- 1/ Discoloration of test strip shall be not greater than that caused by oxidation of a blank copper strip when exposed to dry heat oven at 212°F (100°C) for 3 hours
- 2/ FED-STD-791, Bearing tests need not be run when there is a change in approved base oils only and the additive package originally approved is retained to formulate the oil
- 3/ Journal speed - 3500 revolutions per minute, bearing temperature = 275 ± 1°F (135 ± 55°C)

PAGE 6

4 3, last line Add "(see 3 5)"

4 4, line 4 Add "(see 3 5)" after "table I"

4 4 1 1, line 4 Add "or formulation processes " after "materials"

4 4 1 2, line 6 Add "or formulation processes " after "materials"

PAGE 7

4 6 Delete and substitute

"4 6 Toxicity The manufacturer shall provide sufficient information to permit a toxicological evaluation of his product to the Navy Environmental Health Center (NEHC), accompanied with a request to perform a health hazard risk assessment (HHRA) As a minimum, the information shall include name, formula and approximate percentage by weight of each ingredient in the product, identification of its pyrolysis products, and any other such information as may be needed to permit an accurate appraisal of any toxicity problem associated with the handling, storage, application, use, removal, disposal, or combustion of the product The request for a HHRA shall also include a product material safety data sheet and a copy of the product label The manufacturer shall provide any other information requested by NEHC to perform their evaluation Proprietary data, which is clearly marked as such, will be held in the strictest confidence by NEHC The request for a HHRA shall be addressed to the Commanding Officer, Navy Environmental Health Center, 2510 Walmer Avenue, Norfolk, Virginia 23513-2617, Attention Mr J R Crawl, C I H /NEHC-34 The manufacturer shall also send a copy of the letter

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which requests the HHRA to the Chief, Bureau of Medicine and Surgery (MED-03B4), Washington, D C 20372-5120 Upon receipt of the HHRA performed by NEHC, the manufacturer shall send a copy to the Naval Sea Systems Command, Code 05M3, Washington, D C 20362-5160, with a request for approval

NOTE The margins of this amendment are marked with an asterisk or vertical lines to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment were made This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous amendment

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Air Force - 68

Preparing activity  
Navy - SH  
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Review activities  
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DLA - GS