



MATERIAL SAFETY DATA SHEET

Page : 1 / 4

Revised edition no : 2

Date : 10 / 31 / 2008

Supersedes : 12 / 10 / 2007

Bel-Ray Molyube Friction Modifier

68700

1 IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Trade name : Bel-Ray Molyube Friction Modifier.
Identification of the product : Lubricant oil.
Use : See product data sheet for detailed application.
Company identification : Bel-Ray Company, Inc.
P.O. Box 526
Farmingdale NJ 07727 United States of America
Telephone: +1 732 938 2421

Emergency phone no : CHEMTREC: 800-424-9300 (USA); +1 703-527-3887 (outside USA-call collect)

2 COMPOSITION / INFORMATION ON INGREDIENTS

Components / Impurities : Bel-Ray Molyube Friction Modifier : Dangerous product.
Mixture : Mineral oil <3% DMSO Extractables, Synthetic oil, Additives.

Substance name	Content	CAS No	EC No	Index No	Classification ***
Molybdenum Disulfide	: 10 to 25 %	1317-33-5	215-263-9	----	
Antimony O, O-dipropylphosphorodithioate	: 10 to 25 %	15874-48-3	240-001-5	051-003-00-9	Xn; R20/22 Xi; R36/38 N; R51-53

Interchangeable base oils, one or more: 64742-01-4, 64742-54-7, 64741-88-4, 64742-52-5

*** List of relevant R phrases. See Heading 16 : OTHER INFORMATION

Other information : SARA Section 313 Chemical Listing: See Heading 15.

3 HAZARDS IDENTIFICATION

Primary route of exposure : Eyes. Skin.
Inhalation : May cause irritation to the respiratory tract.
Skin contact : Irritating to skin.
Eye contact : Irritating to eyes.
Ingestion : May cause irritation.
NFPA Hazard Ratings : Health : 2 - WARNING : May be harmful if inhaled or absorbed.
Flammability : 1 - Combustible if heated.
Reactivity : 0 - Stable : Not reactive when mixed with water.
Special Notice Key : - - - -

4 FIRST AID MEASURES

First aid measures : If overcome by exposure, remove victim to fresh air immediately. Seek medical advice (show the label where possible).
Inhalation : Remove casualty to fresh air and keep at rest. Call a physician.
Skin contact : Wash skin thoroughly with mild soap and water. Seek medical attention if ill effect or irritation develops.
Eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Ensure adequate flushing of eyes by separating eyelids with the fingers. Obtain emergency medical attention if pain, blinking, tears or redness persist.
Ingestion : Never give anything by mouth to an unconscious person. Rinse mouth with water, do not induce vomiting, call a doctor.
Note to physician : Treat symptomatically.

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5 FIRE-FIGHTING MEASURES

- Hazardous combustion products** : Incomplete combustion may form carbon monoxide, carbon dioxide, gas.
- **Suitable extinguishing media** : Carbon dioxide. Dry powder. Foam.
- **Unsuitable extinguishing media** : Use of heavy stream of water may spread fire.
- Protection against fire** : Use self-contained breathing apparatus when in close proximity to fire.
- Special procedures** : Fight fire from safe distance and protected location.

6 ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Eliminate every possible source of ignition. Ensure adequate ventilation. Ventilate confined spaces before entering. Equip cleanup crew with proper protection.
- Environmental precautions** : Prevent entry to sewers and public waters.
- Clean up methods** : Clean up any spills as soon as possible, using an absorbent material to collect it. Take up small spills with dry chemical absorbent. Take up large spills with pump or vacuum. Sweep or shovel spills into appropriate container for disposal. Dispose in a safe manner in accordance with local/national regulations.

7 HANDLING AND STORAGE

- Precautions in handling and storage** : When using, do not eat, drink, or smoke.
- Storage** : Store in dry, cool, well-ventilated area. Provide adequate ventilation to minimize dust and/or vapour concentrations. Keep only in the original container.
- Storage - away from** : Strong oxidizers. Sparks. Heat sources. Prolonged exposure to sunlight. Combustible material. Sources of ignition. Keep away from ignition sources (including static discharges).
- Handling** : Handle in accordance with good industrial hygiene and safety procedures.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

