SAFETY DATA SHEET

SECTION 1) CHEMICAL PRODUCT AND MANUFACTURER'S IDENTIFICATION

Product ID: 496960

Product Name: ZenaLube Dry Moly

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Manufacturer's Name: Zenex International

Address: 1 Zenex Circle Cleveland, OH, US, 44146

Emergency Phone: 1-800-535-5053

Information Phone Number: (440)-232-4155

Fax:

Product/Recommended Uses:

SECTION 2) HAZARDS IDENTIFICATION

Classification

Aerosols - Category 1

Gases Under Pressure - Liquefied Gas

Eye Irritation - Category 2A

Germ Cell Mutagenicity - Category 1B

Reproductive Toxicity - Category 2

Specific Target Organ Toxicity - Repeated Exposure - Category 2

Specific Target Organ Toxicity -Single Exposure (Narcotic Effects) - Category 3

Safety data sheet prepared in accordance to the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and the Canadian Workplace Hazardous Materials Information System (WHMIS).

Pictograms

Signal Word

Danger

Hazardous Statements - Physical

H222 - Extremely flammable aerosol.

H280 - Contains gas under pressure; may explode if heated.

Hazardous Statements - Health

H319 - Causes serious eye irritation

H340 - May cause genetic defects.

H361 - Suspected of damaging fertility or the unborn child

H373 - May cause damage to organs through prolonged or repeated exposure.

H336 - May cause drowsiness or dizziness

Precautionary Statements - General

P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P103 - Read label before use.

Precautionary Statements - Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P211 - Do not spray on an open flame or other ignition source.

P251 - Do not pierce or burn, even after use.

P264 - Wash hands thoroughly after handling.

P280 - Wear protective gloves, protective clothing, eye protection and face protection.

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P260 - Do not breathe mist, vapors or spray.

P271 - Use only outdoors or in a well-ventilated area.

P233 - Keep container tightly closed.

Precautionary Statements - Response

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical advice/attention.

P308 + P313 - IF exposed or concerned: Get medical advice/attention.

P314 - Get Medical advice/attention if you feel unwell.

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 - Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements - Storage

P403 + P405 - Store in a well-ventilated place. Store locked up.

Precautionary Statements - Disposal

P501 - Dispose of contents and container in accordance with local, regional, national and international regulations.

Hazards Not Otherwise Classified (HNOC)

No data available.

SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
67-64-1	ACETONE	50% - 75%
68476-86-8	Petroleum gases, liquefied, sweetened	20% - 30%
108-88-3	TOLUENE	2% - 7%
1317-33-5	MOLYBDENUM (IV) SULFIDE	2% - 7%
67-63-0	ISOPROPYL ALCOHOL	2% - 7%
1338-43-8	SORBITAN MONOOLEATE	1% - 5%

Specific chemical identity and/or exact percentage (concentration) of the composition has been withheld to protect confidentiality.

SECTION 4) FIRST-AID MEASURES

Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor. If breathing has stopped, trained personnel should begin rescue breathing or, if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). If you feel unwell/If concerned: Get medical advice/attention.

Eye Contact

Rinse eyes cautiously with lukewarm, gently flowing water for 15 minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

Skin Contact

Wipe off with a towel. Wash with soap and water. Get medical attention if irritation persists.

Ingestion

Ingestion is not a likely route of exposure. Get medical attention if you feel unwell.

Most Important Symptoms/Effects, Acute and Delayed

No data available.

Indication of Immediate Medical Attention and Special Treatment Needed

No data available.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Foam, alcohol foam, carbon dioxide, dry chemical, water fog.

Unsuitable Extinguishing Media

Water may be ineffective but can be used to cool containers exposed to heat or flame.

Specific Hazards Arising from the Chemical

Closed containers may explode from internal pressure build-up when exposed to extreme heat and discharge contents. Liquid content of container will not support combustion. Overexposure to decomposition products may cause a health hazard. Symptoms may not be readily apparent. Obtain medical attention. Hazardous decomposition products include carbon dioxide, carbon monoxide, and other toxic fumes.

Precautions for Firefighters

Water may be used to cool containers to prevent pressure build-up and explosion when exposed to extreme heat.

Special Protective Equipment

Wear goggles and use a self-contained breathing apparatus. If water is used, fog nozzles are preferred.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure

Ventilate area. Remove all sources of ignition.

Protective Equipment

See section 8 for specifics on protective personal equipment (PPE).

Personal Precautions

Avoid breathing vapors. Ventilate area. Wear safety glasses and gloves.

