

MOLYBDENUM DISULFIDE AND POLYETHYLENE IN GREASES

Application

This method is used to determine the polyethylene and the molybdenum disulfide content in greases when solid lubricant components are exclusively polyethylene and/or molybdenum disulfide. Refer to FLTM AJ 106-02 when solid lubricants and/or fillers in addition to polyethylene and/or molybdenum disulfide are present.

Apparatus Required**Analytical Balance**

Precision +/- 0.1 mg

Mechanical Convection Oven

Capable of maintaining a temperature of 105 +/- 2 °C

Muffle Furnace

Capable of maintaining a temperature of 550 +/- 10 °C

Desiccator**Hydrosol Stainless Filter Holder (Millipore)****Filter Paper**

#42, cut out a circle the same size as a millipore filter.

Porcelain Crucible**Beaker**

400 mL, low form

Beaker

100 mL, tall form

Funnel

Approximately 50 mm diameter, glass

Mixer**Vacuum Pump**

Date	Action	Revisions
2001 01 16	Revised	Editorial – no technical change A. Cockman
2000 03 22		Editorial – no technical change A. Cockman
1991 09 24		

Printed copies are uncontrolled

Page 1 of 3

Copyright © 2001, Ford Global Technologies, Inc.

Suction Bottle

Woulff (Vacuum) Bottle

The above apparatus may be obtained from any reputable laboratory equipment supply house.

Materials Required

Toluene

Reagent grade; CAUTION: Low flash point*

Petroleum Naphtha

(U-MC 004-8004-2) (M14J148) Reagent grade; CAUTION: Low flash point*

Ethyl Alcohol

(Absolute) Reagent grade; CAUTION: Low flash point*

Xylene

Reagent grade; CAUTION: Low flash point*

Acetic Acid

Concentrated Reagent grade; CAUTION: Corrosive substance*

Filter Paper

No-42 (Cut out a circle the same size as a millipore filter).

* Users of this test method should ensure that they comply with all governmental and (if a Ford Motor Company activity) Company regulations regarding the handling and use of the above materials. Company users shall contact their industrial hygiene and environmental activities for appropriate precautions.

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Procedure

1. Weigh out 10 g grease to the nearest 0.01 g in a 400 mL beaker.
2. Mix 80 mL toluene, 80 mL petroleum naphtha, 80 mL ethyl alcohol, and 20 mL acetic acid. Add 160 mL of this mixture to the 400 mL beaker.