Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Moly Lube Dry Film Lubricant**

Product Code • 40140

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Excellent lubrication of firearm metal parts

1.3 Details of the supplier of the safety data sheet

Manufacturer • Birchwood Casey, LLC
7887 Fuller Road, Suite 100
Eden Prairie, MN 55344
United States
www.birchwoodcasey.com
Customerservice@birchwoodcasey.com

Telephone (General) • 952-388-6717

NZ DISTRIBUTOR
Steve's Wholesale Ltd.
Units 5 – 7 / 408 The Esplanade
Island Bay Wellington 6023
team@steveswholesale.nz
Emergency Contact: Steve Collings
0800 303 303
0274 905 708
Poison Control 0800 POISON (0800 764 766)

1.4 Emergency telephone number

Manufacturer • 1-800-424-9300 - CHEMTREC

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Flammable Aerosols 1 - H222
Aspiration 1 - H304
Skin Irritation 2 - H315
Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects - H336
Reproductive Toxicity 2 - H361f
Specific Target Organ Toxicity Repeated Exposure 2 - H373
Hazardous to the aquatic environment Chronic 2 - H411

DSD/DPD • Extremely Flammable (F+)
Harmful (Xn)
Irritant (Xi)
Substances Toxic To Reproduction - Category 3
Dangerous to the Environment (N)
R12, R36, R48/20, R62, R67, R51, R53

2.2 Label Elements

CLP

DANGER

Hazard statements

- H222 - Extremely flammable aerosol
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H336 - May cause drowsiness or dizziness
H361f - Suspected of damaging fertility.
H373 - May cause damage to organs through prolonged or repeated exposure.
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements

Prevention

- P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
P211 - Do not spray on an open flame or other ignition source.
P251 - Pressurized container: Do not pierce or burn, even after use.
P260 - Do not breathe gas/mist/vapours/spray.
P264 - Wash thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves .
P281 - Use personal protective equipment as required.
P273 - Avoid release to the environment.

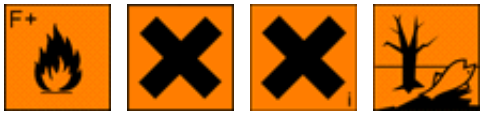
Response

- P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P321 - Specific treatment, see supplemental first aid information.
P362 - Take off contaminated clothing and wash before reuse.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 - Do NOT induce vomiting.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P391 - Collect spillage.

Storage/Disposal

- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50ºC/122ºF.
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD



Risk phrases

- R12 - Extremely flammable.
R36 - Irritating to eyes.
R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R62 - Possible risk of impaired fertility.
R67 - Vapours may cause drowsiness and dizziness.
R51 - Toxic to aquatic organisms.
R53 - May cause long-term adverse effects in the aquatic environment.

Safety phrases

- S9 - Keep container in a well ventilated place
S16 - Keep away from sources of ignition - No Smoking.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37 - Wear suitable gloves.
S57 - Use appropriate containment to avoid environmental contamination.

2.3 Other Hazards

CLP
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD
- According to European Directive 1999/45/EC this material is considered dangerous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012
- Flammable Aerosols 1
  Aspiration 1
  Skin Irritation 2
  Eye Mild Irritation 2B
  Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
  Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects
  Reproductive Toxicity 2
  Specific Target Organ Toxicity Repeated Exposure 2

2.2 Label elements

OSHA HCS 2012

DANGER

Hazard statements
- Extremely flammable aerosol
  May be fatal if swallowed and enters airways
  Causes skin irritation
  Causes eye irritation
  May cause respiratory irritation
  May cause drowsiness or dizziness
  Suspected of damaging fertility or the unborn child.
  May cause damage to organs - Nervous System, Central Nervous System (CNS) through prolonged or repeated exposure

Precautionary statements

Prevention
- Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  Keep away from heat, sparks, open flames and/or 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.
  Do not breathe fume/gas/mist/vapours/spray.
  Wash thoroughly after handling.
  Use only outdoors or in a well-ventilated area.
  Wear protective gloves/protective clothing/eye protection/face protection.

Response
- 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.
  IF ON SKIN: Wash with plenty of soap and water.
  Specific treatment, see supplemental first aid information.
  Take off contaminated clothing and wash before reuse.
  If skin irritation occurs: Get medical advice/attention.
  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.
  IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
  Do NOT induce vomiting.
  IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
  Get medical advice/attention if you feel unwell.

Storage/Disposal
- Store in a well-ventilated place. Keep container tightly closed.

Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50ºC/122ºF.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Flammable Aerosols - B5
  Other Toxic Effects - D2A
  Other Toxic Effects - D2B

2.2 Label elements

WHMIS

- Flammable Aerosols - B5
  Other Toxic Effects - D2A
  Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Hexane	**CAS:**110-54-3 **EC Number:**203-777-6 **EU Index:**601-037-00-0	50.5%	Ingestion/Oral-Rat LD50 • 25 g/kg Inhalation-Rat LC50 • 48000 ppm 4 Hour(s)	**EU DSD/DPD:** EU CLP, Annex VI, Table 3.2: F, R11; Repr.Cat.3, R62; Xn, R48/20, R65; Xi, R38; R67; N, R51, R53 **EU CLP:** Annex VI, Table 3.1: Flam. Liq. 2, H225; Repr. 2, H361f ***; Asp. Tox. 1, H304; STOT RE 2 *, H373 **; Skin Irrit. 2, H315; STOT SE 3, H336; Aquatic Chronic 2, H411 **OSHA HCS 2012:** Flam. Liq. 2; Repr. 2; STOT RE 2 (CNS, Nervous System); Skin Irrit. 2; Eye Irrit. 2B; STOT SE 3: Narc. & Resp. Irrit.; Asp. Tox. 1	NDA

Butane	**CAS:**106-97-8 **EC Number:**203-448-7 **EU Index:**601-004-00-0	36%	Inhalation-Rat LC50 • 658 g/m³ 4 Hour(s)	**EU DSD/DPD:** EU CLP, Annex VI, Table 3.2: F+, R12 **EU CLP:** Annex VI, Table 3.1: Flam. Gas 1, H220; Press. Gas - Comp., H280 **OSHA HCS 2012:** Flam. Gas 1; Press. Gas - Comp.; Simp. Asphyx	NDA
Propane	**CAS:**74-98-6 **EC Number:**200-827-9 **EU Index:**601-003-00-5	9%	NDA	**EU DSD/DPD:** EU CLP, Annex VI, Table 3.2: F+, R12 **EU CLP:** Annex VI, Table 3.1: Flam. Gas 1, H220; Press. Gas - Comp., H280 **OSHA HCS 2012:** Flam. Gas 1; Press. Gas - Comp.; Simp. Asphyx.	NDA
Molybdenum sulfide	**CAS:**1317-33-5 **EC Number:**215-263-9	4%	Inhalation-Rat LC50 • >2820 mg/m³ 4 Hour (s)	**EU DSD/DPD:** Self Classified: Xn; R20 **EU CLP:** Self Classified: Acute Tox. 4, H332 **OSHA HCS 2012:** Acute Tox. 4 (inhl)	NDA
Polydimethyl Siloxane	**CAS:**63148-62-9	0.5%	Ingestion/Oral-Rat LD50 • >17 g/kg Skin-Rabbit LD50 • >2 g/kg	**EU DSD/DPD:** Self Classified: Xi; R36 **EU CLP:** Self Classified: Eye Irrit. 2, H319 **OSHA HCS 2012:** Eye Irrit. 2A	NDA

See Section 16 for full text of H-statements and R-phrases.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Take off contaminated clothing. If irritation develops and persists, get medical attention.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion
- If victim is conscious, give 1 – 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- Water spray, carbon dioxide, dry chemical.

Unsuitable Extinguishing Media
- No data available

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Containers may explode when heated.
  Vapor explosion hazard indoors, outdoors or in sewers.
  HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.

Many liquids are lighter than water.
Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
Runoff to sewer may create fire or explosion hazard.
Vapors may form explosive mixtures with air.
Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

- No data available

5.3 Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection.
Wear positive pressure self-contained breathing apparatus (SCBA).
Move containers from fire area if you can do it without risk.
LARGE FIRES: Cool containers with flooding quantities of water until well after fire is out.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions

- Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact. Avoid contact with skin, eyes or clothing. Do not breathe fume, mist, vapours and/or spray.