Environmental Precautions

Stop spill/release if it can be done safely.

Methods and Materials for Containment and Cleaning up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

SECTION 7) HANDLING AND STORAGE

General

Do not puncture or incinerate (burn) cans. Do not stick pins, nails, or any other sharp objects into opening on top of can. Do not spray in eyes. Do not take internally.

Ventilation Requirements

Use in a well-ventilated place.

Storage Room Requirements

Store and use in a cool, dry, well-ventilated area. Do not store above 120°F. See product label for additional information.

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Eye protection

Wear safety glasses with side shields. Eyewash stations and showers should be available in areas where this material is used and stored.

Skin Protection

Use solvent-resistant protective gloves for prolonged or repeated contact.

Respiratory protection

In restricted areas, use approved chemical/mechanical filters designed to remove a combination of particles and vapor. In confined areas, use an approved air line respirator or hood. A self-contained breathing apparatus is required for vapor concentrations above PEL/TLV limits.

Appropriate Engineering Controls

Ventilation should be sufficient to prevent inhalation of any vapors.

Chemical Name	OSHA TWA (mg/m3)	OSHA TWA (ppm)	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA Carcinogen	OSHA Skin designation	OSHA Tables (Z1, Z2, Z3)	ACGIH TWA (mg/m3)
ACETONE	2400	1000					1	
ISOPROPYL ALCOHOL	980	400					1	
MOLYBDENUM (IV) SULFIDE	5						1	[0.5 (R)]; [10 (I), 3 (R)];
Petroleum gases, liquefied, sweetened	2000	500					1	
TOLUENE	0.2	200 (a)/ 300 ceiling		500ppm /10 minutes (a)			1,2	

Chemical Name	ACGIH TWA (ppm)	ACGIH STEL (mg/m3)	ACGIH STEL (ppm)	ACGIH Carcinogen	ACGIH TLV Basis	ACGIH Notations	NIOSH TWA (mg/m3)	NIOSH TWA (ppm)
ACETONE	250		500	A4	URT & eye irr; CNS impair	A4; BEI	590	250
ISOPROPYL ALCOHOL	200		400	A4	Eye & URT irr; CNS impair	A4; BEI	980	400
MOLYBDENUM (IV) SULFIDE				A3	LRT irr	A3		
Petroleum gases, liquefied, sweetened								
TOLUENE	20			A4	CNS, visual, & hearing impair; female repro system eff; pregnancy loss	OTO; A4; BEI	375	100

Chemical Name	NIOSH STEL (mg/m3)	NIOSH STEL (ppm)	NIOSH Carcinogen
ACETONE			
ISOPROPYL ALCOHOL	1225	500	
MOLYBDENUM (IV) SULFIDE			
Petroleum gases, liquefied, sweetened			
TOLUENE	560	150	

(I) - Inhalable fraction, A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans, A4 - Not Classifiable as a Human Carcinogen, BEI - Substances for which there is a Biological Exposure Index or Indices, CNS - Central nervous system, eff - Effects, impair - Impairment, irr - Irritation, LRT - Lower respiratory tract, repro - reproductive, URT - Upper respiratory tract

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density	6.7 - 6.9 lb/gal
% VOC	35%

Appearance	Black liquid
Odor Threshold	N.A.
Odor Description	Solvent
pH	N.A.
Water Solubility	Dispersible
Flammability	Flash point below 73°F/23°C
Flash Point Symbol	N.A.
Flash Point	<73.0 °F
Viscosity	N.A.
Lower Explosion Level	N.A.
Upper Explosion Level	N.A.
Vapor Density	Slower than ether
Melting Point	N.A.
Freezing Point	N.A.
Low Boiling Point	N.A.
High Boiling Point	N.A.
Decomposition Pt	N.A.
Auto Ignition Temp	N.A.
Evaporation Rate	Slower than ether

SECTION 10) STABILITY AND REACTIVITY

Chemical Stability

The product is stable under normal storage conditions.

Possibility of Hazardous Reactions/Polymerization

None known.

Conditions To Avoid

High temperatures.

Incompatible Materials

None known.

Hazardous Decomposition Products

Hazardous decomposition products may include carbon dioxide, carbon monoxide, and other toxic fumes.

SECTION 11) TOXICOLOGICAL INFORMATION

Skin Corrosion/Irritation

0000067-63-0 ISOPROPYL ALCOHOL

Contact can irritate and burn the skin. Prolonged or repeated contact can cause a skin rash, itching, dryness and redness.

