

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product number 954
Product name Dry Moly Film Lubricant and Coating
Effective date 21-Jan-2013
Company information Terand Industries, Inc.
P.O. Box 667770
Pompano Beach, FL 33066 United States
Company phone General Assistance 954-974-5440
Emergency telephone US 1-866-836-8855
Emergency telephone outside US 1-952-852-4646
Version # 02
Supersedes date 27-Nov-2012

2. Hazards Identification

Emergency overview Aerosol. Extremely flammable. CONTENTS UNDER PRESSURE.
Harmful in contact with eyes. Irritating to skin. Irritating to respiratory system.

Potential health effects

Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.

Eyes Contact with eyes may cause irritation.

Skin Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Irritating to skin.

Inhalation Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Irritating to respiratory system. Prolonged inhalation may be harmful.

Ingestion Exposure by ingestion of an aerosol is unlikely. Components of the product may be absorbed into the body by ingestion.

Target organs Central nervous system. Lungs.

Chronic effects Conjunctiva. Liver injury may occur. Kidney injury may occur. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May cause delayed lung injury.

Signs and symptoms Discomfort in the chest. Narcosis. Coughing. Jaundice. Conjunctivitis. Defatting of the skin. Skin irritation.

3. Composition / Information on Ingredients

Components	CAS #	Percent
n-Butane	106-97-8	20 - 30
Acetone	67-64-1	20 - 30
n-Heptane	142-82-5	15 - 20
Propane	74-98-6	10 - 15
Magnesium Silicate	14807-96-6	3 - 5
Toluene	108-88-3	3 - 5
Isopropyl Alcohol	67-63-0	1 - 3
Non-hazardous and other components below reportable levels		10 - 20

4. First Aid Measures

First aid procedures

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Skin contact Immediately flush skin with plenty of water. Remove and isolate contaminated clothing and shoes. Get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.

Inhalation Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention, if needed.

Ingestion If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not induce vomiting without advice from poison control center. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.

Notes to physician Symptoms may be delayed.

5. Fire Fighting Measures

Flammable properties Runoff to sewer may cause fire or explosion hazard.

Protection of firefighters

Protective equipment and precautions for firefighters In case of fire and/or explosion do not breathe fumes. Containers should be cooled with water to prevent vapor pressure build up.

6. Accidental Release Measures

Methods for cleaning up Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

7. Handling and Storage

Handling Pressurized container: Do not pierce or burn, even after use. Do not smoke while using or until sprayed surface is thoroughly dry. Use only in area provided with appropriate exhaust ventilation. Do not use if spray button is missing or defective. Do not re-use empty containers. Do not get this material in contact with eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid prolonged exposure.

Storage Do not puncture, incinerate or crush. The pressure in sealed containers can increase under the influence of heat. Avoid exposure to long periods of sunlight. Store in cool place. Keep away from food, drink and animal feedingstuffs. Level 3 Aerosol.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH				
Components	CAS #	TWA	STEL	Ceiling
n-Butane	106-97-8	1000 ppm	Not established	Not established
Acetone	67-64-1	500 ppm	750 ppm	Not established
n-Heptane	142-82-5	400 ppm	500 ppm	Not established
Propane	74-98-6	1000 ppm	Not established	Not established
Magnesium Silicate	14807-96-6	2 mg/m ³	Not established	Not established
Toluene	108-88-3	20 ppm	Not established	Not established
Isopropyl Alcohol	67-63-0	200 ppm	400 ppm	Not established

OSHA				
Components	CAS #	TWA	STEL	Ceiling
Acetone	67-64-1	1000 ppm	Not established	Not established
n-Heptane	142-82-5	500 ppm	Not established	Not established
Propane	74-98-6	1000 ppm	Not established	Not established
Toluene	108-88-3	200 ppm	Not established	300 ppm
Isopropyl Alcohol	67-63-0	400 ppm	Not established	Not established

Personal protective equipment

Eye / face protection Chemical goggles are recommended.

Skin protection Wear appropriate chemical resistant clothing. Chemical resistant gloves.

