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## 1. Product and company identification

Product name	Molub-Alloy 298-1
MSDS #	454908
Historic MSDS #:	73140-AT
Code	454908-US37
Product use	Lubricant For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	Castrol Industrial North America, Inc. 150 W. Warrenville Road Naperville, IL 60563
Supplier	Castrol Industrial North America, Inc. 150 W. Warrenville Road Naperville, IL 60563 Product Information: 1-800-621-2661
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)

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## 2. Hazards identification

Physical state	Liquid. [Grease]
Color	Gray.
Emergency overview	CAUTION !  MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.  Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry	Dermal contact. Eye contact. Inhalation. Ingestion.
Potential health effects	
Eyes	May cause eye irritation.
Skin	May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Inhalation	May cause respiratory tract irritation.
Ingestion	Ingestion may cause gastrointestinal irritation and diarrhea.
See toxicological information (section 11)	

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### 3. Composition/information on ingredients

Ingredient name	CAS #	%
molybdenum sulfide	1317-33-5	60 - 65
Base oil - highly refined	Varies	40 - 45

### 4. First aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Skin contact	Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
Inhalation	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.
Notes to physician	Note: High Pressure Applications Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

### 5. Fire-fighting measures

Flash point	Open cup: 224°C (435.2°F) [Cleveland.]
Fire/explosion hazards	In a fire or if heated, a pressure increase will occur and the container may burst.
Unusual fire/explosion hazards	Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and shocks and mechanical impacts.
Extinguishing media	
Suitable	Use an extinguishing agent suitable for the surrounding fire.
Not suitable	Do not use water jet.
Fire-fighting procedures	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Hazardous combustion products	Combustion products may include the following: metal oxide/oxides carbon oxides (CO, CO <sub>2</sub> ) (carbon monoxide, carbon dioxide) sulfur oxides (SO <sub>2</sub> , SO <sub>3</sub> etc.)
Protective clothing (fire)	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### 6. Accidental release measures

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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## Methods for cleaning up

### Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. 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 (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

### Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## 7. Handling and storage

### Handling

Put on appropriate personal protective equipment (see section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

### Storage

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### Ingredient name

molybdenum sulfide

#### Occupational exposure limits

**ACGIH TLV (United States).**

TWA: 3 mg/m<sup>3</sup>, (as Mo) 8 hour(s). Issued/Revised: 2/2001 Form: Insoluble

**OSHA PEL (United States).**

TWA: 15 mg/m<sup>3</sup>, (as Mo) 8 hour(s). Issued/Revised: 6/1993 Form: Total dust

Base oil - highly refined

**ACGIH (United States).**

STEL: 10 mg/m<sup>3</sup> 15 minute(s). Form: Mineral oil, mist

TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Mineral oil, mist

**OSHA (United States).**

TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Mineral oil, mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

**Some states may enforce more stringent exposure limits.**

### Control Measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

### Personal protection

#### Eyes

Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

#### Skin and body

Avoid contact with skin and clothing. Wear suitable protective clothing.

#### Respiratory

Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

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The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

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## 9. Physical and chemical properties

Physical state	Liquid. [Grease]
Color	Gray.
Odor	Characteristic.
Flash point	Open cup: 224°C (435.2°F) [Cleveland.]
Specific gravity	1.71
Solubility	Insoluble in water.

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## 10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials, metals and acids.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

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## 11. Toxicological information

### Other information

### Potential chronic health effects

Carcinogenicity	No known significant effects or critical hazards.
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## 12. Ecological information

No testing has been performed by the manufacturer.

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## 13. Disposal considerations

Waste information	The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
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**NOTE:** The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

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## 14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

## 15. Regulatory information

### U.S. Federal Regulations

United States inventory (TSCA 8b)	All components are listed or exempted.
	TSCA 12(b) annual export notification: Mercury
	<b>SARA 302/304/311/312 extremely hazardous substances:</b> No products were found.
	<b>SARA 302/304 emergency planning and notification:</b> No products were found.
	<b>SARA 302/304/311/312 hazardous chemicals:</b> No products were found.
	<b>SARA 311/312 MSDS distribution - chemical inventory - hazard identification:</b> Molub-Alloy 298-1: Immediate (acute) health hazard

### SARA 313

**Form R - Reporting requirements** This product does not contain any hazardous ingredients at or above regulated thresholds.

**Supplier notification** This product does not contain any hazardous ingredients at or above regulated thresholds.

**CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):** CERCLA: Hazardous substances.: No products were found.

### State regulations

**Massachusetts Substances** The following components are listed: MOLYBDENUM DISULFIDE

**New Jersey Hazardous Substances** The following components are listed: MOLYBDENUM (IV) SULFIDE

**Pennsylvania RTK Hazardous Substances** None of the components are listed.

**California Prop. 65** **WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.  
Mercury

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

### Inventories

Canada inventory	All components are listed or exempted.
Europe inventory	All components are listed or exempted.
Australia inventory (AICS)	All components are listed or exempted.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (ENCS)	All components are listed or exempted.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.

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## 16. Other information

### Label requirements

CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

### HMIS® Rating :

Health 1  
Flammability 1  
Physical Hazard 0  
Personal protection B

National Fire  
Protection  
Association (U.S.A.)



### History

#### Date of issue

10/10/2008.

#### Date of previous issue

No previous validation.

#### Prepared by

Product Stewardship

### Notice to reader

*All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.*

*The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.*

*It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.*

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