0000067-64-1 ACETONE

Can cause skin irritation.

0000108-88-3 TOLUENE

Contact can irritate the skin.

Likely Route of Exposure

Inhalation, ingestion, skin absorption.

Serious Eye Damage/Irritation

Causes serious eye irritation

0000067-63-0 ISOPROPYL ALCOHOL

Liquid irritates eyes and may cause injury.

0000067-64-1 ACETONE

Exposure can irritate the eyes.

0000108-88-3 TOLUENE

Contact can irritate the eyes.

Carcinogenicity

Based on available data, the classification criteria are not met.

Germ Cell Mutagenicity

May cause genetic defects.

Reproductive Toxicity

Suspected of damaging fertility or the unborn child

Respiratory/Skin Sensitization

0000067-64-1 ACETONE

Can irritate the nose and throat causing coughing and wheezing.

0000108-88-3 TOLUENE

Inhaling can irritate the nose and throat.

Specific Target Organ Toxicity - Single Exposure

May cause drowsiness or dizziness

0000067-63-0 ISOPROPYL ALCOHOL

Vapors cause mild irritation of upper respiratory tract; high concentrations may be anesthetic.

0000067-64-1 ACETONE

May affect the kidneys and liver.

0000108-88-3 TOLUENE

May affect the nervous system causing headache, dizziness and passing out.

Specific Target Organ Toxicity - Repeated Exposure

May cause damage to organs through prolonged or repeated exposure.

0000067-63-0 ISOPROPYL ALCOHOL

Repeated high exposure can cause headache, dizziness, confusion, loss of coordination, unconsciousness and even death.

0000108-88-3 TOLUENE

Repeated exposure may cause liver, kidney and brain damage.

Aspiration Hazard

Based on available data, the classification criteria are not met.

Acute Toxicity

0000067-63-0 ISOPROPYL ALCOHOL

If ingested causes drunkenness and vomiting. Inhalation can irritate the nose and throat.

LC50 (Rat, Inhalation) = 16,000 ppm/8H Reference : Registry of Toxic Effects of Chemical Substances If ingested causes drunkenness and vomiting. Inhalation can irritate the nose and throat.

Chronic Exposure

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0000108-88-3 TOLUENE

TERATOGENIC EFFECTS:Toluene has been Classified as POSSIBLE for humans.

Likely Routes of Exposure

Inhalation, Ingestion, Skin contact, Eye contact

0000067-63-0 ISOPROPYL ALCOHOL

The substance can be absorbed into the body by inhalation of its vapour.

0000067-64-1 ACETONE

Substance can be absorbed into the body by inhalation.

0000108-88-3 TOLUENE

The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

Potential Health Effects - Miscellaneous

0000067-63-0 ISOPROPYL ALCOHOL

The following medical conditions may be aggravated by exposure: dermatitis, respiratory disease. Developmental toxicity was seen in rat's offspring at doses that were maternally toxic. Contact will cause moderate to severe redness and swelling, itching, tingling sensation, painful burning. May cause injury to the cornea of the eyes. Prolonged or repeated exposure may cause damage to any of the following organs/systems: liver. Ingestion studies on laboratory animals showed that very high oral doses caused increased liver and kidney weights.

0000067-64-1 ACETONE

The following medical conditions may be aggravated by exposure: lung disease, eye disorders, skin disorders. Overexposure may cause damage to any of the following organs/systems: blood, central nervous system, eyes, kidneys, liver, respiratory system, skin.

0000108-88-3 TOLUENE

Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system, kidneys, liver, respiratory system, skin. Can be absorbed through the skin in harmful amounts. Recurrent overexposure may result in liver and kidney injury. High airborne levels have produced irregular heart beats in animals and occasional palpitations in humans. Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. The significance of this to man is unknown. WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.

0000067-63-0 ISOPROPYL ALCOHOL

LC50 (rat): 17000 ppm (4-hour exposure); cited as 12000 ppm (8-hour exposure) (18)

LD50 (oral, male rat): 4710 mg/kg (cited as 6.0 mL/kg) (19)
LD50 (oral, mouse): 3600 mg/kg (20, unconfirmed)
LD50 (dermal, rabbit): 12870 mg/kg (cited as 16.4 mL/kg) (14)

0000108-88-3 TOLUENE

LC50 (rat): 8800 ppm (4-hour exposure) (2)
LC50 (rat): 6000 ppm (6-hour exposure) (3)

LD50 (oral, rat): 2600 to 7500 mg/kg (3,5,11,17)
LD50 (oral, neonatal rat): less than 870 mg/kg (3)
LD50 (dermal, rabbit): 12,225 mg/kg (reported as 14.1 ml/kg) (1)

