

MIL-L-0063460C
AMENDMENT 3
24 May 1984

SUPERSEDING
AMENDMENT 2
26 March 1984

MILITARY SPECIFICATION

LUBRICANT, CLEANER AND PRESERVATIVE
FOR WEAPONS AND WEAPONS SYSTEMS

This amendment forms a part of Military Specification MIL-L-0063460C, dated 24 June 1983, and is approved for use by the US Army Armament, Munitions and Chemical Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

PAGE 2

2.2, STANDARDS: Delete reference to "ASTM D2670 - Measuring Wear Properties of Fluid Lubricants (Falex Method)."

*3.2.1, Delete paragraph in it's entirety and substitute the following:

"Product formulation. Preferably at the time of "application for qualification testing" but no later than the date of initiation of such testing, the lubricant manufacturing or distributing source of supply shall submit to the Government activity identified in 6.3 a detailed quantitative description of the product formulation, identifying each constituent material, percentage used in finished product and the manufacturing source of supply of each component (solvent, base oil, additive etc). The product formula as furnished to the Qualifying activity will be held in strictest confidence, filed in a secure file identified "for official use only". Any change to the product formulation so identified and filed, without first alerting the Qualifying activity identified in 6.3 accordingly, shall be cause for immediate removal from the Qualified Products List".

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TABLE I: Delete reference to the requirement "Falex wear life, minutes (250 pound jaw load), min" and the value "20".

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Add the following new paragraph "3.6.3 Corrosion-protection from propellant reaction products. After having been exposed to the ignition of propellant powder and 96 hours of humidity cabinet exposure at $120^{\circ}\pm 2^{\circ}\text{F}$ ($49\pm 2^{\circ}\text{C}$) no rust spots 2mm or larger involving visible pitting or etching of the metal shall be evident on any of three humidity cabinet test panels. Rust spots occurring with 1/8" (3.2mm) of the edges of the test panel shall not be cause for failure. (See 4.11.1).

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*3.9, Delete present paragraph in it's entirety and substitute the following:

"3.9 Interference with chemical agent detector paper. Compounds applied to and allowed to soak into chemical agent detector papers shall cause no discoloration, within the limits described in 4.14, in the stained portion of the paper. A coloration in the liquid droplet portion shall not be cause for failure. Compounds shall be tested using chemical agent detector papers specified in 6.5 and in accordance with 4.16."

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3.12, Delete paragraph in it's entirety.

3.13, Reword paragraph as follows: "Workmanship. After shaking, the compound shall be uniform in color and appearance when examined by reflected light."

4.2.1, line 3: Delete the parenthetical words "(not exceeding 24 hours)" and substitute "(not exceeding 10,000 gallons)".

4.2.2, line 3: Delete the parenthetical words "(not exceeding 24 hours)" and substitute "(not exceeding 10,000 gallons)".

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4.6, Table II: Delete reference to "Falex wear life", "D2670" and note "4/" in its's entirety.

PAGE 9

Add the following new test method paragraph: "4.11.1 Corrosion-protection from propellant reaction products. Humidity cabinet corrosion test panels conforming to ASTM Method D-1748, Appendix Section A1.10 shall be used in the test. Thoroughly clean three panels first in heated petroleum naphtha conforming to TT-N-95 and then in heated methanol conforming to O-M-232. Solvents shall be heated sufficiently so that the solvent will evaporate from the panels immediately upon withdrawal from the solvent baths. Place the panels in a dessicator and after they have cooled, slosh each panel in a beaker of the test oil for a period of one minute and, suspending them from a rack, allow them to drain for a period of two hours. After the two hour period slosh each panel for one minute in a beaker containing a solution of 5% sodium choloride by weight dissolved in distilled water. Drain the panels again for a period of fifteen minutes. While the panels are draining, weigh out $3 \pm .1$ gram of WC-844 propellant powder into each of three shallow-form porcelain evaporating dishes measuring 120mm in diameter with 195 ml capacity (Coors #60234). Concentrate the powder into a strip measuring approximately 25mm wide across the bottom of the dish. After completion of the 15 minute drain period place a panel across the top of a test fixture constructed of four humidity cabinet test panels fastened together to form a box-like structure opened at top and bottom with interior dimensions measuring 4" (10.2cm) in length, 1 3/4" (4.45cm) in width and 2" (5.1cm) in height. Place the fixture with the test panel on it across the rim of the

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evaporating dish centered over and parallel to the strip of propellant and ignite the powder so that one face of the test panel is exposed to the burning propellant. Repeat this operation on the other two panels and then place the three panels into a humidity cabinet maintained at $120^{\circ}\pm 2^{\circ}\text{F}$ ($49\pm 2^{\circ}\text{C}$) and condensing humidity. After a period of 96 hours remove the test panels from the cabinet, wipe the panels lightly with a soft cloth or tissue paper soaked with petroleum ether and observe for any rusting on the test face of the panels".

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*4.14 Delete the present paragraph in it's entirety and substitute the following:

"Interference with chemical agent detector papers. This test shall be conducted using three different pieces, each, of ABC M8 and M9 chemical agent detector papers. Shake the lubricant container for 10 to 15 seconds before placing the compound on to the paper. On 3-inch strips of M8 and M9 chemical agent detector paper, place one drop of the compound (sufficient to make a 1/4 inch stain) directly from the lubricant container on to each of the paper strips. The strips should be observed for color change after 5 minutes from the time of placing the compound on the paper. The compound shall be considered unacceptable if the stain portion (excluding droplet portion) of the M8 paper shows any discoloration (pink, orange, red-brown, yellow, green and blue are examples of unacceptable colors) or if the stain portion of the M9 paper shows any red coloration (any shade of red is unacceptable including: pink, red, red-brown, red-purple)."

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4.17, Delete paragraph in it's entirety.

PAGE 13

Add the following new paragraph: "6.1.2 Preservative and packaging application limitations. Products conforming to the requirements and test of this specification should not be used for preservative applications where the intent is long-term storage, without contact and consultation with the responsible preparing activity indicated in 6.3. Due to the solvent systems common to CLP type lubricants, caution should be exercised when using products conforming to this specification where, because of test or manufacturing schedules, process, facilities limitations, etc., opportunity or capability for proper ventilation of the treated surface, prior to sealing, is not practicable."

*6.5, Chemical agent detector paper. Delete paragraph in it's entirety and substitute the following:

"ABC - M8 and M9 Chemical Agent Detector Papers shall be used for this test. For each lot of lubricant tested five booklets of M8 paper and one roll of M9 paper will be required."

*Add the following new paragraph: "6.5.1 M8 and M9 availability. For the purpose of Qualification testing, candidate manufacturing sources of supply may obtain samples of M8 and M9 papers from the Activity indicated in 6.3."

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*Add the following new paragraph: "6.5.2 M8 and M9 chemical agent detector paper. For the purpose of candidate formula preparation intended for qualification testing, data on chemical make-up and listing of materials that are not compatible i.e., give false positive reaction, with M8 and M9 paper can be obtained from the Activity identified in 6.3."

PAGE 14

*6.6 Delete reference to NSN "9150-01-079-6125" and "15.83 oz. (450g) Aerosol can with extruder tube".

"The margins of this amendment are marked with an asterisk or vertical lines to indicate where changes (additions, modifications, corrections, deletion) 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."

Preparing activity:
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