Emergency Procedures

- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet) ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Stop leak if you can do it without risk.
Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
Use clean non-sparking tools to collect absorbed material.
A vapor suppressing foam may be used to reduce vapors.
All equipment used when handling the product must be grounded.
LARGE SPILLS: Dike far ahead of liquid spill for later disposal.
LARGE SPILLS: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Use only in well ventilated areas. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe fume, mist, vapours and/or spray. Avoid contact with skin, eyes, and clothing. Avoid contact with heat and ignition sources. Take precautionary measures against static charges. Do not puncture or incinerate container. Empty containers may still have product residue and flammable vapors. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Store in a cool/low-temperature, well-ventilated place away from heat and ignition

sources. Do not store where temperature may exceed 120ºF.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	**ACGIH**	**Canada Ontario**	**Canada Quebec**	**China**	**Europe**
Propane (74-98-6)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	1000 ppm TWA	1000 ppm TWAEV; 1800 mg/m3 TWAEV	Not established	Not established
Butane (106-97-8)	TWAs	Not established	800 ppm TWA (listed under Aliphatic hydrocarbon gases)	800 ppm TWAEV; 1900 mg/m3 TWAEV	Not established	Not established
	STELs	1000 ppm STEL	Not established	Not established	Not established	Not established
Hexane (110-54-3)	TWAs	50 ppm TWA	50 ppm TWA	50 ppm TWAEV; 176 mg/m3 TWAEV	100 mg/m3 TWA	20 ppm TWA; 72 mg/m3 TWA
	STELs	Not established	Not established	Not established	180 mg/m3 STEL	Not established

Exposure Limits/Guidelines (Con't.)					
	Result	**Germany DFG**	**Germany TRGS**	**NIOSH**	**OSHA**
Propane (74-98-6)	TWAs	Not established	1000 ppm TWA AGW (exposure factor 4); 1800 mg/m3 TWA AGW (exposure factor 4)	1000 ppm TWA; 1800 mg/m3 TWA	1000 ppm TWA; 1800 mg/m3 TWA
	Ceilings	4000 ppm Peak; 7200 mg/m3 Peak	Not established	Not established	Not established
	MAKs	1000 ppm TWA MAK; 1800 mg/m3 TWA MAK	Not established	Not established	Not established
Butane (106-97-8)	TWAs	Not established	1000 ppm TWA AGW (exposure factor 4); 2400 mg/m3 TWA AGW (exposure factor 4)	800 ppm TWA; 1900 mg/m3 TWA	Not established
	Ceilings	4000 ppm Peak (listed under Butane); 9600 mg/m3 Peak (listed under Butane)	Not established	Not established	Not established
	MAKs	1000 ppm TWA MAK; 2400 mg/m3 TWA MAK	Not established	Not established	Not established
Hexane (110-54-3)	TWAs	Not established	50 ppm TWA AGW (exposure factor 8); 180 mg/m3 TWA AGW (exposure factor 8)	50 ppm TWA; 180 mg/m3 TWA	500 ppm TWA; 1800 mg/m3 TWA
	Ceilings	400 ppm Peak; 1440 mg/m3 Peak	Not established	Not established	Not established
	MAKs	50 ppm TWA MAK; 180 mg/m3 TWA MAK	Not established	Not established	Not established

Exposure Control Notations

China

•Hexane (110-54-3): **Skin:** (Skin notation)

Canada Ontario

•Hexane (110-54-3): **Skin:** (Absorption through skin, eyes, or mucous membranes)

Canada Quebec

•Hexane (110-54-3): **Skin:** (Skin designation)

ACGIH

•Hexane (110-54-3): **Skin:** (Skin - potential significant contribution to overall exposure by the cutaneous route)

Germany DFG

•Hexane (110-54-3): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to)

•Butane (106-97-8): **Pregnancy:** (classification not yet possible)

•Propane (74-98-6): **Pregnancy:** (classification not yet possible)

Exposure Limits Supplemental

ACGIH

•Hexane (110-54-3): **BEIs:** (0.4 mg/L Medium: urine Time: end of shift at end of workweek Parameter: 2,5-Hexanedione without hydrolysis) | **TLV Basis - Critical Effects:** (CNS impairment; eye irritation; peripheral neuropathy)

•Butane (106-97-8): **TLV Basis - Critical Effects:** (CNS impairment)

•Propane (74-98-6): **TLV Basis - Critical Effects:** (cardiac sensitization (listed under Aliphatic hydrocarbon gases: Alkanes C1-4); CNS impairment (listed under Aliphatic hydrocarbon gases: Alkanes C1-4))

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof electrical/ventilating/lighting/equipment.

Personal Protective Equipment

Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear safety goggles.