0000067-64-1 ACETONE

LC50 (male rat): 30000 ppm (4-hour exposure); cited as 71000 mg/m3 (4-hour exposure) (29)
LC50 (male mouse): 18600 ppm (4-hour exposure); cited as 44000 mg/m3 (4-hour exposure) (29)

LD50 (oral, female rat): 5800 mg/kg (24)
LD50 (oral, mature rat): 6700 mg/kg (cited as 8.5 mL/kg) (31)
LD50 (oral, newborn rat): 1750 mg/kg (cited as 2.2 mL/kg) (31)
LD50 (oral, mouse): 3000 mg/kg (32,unconfirmed)
LD50 (dermal, rabbit): Greater than 16000 mg/kg cited as 20 mL/kg) (30)

SECTION 12) ECOLOGICAL INFORMATION

Ecotoxicity

Based on available data, the classification criteria are not met.

Persistence and Degradability

0000067-63-0 ISOPROPYL ALCOHOL

Readily biodegradable

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0000067-64-1 ACETONE

91% readily biodegradable, Method: OECD Test Guideline 301B

Readily biodegradable.

Bioaccumulative Potential

0000067-63-0 ISOPROPYL ALCOHOL

Substance is not expected to bioaccumulate.

Mobility in Soil

0000067-64-1 ACETONE

The substance is not PBT / vPvB.

Other Adverse Effects

No data available.

Results of the PBT and vPvB assessment

0000067-63-0 ISOPROPYL ALCOHOL

Substance is readily biodegradable and therefore not considered to be persistent. It is not expected to bioaccumulate as it has a Log Kow < 4.5 and aquatic acute toxicity greatly exceeds the screening criteria of EC50 < 0.1 mg/l.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal

Under RCRA, it is the responsibility of the user of the product, to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state, and local laws. Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14) TRANSPORT INFORMATION

	U.S. DOT Information	IMDG Information	IATA Information
UN number:	UN1950	UN1950	UN1950
Proper shipping name:	Aerosols, flammable, n.o.s.	Aerosols, flammable, n.o.s.	Aerosols, flammable, n.o.s.
Hazard class:	2.1	2.1	2.1
Packaging group:	NA	NA	NA
Hazardous substance (RQ):	No Data Available		
Marine Pollutant:	No Data Available	No Data Available	
Note / Special Provision:	LTD QTY	LTD QTY	LTD QTY
Toxic-Inhalation Hazard:	No Data Available		

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	Regulation List
0000067-64-1	ACETONE	CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act, SARA312, TSCA - Toxic Substances Control Act (TSCA), RCRA, OSHA

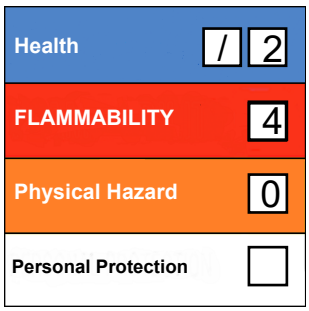
CAS	Chemical Name	Regulation List
0068476-86-8	Petroleum gases, liquefied, sweetened	SARA312, TSCA - Toxic Substances Control Act (TSCA), OSHA
0000108-88-3	TOLUENE	SARA313, CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act, SARA312, TSCA - Toxic Substances Control Act (TSCA), RCRA, CA_Prop65, CA_Prop65_Type_Toxicity_Develop - CA_Proposition65_Type_Toxicity_Developmental, OSHA
0001317-33-5	MOLYBDENUM (IV) SULFIDE	SARA312, TSCA - Toxic Substances Control Act (TSCA), OSHA
0000067-63-0	ISOPROPYL ALCOHOL	SARA313, SARA312, TSCA - Toxic Substances Control Act (TSCA), OSHA
0001338-43-8	SORBITAN MONOOLEATE	SARA312, TSCA - Toxic Substances Control Act (TSCA)

SECTION 16) OTHER INFORMATION

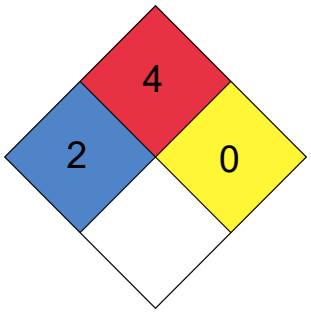
Glossary

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ- Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA- Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

HMIS



NFPA



(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks

Version 1.0:

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First Edition.

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