- Personal protection** : Ensure adequate ventilation.
- **Respiratory protection** : Where exposure through inhalation may occur from use, approved respiratory protection equipment is recommended.
- **Hand protection** : Wear suitable gloves resistant to chemical penetration.
- **Skin protection** : If skin contact or contamination of clothing is likely, protective clothing should be worn.
- **Eye protection** : Chemical goggles or safety glasses.
- **Ingestion** : When using, do not eat, drink, or smoke.
- Industrial hygiene** : Handle in accordance with good industrial hygiene and safety procedures.
- Occupational Exposure Limits** : Interchangeable base oils, one or more: 64742-01-4, 64742-54-7, 64741-88-4, 64742-52-5 : TLV[©] -TWA [mg/m³] : 5
Antimony O, O- dipropylphosphorodithioate : TLV[©] -TWA [mg/m³] : 0.5 (as Antimony compound)
Molybdenum Disulfide : TLV[©] -TWA [mg/m³] : 3 (Respirable)
Molybdenum Disulfide : TLV[©] -TWA [mg/m³] : 10 (Inhalable)
When mists can occur, the following are recommended:
Oil Mist, mineral: TLV[©]-TWA [mg/m³]: 5
STEL: 10



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9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 20 °C	: Semi- Fluid.
Colour	: Dark Grey.
Odo(u)r	: Light odour of petroleum.
Density	: 1023 kg/m ³
Solubility in water	: Negligible.
Solubility in:	: Oil.
Flash point [°C] (ASTM D 93)	: 175 (347°F) PMCC
Explosion limits	: No reliable data available.
Evaporation rate	: No reliable data available.

10 STABILITY AND REACTIVITY

Stability and reactivity	: Stable under normal conditions.
Hazardous decomposition products	: • Antimony O, O- dipropylphosphorodithioate is contained in this product, which can release odorous compounds such as alkylmercaptans, dialkylsulfides, and traces of hydrogen sulfide from processing or thermal decomposition. Carbon dioxide, carbon monoxide, others.
Materials to avoid	: Strong oxidizers.
Conditions to avoid	: Combustible material. All heat sources, including direct sunlight. Open flame. Sparks. Keep away from ignition sources (including static discharges).

11 TOXICOLOGICAL INFORMATION

Toxicity information	: Product not tested. No reliable data available.
• Inhalation	: May cause irritation to the respiratory tract.
• Dermal	: Irritating to skin.
• Ocular	: Irritating to eyes.
• Ingestion	: May cause irritation.
Rat oral LD50 [mg/kg]	: Product not tested. No reliable data available.
Rabbit dermal LD50 [mg/kg]	: Product not tested. No reliable data available.

12 ECOLOGICAL INFORMATION

Ecological effects information	: This product has not been tested for environmental effects. Low mobility (soil). Material insoluble in water.
Bioaccumulative potential	: Product not tested. No reliable data available.
Persistence - degradability	: Product not tested. No reliable data available.
CERCLA (US)	: No known reportable quantities.

13 DISPOSAL CONSIDERATIONS

General	: Dispose in a safe manner in accordance with local/national regulations.
Disposal method	: Material, as supplied, is not a U.S. EPA hazardous waste. Some states may regulate the disposal of petroleum and petroleum products. DO NOT INCINERATE AEROSOL CANS. Processing, use, or contamination may make this information inaccurate or incomplete.

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14 TRANSPORT INFORMATION

DOT (USA) : Not regulated.

15 REGULATORY INFORMATION

SARA TITLE III Section 311/312 : Immediate (Acute)

SARA TITLE III Section 313 :

- Antimony O, O- dipropylphosphorodithioate as Antimony Compound N010
- Lead CAS 7439-92-1

New Jersey Right-To-Know :

- Antimony O, O- dipropylphosphorodithioate as Antimony Compound N010

Carcinogen classification :

: Not listed by NTP, IARC or OSHA.

State of California :

: This product contains chemicals known to the State of California to cause cancer, and/or birth defects, and/or reproductive harm.

- Benzene CAS 71-43-2
- Lead CAS 7439-92-1
- Arsenic CAS 7440-38-2
- Cadmium CAS 7440-43-9

Other :

: Certified Kosher by Tablet K.
Customers are reminded to check their state list of hazardous chemicals for proper disclosure and reporting of chemical substances.

16 OTHER INFORMATION

Recommended uses and restrictions : Contact the producer or distributor. See product data sheet for detailed application.

List of relevant R phrases :

R20/22 - Harmful by inhalation and if swallowed.

R36/38 - Irritating to eyes and skin.

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

NOTE :

: October 31, 2008: Revised

Revision :

: 2

Print date :

: 31 / 10 / 2008

Prepared by :

: Regulatory Department
Bel-Ray Company, Inc.

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Details given in this document are believed to be correct at the time of going to press. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

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