Respiratory protection

If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator. In case of insufficient ventilation, wear suitable respiratory equipment.

9. Physical & Chemical Properties

Appearance	Not available
Boiling point	109.4 °F (42.8 °C) estimated
Color	Black.
Density	0.8217 g/cm ³ estimated
Flammability (HOC)	35.9238 kJ/g estimated
Flash back	No
Flash point	-156 °F (-104.4 °C) Propellant
Form	Aerosol.
Freezing point	Not available
Odor	solvent
Physical state	Liquid.
Pressure	50 psig @70F
Solubility	Partially
Specific gravity	0.8218 estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of ignition.
Conditions to avoid	Aerosol containers are unstable at temperatures above 49°C. Avoid high temperatures.
Hazardous decomposition products	Irritants. Toxic gas.

11. Toxicological Information

Component analysis - LD50**Toxicology Data - Selected LD50s and LC50s**

Acetone	67-64-1	Oral LD50 Rat 5800 mg/kg
Isopropyl Alcohol	67-63-0	Inhalation LC50 Rat 72.6 mg/L 4 h; Oral LD50 Rat 4396 mg/kg; Dermal LD50 Rat 12800 mg/kg; Dermal LD50 Rabbit 12870 mg/kg
n-Butane	106-97-8	Inhalation LC50 Rat 658 mg/L 4 h
n-Heptane	142-82-5	Inhalation LC50 Rat 103 g/m ³ 4 h; Oral LD50 Mouse 5000 mg/kg; Dermal LD50 Rabbit 3000 mg/kg
Propane	74-98-6	Inhalation LC50 Rat 658 mg/L 4 h
Toluene	108-88-3	Inhalation LC50 Rat 12.5 mg/L 4 h; Inhalation LC50 Rat >26700 ppm 1 h; Oral LD50 Rat 636 mg/kg; Dermal LD50 Rabbit 8390 mg/kg; Dermal LD50 Rat 12124 mg/kg

12. Ecological Information

Ecotoxicity	Components of this product are hazardous to aquatic life.
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13. Disposal Considerations

Waste codes	D001: Waste Flammable material with a flash point <140 F
Disposal instructions	Contents under pressure. Do not puncture, incinerate or crush. Dispose of this material and its container to hazardous or special waste collection point. If discarded, this product is considered a RCRA ignitable waste, D001.

14. Transport Information

Department of Transportation (DOT) Requirements

Basic shipping requirements:

Proper shipping name	Aerosols
Hazard class	2.1
UN number	UN1950
Additional information:	
Special provisions	153, N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None



Further information

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2013, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/13 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IMDG

Basic shipping requirements:

Proper shipping name	AEROSOLS
Hazard class	2.1
UN number	1950
Additional information:	
Packaging exceptions	LTD QTY
Labels required	None



IATA

Basic shipping requirements:

Proper shipping name	Aerosols, flammable
Hazard class	2.1
UN number	1950
Additional information:	
Packaging exceptions	LTD QTY
Labels required	2.1



15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

Isopropyl Alcohol	67-63-0	1.0 % de minimis concentration (only if manufactured by the strong acid process, no supplier notification)
Toluene	108-88-3	1.0 % de minimis concentration

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

CERCLA (Superfund) reportable quantity

Acetone: 5000.0000

Toluene: 1000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Hazard categories (311/312) Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of New and Existing Chemicals (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

U.S. - Pennsylvania - RTK (Right to Know) List

Acetone	67-64-1	Environmental hazard
Isopropyl Alcohol	67-63-0	Environmental hazard
Magnesium Silicate	14807-96-6	Present
n-Butane	106-97-8	Present
n-Heptane	142-82-5	Present
Propane	74-98-6	Present
Toluene	108-88-3	Environmental hazard

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings Health: 1
Flammability: 4
Physical hazard: 0

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information in the sheet was written based on the best knowledge and experience currently available.

MSDS sections updated Product and Company Identification: Product Review
Transport Information: Further information

Prepared by Regulatory Compliance