Skin/Body

- Wear appropriate gloves.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWAEV = Time-Weighted Average Exposure Value

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Aerosol	Appearance/Description	Clear liquid with an alcohol odor.
Color	Clear	Odor	Alcohol
Odor Threshold	Data lacking		

General Properties			
Boiling Point	-44 to -209 F(-42.2222 to -133.8889 C)	Melting Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	< 1	Water Solubility	Negligible
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		
Volatility			
Vapor Pressure	50 psig @ 70 F(21.1111 C)	Vapor Density	> 1 Air=1
Evaporation Rate	> 1 Ether = 1	Volatiles (Vol.)	100 %
Flammability			
Flash Point	-156 F(-104.4444 C) (based on propellant)	UEL	15 %
LEL	1.9 %	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Avoid high temperatures and ignition sources.

10.5 Incompatible materials

- Strong oxidizers.

10.6 Hazardous decomposition products

- Thermal decomposition may produce carbon monoxide, carbon dioxide, sulfur oxides, aldehydes.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Hexane (50.5%)	110-54-3	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 25 g/kg; Inhalation-Rat LC50 • 48000 ppm 4 Hour(s); **Irritation:** Eye-Rabbit • 10 mg • Mild irritation; **Reproductive:** Inhalation-Rat TCLo • 5000 ppm (6-19D preg); *Reproductive Effects:Specific Developmental Abnormalities*:**Musculoskeletal system**; *Reproductive Effects:Specific Developmental Abnormalities*:**Urogenital system**
Molybdenum sulfide (4%)	1317-33-5	**Acute Toxicity:** Inhalation-Rat LC50 • >2820 mg/m³ 4 Hour(s); *Lungs, Thorax, or Respiration*:**Other changes**

Polydimethyl Siloxane (0.5%)	63148-62-9	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • >17 g/kg; *Kidney, Ureter, and Bladder*:**Other changes**; *Nutritional and Gross Metabolic:Changes in Chemistry or Temperature*:**Other changes**; Skin-Rabbit LD50 • >2 g/kg; *Behavioral*:**Food intake (animal)**; *Gastrointestinal*:**Hypermotility, diarrhea**; *Skin and Appendages:After systemic exposure*:**Dermatitis, other**; **Irritation:** Eye-Rabbit • 100 µL 24 Hour(s) • Moderate irritation; Skin-Rabbit • 500 µL 24 Hour(s) • Mild irritation
Butane (36%)	106-97-8	**Acute Toxicity:** Inhalation-Rat LC50 • 658 g/m³ 4 Hour(s)

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Aspiration Hazard	**EU/CLP** • Aspiration 1 **OSHA HCS 2012** • Aspiration 1
Carcinogenicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Germ Cell Mutagenicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Skin corrosion/Irritation	**EU/CLP** • Skin Irritation 2 **OSHA HCS 2012** • Skin Irritation 2
Skin sensitization	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
STOT-RE	**EU/CLP** • Specific Target Organ Toxicity Repeated Exposure 2 **OSHA HCS 2012** • Specific Target Organ Toxicity Repeated Exposure 2
STOT-SE	**EU/CLP** • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects **OSHA HCS 2012** • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
Toxicity for Reproduction	**EU/CLP** • Toxic to Reproduction 2 **OSHA HCS 2012** • Toxic to Reproduction 2
Respiratory sensitization	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Serious eye damage/Irritation	**EU/CLP** • Data lacking **OSHA HCS 2012** • Eye Mild Irritation 2B

Potential Health Effects

Inhalation

Acute (Immediate)
- May cause respiratory irritation. May affect the central nervous system. Symptoms may include dizziness, drowsiness, lethargy, coma and death.

Chronic (Delayed)
- No data available.

Skin

Acute (Immediate)
- Causes skin irritation.

Chronic (Delayed)
- No data available.

Eye

Acute (Immediate)
- Causes eye irritation.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Material may be aspirated into lungs during ingestion and/or subsequent vomiting.

Aspiration of this material will cause severe lung injury, chemical pneumonitis, pulmonary edema or death.

Chronic (Delayed)
- No data available.

Other

Chronic (Delayed)
- Chronic exposure to Hexane, a component of this material, may produce important peripheral neuropathy (motor sensory) and CNS abnormalities.

Carcinogenic Effects
- Repeated and prolonged exposure may cause cancer.

Reproductive Effects
- Animal tests for components have shown adverse reproductive effects.

Key to abbreviations
LC = Lethal Concentration
LD = Lethal Dose
TC = Toxic Concentration

Section 12 - Ecological Information

12.1 Toxicity

Moly Lube Dry Film Lubricant					
Dosage	**Species**	**Duration**	**Results**	**Exposure Conditions**	**Comments**
0.00025 mg/L	**Fish:** Fathead minnow	96 Hour(s)	LC50	NDA	Hexane (110-54-3)

- Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability
- Material data lacking.

