

## Section 1. Identification

**Product name** Molub-Alloy 860/150-1 ES  
**SDS #** 462586  
**Code** 462586-US17

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

**Product use** Grease for industrial applications.  
 For specific application advice see appropriate Technical Data Sheet or consult our company representative.

**Supplier** BP Lubricants USA Inc.  
 1500 Valley Road  
 Wayne, NJ 07470  
 Telephone: +1-888-CASTROL

**EMERGENCY HEALTH INFORMATION:** +1-800-447-8735

**EMERGENCY SPILL INFORMATION:** +1-800-424-9300 (CHEMTREC USA)  
 +1-703-527-3887 (CHEMTREC outside the US)

## Section 2. Hazards identification

**OSHA/HCS status** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture**  SKIN SENSITIZATION - Category 1  
 TOXIC TO REPRODUCTION - Category 2

### GHS label elements

#### Hazard pictograms



**Signal word** Warning

**Hazard statements**  May cause an allergic skin reaction.  
 Suspected of damaging fertility or the unborn child.

### Precautionary statements

**Prevention**  Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Avoid breathing dust. Contaminated work clothing must not be allowed out of the workplace.

**Response**  If exposed or concerned: Get medical attention. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention.

**Storage** Store locked up.

**Disposal** Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazards not otherwise classified**  None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** Mixture

Highly refined base oil and additives. Thickening agent.

Ingredient name	CAS number	%
Mineral oil	8012-95-1	≥50 - ≤75
Residual oils (petroleum), solvent refined	64742-01-4	≥25 - ≤50
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	≥25 - ≤50
Dilithium azelate (Nonanedioic acid dilithium salt)	38900-29-7	≤5
Graphite	7782-42-5	≤3
2-ethylhexanoic acid	149-57-5	≤0.3
2,5-bis(octyldithio)-1,3,4-thiadiazole	13539-13-4	≤0.3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

<b>Eye contact</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.
<b>Skin contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Wash clothing before reuse. Clean shoes thoroughly before reuse. In the event of any complaints or symptoms, avoid further exposure. Get medical attention.
<b>Inhalation</b>	If inhaled, remove to fresh air. Get medical attention.
<b>Ingestion</b>	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Get medical attention.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

### Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

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

<b>Notes to physician</b>	Treatment should in general be symptomatic and directed to relieving any effects.  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, discolored 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 minimize tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.
<b>Specific treatments</b>	No specific treatment.

## Section 5. Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing media

In case of fire, use water fog, alcohol resistant foam, dry chemical or carbon dioxide extinguisher or spray.

#### Unsuitable extinguishing media

Do not use water jet.

#### Specific hazards arising from the chemical

☒ No specific fire or explosion hazard.

#### Hazardous combustion products

Combustion products may include the following:  
metal oxide/oxides  
carbon oxides (CO, CO<sub>2</sub>) (carbon monoxide, carbon dioxide)

#### Special protective actions for fire-fighters

No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

#### Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

☒ Contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

#### For emergency responders

☒ Specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

#### 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).

### Methods and materials for containment and cleaning up

#### Small spill

☒ Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

#### Large spill

☒ Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. If emergency personnel are unavailable, contain spilled material. Suction or scoop the spill into appropriate disposal or recycling vessels, then cover spill area with oil absorbent. Dispose of via a licensed waste disposal contractor. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container.

## Section 7. Handling and storage

### Precautions for safe handling

#### Protective measures

☒ Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

## Section 7. Handling and storage

### Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep away from heat and direct sunlight. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. 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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Mineral oil	<p><b>OSHA PEL (United States).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Issued/Revised: 6/1993</p> <p><b>ACGIH TLV (United States).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction</p>
Residual oils (petroleum), solvent refined	<p><b>ACGIH TLV (United States).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction</p> <p><b>OSHA PEL (United States).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Issued/Revised: 6/1993</p>
Distillates (petroleum), hydrotreated heavy naphthenic	<p><b>ACGIH TLV (United States).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Issued/Revised: 11/2009 Form: Inhalable fraction</p> <p><b>OSHA PEL (United States).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Issued/Revised: 6/1993</p>
Dilithium azelate (Nonanedioic acid dilithium salt)	None.
Graphite	<p><b>ACGIH TLV (United States).</b> TWA: 2 mg/m<sup>3</sup> 8 hours. Issued/Revised: 9/1994 Form: Respirable fraction</p> <p><b>OSHA PEL (United States).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Issued/Revised: 6/1993 Form: Respirable fraction TWA: 15 mg/m<sup>3</sup> 8 hours. Issued/Revised: 6/1993 Form: Total dust</p> <p><b>OSHA PEL Z3 (United States).</b> TWA: 15 mppcf 8 hours. Issued/Revised: 9/1997</p>
2-ethylhexanoic acid	<p><b>ACGIH TLV (United States).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Issued/Revised: 1/2002 Form: Inhalable fraction and vapor</p>
2,5-bis(octylthio)-1,3,4-thiadiazole	None.

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.

## Section 8. Exposure controls/personal protection

### Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection

Safety glasses with side shields.

#### Skin protection

##### Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. 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.

