

Issuing Date 20-Nov-2014

Revision Date 05-Feb-2016

Revision Number 2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING**GHS product identifier****Product Name** Moly Dry Film Lubricant**Other means of identification****Product Code(s)****UN-Number****Synonyms** None**Recommended use of the chemical and restrictions on use****Recommended Use** Lubricants, Greases and Release Products, Coatings & Paints**Uses advised against** No information available**Supplier's details****Manufacturer Address**

The Whitmore Manufacturing Company
930 Whitmore Drive
Rockwall, TX 75087
TEL: 800-699-6318
FAX: (972) 722-2108
Email: techservice@whitmores.com
Website: www.whitmores.com

Emergency Telephone Number CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
1-800-424-9300 (NORTH AMERICA)**2. HAZARDS IDENTIFICATION****Classification**

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200).

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Specific Target Organ Systemic Toxicity (Single Exposure)	Category 3
Flammable aerosols	Category 1
Gases under pressure	Compressed gas

GHS Label elements, including precautionary statements**Emergency Overview****Signal Word** Danger

Hazard Statements

- Causes skin irritation
- Causes serious eye irritation
- May cause an allergic skin reaction
- May cause drowsiness or dizziness
-
- Extremely flammable aerosol
- Contains gas under pressure; may explode if heated

**Appearance** Black.**Physical State** Aerosol.**Odor** Etheryl.**Precautionary Statements****Prevention**

- Wash face, hands and any exposed skin thoroughly after handling.
- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Contaminated work clothing should not be allowed out of the workplace.
- Use only outdoors or in a well-ventilated area.
- Keep away from heat/sparks/open flames/hot surfaces - No smoking.
- Do not spray on an open flame or other ignition source
- Pressurized container: Do not pierce or burn, even after use.
- Wear protective gloves/protective clothing/eye protection/face protection.

General Advice

- Specific treatment (see supplemental first aid instructions on this label)

Eyes

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.

Skin

- IF ON SKIN: Wash with plenty of soap and water.
- Take off contaminated clothing and wash before reuse.
- If skin irritation or rash occurs: Get medical advice/attention.

Inhalation

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a POISON CENTER or doctor/physician if you feel unwell.

Storage

- Store in a well-ventilated place. Keep container tightly closed.
- Store locked up.
- Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
- Protect from sunlight

Disposal

- Dispose of contents/container to an approved waste disposal plant.

Hazard Not Otherwise Classified (HNOC)

Not applicable.

Other information

Harmful to aquatic life with long lasting effects.

8.1% of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade secret
Acetone	67-64-1	30-36	*
Petroleum distillates	68476-85-7	20-25	*
Methyl ethyl ketone	78-93-3	15-19	*
Xylenes (o-, m-, p- isomers)	1330-20-7	7.5-11	*
Bisphenol A - Epichlorohydrin polymer	25068-38-6	7-9	*
Molybdenum (IV) sulfide	1317-33-5	5.75-8	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of necessary first-aid measures

General Advice	Show this safety data sheet to the doctor in attendance.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician. In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
Inhalation	Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. If symptoms persist, call a physician.
Ingestion	Not an expected route of exposure. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Clean mouth with water and afterwards drink plenty of water. Consult a physician.
Protection of First-aiders	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects Itching Rashes Drowsiness. Dizziness.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition. Containers may explode when heated.

Explosion Data

Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	Yes.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Ensure adequate ventilation. Remove all sources of ignition. Do not touch damaged packages or spilled material. Contents under pressure. In case of rupture: Refer to Section 8 for personal protective equipment.

Environmental Precautions

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas. Avoid release to the environment. Dispose of contents/container to an approved waste disposal plant. See Section 12 for additional Ecological Information.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Keep in suitable and closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not breathe vapors or spray mist. Ensure adequate ventilation. Use only in area provided with appropriate exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Keep in properly labeled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Incompatible with strong oxidizing agents, strong reducing agents, strong acids, and strong bases.