12.3 Bioaccumulative potential
- Material data lacking.

12.4 Mobility in Soil
- Material data lacking.

12.5 Results of PBT and vPvB assessment
- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects
- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards

DOT	UN1950	Aerosols, flammable, n.o.s. (engine starting fluid) (each not exceeding 1 L capacity)	2.1	NDA	NDA
TDG	UN1950	AEROSOLS, flammable (each not exceeding 1 L capacity)	2.1	NDA	Potential Marine Pollutant
IMO/IMDG	UN1950	AEROSOLS, FLAMMABLE (each not exceeding 1 L capacity)	2.1	NDA	NDA
IATA/ICAO	UN1950	Aerosols, Flammable (each not exceeding 1 L capacity)	2.1	NDA	NDA

14.6 Special precautions for user
- None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
- Not relevant.

Section 15 - Regulatory Information HSR002515

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications
- Acute, Chronic, Fire, Pressure(Sudden Release of)

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
Butane	106-97-8	Yes	Yes	Yes
Hexane	110-54-3	Yes	Yes	Yes
Molybdenum sulfide	1317-33-5	Yes	No	No
Polydimethyl Siloxane	63148-62-9	No	No	No
Propane	74-98-6	Yes	Yes	Yes

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**China**	**EU EINECS**	**EU ELNICS**
Butane	106-97-8	Yes	No	Yes	Yes	No
Hexane	110-54-3	Yes	No	Yes	Yes	No
Molybdenum sulfide	1317-33-5	Yes	No	Yes	Yes	No
Polydimethyl Siloxane	63148-62-9	Yes	No	Yes	No	No
Propane	74-98-6	Yes	No	Yes	Yes	No

Inventory (Con't.)		
Component	**CAS**	**TSCA**
Butane	106-97-8	Yes
Hexane	110-54-3	Yes
Molybdenum sulfide	1317-33-5	Yes
Polydimethyl Siloxane	63148-62-9	Yes
Propane	74-98-6	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	A, B1
• Butane	106-97-8	A, B1
• Hexane	110-54-3	B2, D2A, D2B
• Molybdenum sulfide	1317-33-5	Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS - Ingredient Disclosure List

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	1 %
• Hexane	110-54-3	1 %
• Molybdenum sulfide	1317-33-5	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	F+; R12
• Butane	106-97-8	F+; R12
• Hexane	110-54-3	F; R11 Xi; R38 N; R51-53 Repr.Cat.3; R62 Xn; R65-48/20 R67
• Molybdenum sulfide	1317-33-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	5%<=C: Xn; R:48/20
• Molybdenum sulfide	1317-33-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	F+ R:12 S:(2)-9-16
• Butane	106-97-8	F+ R:12 S:(2)-9-16
• Hexane	110-54-3	F Xn N R:11-38-48/20-62-65-67-51/53 S:(2)-9-16-29-33-36/37-61-62
• Molybdenum sulfide	1317-33-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Polydimethyl Siloxane	63148-62-9	Not Listed

• Propane	74-98-6	Not Listed
• Butane	106-97-8	C
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	S:(2)-9-16
• Butane	106-97-8	S:(2)-9-16
• Hexane	110-54-3	S:(2)-9-16-29-33-36/37-61-62
• Molybdenum sulfide	1317-33-5	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	
• Molybdenum sulfide	1317-33-5	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	5000 lb final RQ; 2270 kg final RQ
• Molybdenum sulfide	1317-33-5	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed

• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

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

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	1.0 % de minimis concentration
• Molybdenum sulfide	1317-33-5	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed

• Molybdenum sulfide	1317-33-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

United States - Pennsylvania

Labor

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

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Polydimethyl Siloxane	63148-62-9	Not Listed
• Propane	74-98-6	Not Listed
• Butane	106-97-8	Not Listed
• Hexane	110-54-3	Not Listed
• Molybdenum sulfide	1317-33-5	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

SW Revised 01.12.2020

Relevant Phrases (code & full text)

- H220 - Extremely flammable gas
  H225 - Highly flammable liquid and vapour
  H280 - Contains gas under pressure; may explode if heated
  H319 - Causes serious eye irritation
  H332 - Harmful if inhaled

  R11 - Highly flammable.
  R20 - Harmful by inhalation.
  R38 - Irritating to skin.
  R65 - Harmful: may cause lung damage if swallowed.

Last Revision Date
- 05/March/2015

Preparation Date
- 05/March/2015

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Key to abbreviations

NDA = No data available