##### Body protection

Use of protective clothing is good industrial practice. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

##### Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. For protection against metal working fluids, respiratory protection that is classified as "resistant to oil" (class R) or oil proof (class P) should be selected where appropriate. Depending on the level of airborne contaminants, an air-purifying, half-mask respirator (with HEPA filter) including disposable (P- or R-series) (for oil mists less than 50mg/m<sup>3</sup>), or any powered, air-purifying respirator equipped with hood or helmet and HEPA filter (for oil mists less than 125 mg/m<sup>3</sup>). Where organic vapours are a potential hazard during metalworking operations, a combination particulate and organic vapour filter may be necessary. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

## Section 9. Physical and chemical properties

### Appearance

Physical state	Grease
Color	Gray. [Dark]
Odor	Not available.
Odor threshold	Not available.
pH	<input checked="" type="checkbox"/> Not applicable.
Melting point	Not available.
Boiling point	Not available.
Flash point	Open cup: 203°C (397.4°F) [Cleveland.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Density	<1000 kg/m <sup>3</sup> (<1 g/cm <sup>3</sup> ) at 25°C
Solubility	insoluble in water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic: 150 mm <sup>2</sup> /s (150 cSt) at 40°C

## Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	No specific data.
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Aspiration hazard

Name	Result
<input checked="" type="checkbox"/> Mineral oil	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure Routes of entry anticipated: Dermal, Inhalation.

#### Potential acute health effects

Eye contact No known significant effects or critical hazards.

## Section 11. Toxicological information

<b>Skin contact</b>	May cause an allergic skin reaction.
<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Eye contact</b>	No specific data.
<b>Skin contact</b>	Adverse symptoms may include the following: irritation redness dryness cracking reduced fetal weight increase in fetal deaths skeletal malformations
<b>Inhalation</b>	No specific data.
<b>Ingestion</b>	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations

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

#### Short term exposure

<b>Potential immediate effects</b>	Not available.
<b>Potential delayed effects</b>	Not available.

#### Long term exposure

<b>Potential immediate effects</b>	Not available.
<b>Potential delayed effects</b>	Not available.

#### Potential chronic health effects

<b>General</b>	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Teratogenicity</b>	Suspected of damaging the unborn child.
<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	16204.84 mg/kg

## Section 12. Ecological information

### Toxicity

No testing has been performed by the manufacturer.

### Persistence and degradability

Expected to be biodegradable.

### Bioaccumulative potential

Not available.

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## Section 12. Ecological information

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** Not available.

**Mobility**  Grease insoluble in water.

**Other adverse effects** No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	<b>DOT Classification</b>	<b>TDG Classification</b>	<b>IMDG</b>	<b>IATA</b>
<b>UN number</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.
<b>UN proper shipping name</b>	-	-	-	-
<b>Transport hazard class(es)</b>	-	-	-	-
<b>Packing group</b>	-	-	-	-
<b>Environmental hazards</b>	No.	No.	No.	No.
<b>Additional information</b>	-	-	-	-

**Special precautions for user** Not available.

**Transport in bulk according to IMO instruments** Not available.

## Section 15. Regulatory information

### U.S. Federal regulations

**United States inventory (TSCA 8b)** All components are active or exempted.

### SARA 302/304

#### Composition/information on ingredients

No products were found.

### SARA 311/312



## Section 15. Regulatory information

**Classification** SKIN SENSITIZATION - Category 1  
TOXIC TO REPRODUCTION - Category 2

### 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.

### State regulations

**Massachusetts** The following components are listed: OIL MIST, MINERAL; OIL MIST, MINERAL; OIL MIST, MINERAL; GRAPHITE (NATURAL)DUST; GRAPHITE, SYNTHETIC

**New Jersey** The following components are listed: MINERAL OIL (HIGHLY REFINED); OIL MIST, MINERAL; GRAPHITE (NATURAL); GRAPHITE

**Pennsylvania** The following components are listed: MINERAL OIL MIST; GRAPHITE; GRAPHITE (SYNTHETIC)

### California Prop. 65

**WARNING:** This product can expose you to Soots, tars, and mineral oils, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### Other regulations

**Australia inventory (AICS)** All components are listed or exempted.

**Canada inventory** All components are listed or exempted.

**China inventory (IECSC)** All components are listed or exempted.

**Japan inventory (ENCS)** At least one component is not listed.

**Korea inventory (KECI)** All components are listed or exempted.

**Philippines inventory (PICCS)** All components are listed or exempted.

**Taiwan Chemical Substances Inventory (TCSI)** All components are listed or exempted.

**REACH Status** For the REACH status of this product please consult your company contact, as identified in Section 1.

## Section 16. Other information

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



### History

**Date of issue/Date of revision** 04/19/2021.

**Date of previous issue** 12/05/2019.

**Prepared by** Product Stewardship

### Key to abbreviations

ACGIH = American Conference of Industrial Hygienists  
ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
CAS Number = Chemical Abstracts Service Registry Number  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
OEL = Occupational Exposure Limit  
SDS = Safety Data Sheet  
STEL = Short term exposure limit

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**Language** ENGLISH

## Section 16. Other information

TWA = Time weighted average

UN = United Nations

UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1

✔ Indicates information that has changed from previously issued version.

### 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 BP Group.*

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