Incompatible Products Strong oxidizing agents. Strong acids.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetone 67-64-1	STEL: 750 ppm TWA: 500 ppm	TWA: 1000 ppm TWA: 2400 mg/m ³ (vacated) TWA: 750 ppm (vacated) TWA: 1800 mg/m ³ (vacated) STEL: 2400 mg/m ³ The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors (vacated) STEL: 1000 ppm	IDLH: 2500 ppm 10% LEL TWA: 250 ppm TWA: 590 mg/m ³
Petroleum distillates 68476-85-7	TWA: 1000 ppm	TWA: 1000 ppm TWA: 1800 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m ³	IDLH: 2000 ppm TWA: 1000 ppm TWA: 1800 mg/m ³
Methyl ethyl ketone 78-93-3	STEL: 300 ppm TWA: 200 ppm	TWA: 200 ppm TWA: 590 mg/m ³ (vacated) TWA: 200 ppm (vacated) TWA: 590 mg/m ³ (vacated) STEL: 300 ppm (vacated) STEL: 885 mg/m ³	IDLH: 3000 ppm TWA: 200 ppm TWA: 590 mg/m ³ STEL: 300 ppm STEL: 885 mg/m ³

Xylenes (o-, m-, p- isomers) 1330-20-7	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m ³	-
Molybdenum (IV) sulfide 1317-33-5	TWA: 10 mg/m ³ Mo inhalable fraction TWA: 3 mg/m ³ Mo respirable fraction	TWA: 15 mg/m ³ total dust (vacated) TWA: 10 mg/m ³ Mo	IDLH: 5000 mg/m ³ Mo

Immediately Dangerous to Life or Health. ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH:

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Measures Showers. Eyewash stations. Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields.
Skin and Body Protection Wear protective gloves/clothing.
Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Hygiene Measures When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Aerosol.	Appearance	Black.
Odor	Etheryl.	Odor Threshold	No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks/ - Method</u>
pH	Neutral	None known
Melting Point/Range	-95.35 °C	None known
Boiling Point/Boiling Range	-18 - 162 °C	None known
Flash Point	> -20 °C	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
upper flammability limit	No data available	
lower flammability limit	No data available	
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Specific Gravity	0.85	None known
Water Solubility	Largely	None known
Solubility in other solvents	Completely soluble.	None known
Partition coefficient: n-octanol/water	-0.2	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	No data available	None known

Flammable Properties Flammable aerosol.

Explosive Properties No data available
Oxidizing Properties No data available

Other information

VOC Content (%) 58.9 g/L

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Heat, flames and sparks. Incompatible products. Keep away from direct sunlight. Do not puncture or incinerate cans.

Incompatible materials

Strong oxidizing agents. Strong acids.

Hazardous decomposition products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation

Vapors may irritate throat and respiratory system. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.

Eye Contact

Causes serious eye irritation.

Skin Contact

Causes skin irritation. Repeated exposure may cause skin dryness or cracking. May cause allergic skin reaction

Ingestion

Not an expected route of exposure.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetone	= 5800 mg/kg (Rat)	1700mg/kg (rabbit)	18892 mg/m ³
Methyl ethyl ketone	= 2737 mg/kg (Rat)	= 6480 mg/kg (Rabbit)	23500 mg/m ³
Xylenes (o-, m-, p- isomers)	= 3500 mg/kg (Rat)	> 4350 mg/kg (Rabbit) > 1700 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h
Bisphenol A - Epichlorohydrin polymer	11400 mg/kg (Rat)	-	-
Molybdenum (IV) sulfide	-	-	> 2820 mg/m ³ (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

No information available.

Delayed and immediate effects and also chronic effects from short and long term exposure

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking Irritating to skin.

Eye damage/irritation

Irritating to eyes.

Sensitization

May cause sensitization of susceptible persons. May cause sensitization by skin contact.

Mutagenic Effects

No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Xylenes (o-, m-, p- isomers)		Group 3		

IARC: (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to its Carcinogenicity to Humans

Reproductive Toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration Hazard	No information available.

Numerical measures of toxicity - Product

Acute Toxicity 8.1% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document:

LD50 Oral 6549 mg/kg; Acute toxicity estimate

LD50 Dermal 8537 mg/kg; Acute toxicity estimate

Inhalation

gas 45000

dust/mist 15 mg/L; Acute toxicity estimate

Vapor 110 mg/L; Acute toxicity estimate

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Acetone 67-64-1		LC50 96 h: 4.74 - 6.33 mL/L (Oncorhynchus mykiss) LC50 96 h: 6210 - 8120 mg/L static (Pimephales promelas) LC50 96 h: = 8300 mg/L (Lepomis macrochirus)	EC50 = 14500 mg/L 15 min	EC50 48 h: 10294 - 17704 mg/L Static (Daphnia magna) EC50 48 h: 12600 - 12700 mg/L (Daphnia magna)
Methyl ethyl ketone 78-93-3		LC50 96 h: 3130-3320 mg/L flow-through (Pimephales promelas)	EC50 = 3403 mg/L 30 min EC50 = 3426 mg/L 5 min	EC50 48 h: 4025 - 6440 mg/L Static (Daphnia magna) EC50 48 h: = 5091 mg/L (Daphnia magna) EC50 48 h: > 520 mg/L (Daphnia magna)
Xylenes (o-, m-, p- isomers) 1330-20-7	EC50 72 h: = 11 mg/L (Pseudokirchneriella subcapitata)	LC50 96 h: = 13.4 mg/L flow-through (Pimephales promelas) LC50 96 h: 2.661 - 4.093 mg/L static (Oncorhynchus mykiss) LC50 96 h: 13.5 - 17.3 mg/L (Oncorhynchus mykiss) LC50 96 h: 13.1 - 16.5 mg/L flow-through (Lepomis macrochirus) LC50 96 h: = 19 mg/L (Lepomis macrochirus) LC50 96 h: 7.711 - 9.591 mg/L static (Lepomis macrochirus) LC50 96 h: 23.53 - 29.97 mg/L static (Pimephales promelas) LC50 96 h: = 780 mg/L semi-static (Cyprinus carpio) LC50 96 h: > 780 mg/L (Cyprinus carpio) LC50 96 h: 30.26 - 40.75 mg/L static (Poecilia reticulata)		EC50 48 h: = 3.82 mg/L (water flea) LC50 48 h: = 0.6 mg/L (Gammarus lacustris)

Persistence and Degradability No information available.

Bioaccumulation

Chemical Name	Log Pow
Acetone	-0.24
Petroleum distillates	2.8
Methyl ethyl ketone	0.29
Xylenes (o-, m-, p- isomers)	2.77 - 3.15

Other Adverse Effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Dispose of in accordance with federal, state, and local regulations

Contaminated Packaging Do not re-use empty containers.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Acetone - 67-64-1		Included in waste stream: F039		U002
Methyl ethyl ketone - 78-93-3	waste number U159	Included in waste streams: F005, F039	= 200.0 mg/L regulatory level	U159
Xylenes (o-, m-, p- isomers) - 1330-20-7		Included in waste stream: F039		U239

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
Acetone	Ignitable
Methyl ethyl ketone	Toxic Ignitable
Xylenes (o-, m-, p- isomers)	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

UN-Number UN1950
Proper shipping name Aerosols
Hazard Class 2.1
Subsidiary Class
Description UN1950,Aerosols ,2.1
Emergency Response Guide Number 126

TDG

UN-Number UN1950
Proper Shipping Name Aerosols
Hazard Class 2.1
Description UN1950,AEROSOLS,2.1

MEX

UN-Number UN1950
Proper Shipping Name Aerosols
Hazard Class 2.1
Description UN1950 Aerosols,2.1

ICAO

UN-Number UN1950
Proper shipping name Aerosols
Hazard Class 2.1

Description	UN1950,Aerosols,2.1
IATA	
UN-Number	UN1950
Proper Shipping Name	Aerosols, flammable
Hazard Class	2.1
ERG Code	10L
Description	UN1950,Aerosols, flammable,2.1
IMDG/IMO	
UN-Number	UN1950
Proper Shipping Name	Aerosols
Hazard Class	2.1
EmS No.	F-D, S-U
Description	UN1950, Aerosols,2.1,FP -20C
RID	
UN-Number	UN1950
Proper Shipping Name	Aerosols
Hazard Class	2.1
Classification Code	5F
Description	UN1950 Aerosols,2.1,
ADR	
UN-Number	UN1950
Proper Shipping Name	Aerosols
Hazard Class	2.1
Classification Code	5F
Description	UN1950 Aerosols,2.1,
ADN	
UN-No	UN1950
Proper Shipping Name	Aerosols (Mixture)
Hazard Class	2.1
Classification Code	5F
Special Provisions	190, 327, 625
Description	UN1950 Aerosols,2.1,,Mixture
Hazard Labels	2.1
Limited Quantity	LQ2
Ventilation	VE01, VE04

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Xylenes (o-, m-, p- isomers)	1330-20-7	7.5-11	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden Release of Pressure Hazard	Yes
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Xylenes (o-, m-, p- isomers)	100 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Acetone	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Methyl ethyl ketone	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Xylenes (o-, m-, p- isomers)	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Acetone	X	X	X		X
Petroleum distillates	X	X	X		X
Methyl ethyl ketone	X	X	X	X	X
Xylenes (o-, m-, p- isomers)	X	X	X	X	
Molybdenum (IV) sulfide		X			

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA	Health Hazard 2	Flammability 4	Instability 0	Physical and Chemical Hazards -
HMIS	Health Hazard 2	Flammability 4	Physical Hazard 0	Personal Protection X

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Issuing Date 20-Nov-2014
Revision Date 05-Feb-2016
Revision Note Change to classification.

General Disclaimer

The information provided on this SDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet