



# SAFETY DATA SHEET

107 Moly Bond X-200 SAE 10, 20, 30, 40, 50

## Section 1. Identification

**GHS product identifier** : 107 Moly Bond X-200 SAE 10, 20, 30, 40, 50

**Other means of identification** : Not available.

**Product type** : Liquid.

### Identified uses

Heavy Duty Diesel Engine Oil.

**Supplier's details** : Schaeffer Mfg. Company  
102 Barton Street  
Saint Louis, Missouri 63104  
Tel: 314-865-4100  
Fax: 314-865-4107  
Toll Free: 1-800-325-9962  
E-Mail: [safety@schaefferoil.com](mailto:safety@schaefferoil.com)  
Web: <http://www.schaefferoil.com>

**Emergency telephone number (with hours of operation)** : +1 314 865-4105 (24-hour response number)

## 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** : SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A

### GHS label elements

**Hazard pictograms** :



**Signal word** : Warning

**Hazard statements** : Causes serious eye irritation.

### Precautionary statements

**General** : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

**Prevention** : Wear eye or face protection. Wash hands thoroughly after handling.

**Response** : 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 attention.

**Storage** : Not applicable.

**Disposal** : Not applicable.

**Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name  | %                 | CAS number               |
|--|-------------------|--------------------------|
| Base Oil(s)(*)<br>Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts | 60 - 100<br>1 - 5 | See below.<br>84605-29-8 |

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 or the environment and hence require reporting in this section.

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

Base oil(s) contained in this material may be described by one or more of the following CAS Nos.: 8042-47-5, 64742-46-7, 64742-47-8, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-62-7, 64742-65-0, 72623-84-8, 72623-85-9, 72623-86-0, 72623-87-1, 178603-64-0, 178603-65-1, 178603-66-2, 445411-73-4.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Irritating to mouth, throat and stomach.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

## Section 4. First aid measures

- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : 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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : No specific fire or explosion hazard.

- Hazardous thermal decomposition products** : No specific data.

- Special protective actions for fire-fighters** : No special measures are required.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If 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. U.S.A. regulations may require reporting spills of this material that could reach any surface waters. Report spills to all applicable Federal, State, Provincial and local authorities and/or the United States National Response Center at (800) 424-8802 as appropriate or required.

## Section 6. Accidental release measures

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- 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. 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.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. 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. 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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name | Exposure limits   |
|-----------------|---|
| Base Oil(s)(*)  | <b>NIOSH REL (United States, 10/2013).</b><br>TWA: 5 mg/m <sup>3</sup> 10 hours. Form: Mist<br>STEL: 10 mg/m <sup>3</sup> 15 minutes. Form: Mist<br><b>ACGIH TLV (United States).</b><br>TWA: 5 mg/m <sup>3</sup> Form: Oil mist.<br>STEL: 10 mg/m <sup>3</sup> Form: Oil mist.<br><b>OSHA PEL (United States).</b><br>TWA: 5 mg/m <sup>3</sup> Form: Oil mist. |

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

## Section 8. Exposure controls/personal protection

### 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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Wear eye protection such as safety glasses, chemical goggles, or face shields if engineering controls or work practices are not adequate to prevent eye contact.
- Skin protection**
- Hand protection** : Use nitrile or oil resistant gloves.
- Body protection** : Personal protective clothing such as gloves, aprons, boots and complete facial protection should be selected based on the task being performed and the risks involved. Users should determine acceptable performance characteristics of protective clothing. Consider physical requirements and other substances present when selecting protective clothing.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.
- Respiratory protection** : If a risk assessment indicates that respiratory protection is required, use a properly fitted, air-purifying or supplied air respirator that complies with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Green.
- Odor** : Petroleum.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point/ Dropping Point** : Not available.
- Boiling point** : >315°C (>599°F)
- Flash point** : Closed cup: 216 to 260°C (420.8 to 500°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : >1 [Air = 1]
- Relative density** : 0.87 to 0.89
- Solubility** : Negligible in water.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Kinematic (100°C): 4.1 to 21.9 cSt

## Section 9. Physical and chemical properties

**Volatility** : 6.5 to 7% (v/v)

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : May react with oxygen and strong oxidizing agents, such as chlorates, peroxides, etc.

**Conditions to avoid** : No specific data.

**Incompatible materials** : Reactive or incompatible with the following materials: Strong acids, bases and oxidizers.

**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

#### Acute toxicity

| Product/ingredient name  | Result    | Species | Dose     | Exposure |
|--|-----------|---------|----------|----------|
| Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts | LD50 Oral | Rat     | 3.2 g/kg | -        |

#### Irritation/Corrosion

There is no data available.

#### Sensitization

There is no data available.

#### Carcinogenicity

There is no data available.

#### Specific target organ toxicity (single exposure)

There is no data available.

#### Specific target organ toxicity (repeated exposure)

There is no data available.

#### Aspiration hazard

There is no data available.

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : Irritating to mouth, throat and stomach.

## Section 11. Toxicological information

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

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

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

#### Short term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

#### Long term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

#### Potential chronic health effects

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

| Route | ATE value      |
|-------|----------------|
| Oral  | 402980.2 mg/kg |

## Section 12. Ecological information

### Toxicity

There is no data available.

### Persistence and degradability

There is no data available.

## Section 12. Ecological information

### Bioaccumulative potential

| Product/ingredient name  | LogP <sub>ow</sub> | BCF | Potential |
|--|--------------------|-----|-----------|
| Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts | 0.56               | -   | low       |

### Mobility in soil

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

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. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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 empty 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

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

**AERG** : Not applicable

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.



## Section 15. Regulatory information

**U.S. Federal regulations** : TSCA 8(a) PAIR: Naphthalene  
 TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
 United States inventory (TSCA 8b): Not determined.  
 Clean Water Act (CWA) 307: Toluene; Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts; Antimony, dialkyl dithiocarbamate; Naphthalene  
 Clean Water Act (CWA) 311: Toluene; Naphthalene

Clean Air Act Section 112 : Not listed  
 (b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 : Not listed  
 Class I Substances

Clean Air Act Section 602 : Not listed  
 Class II Substances

DEA List I Chemicals : Not listed  
 (Precursor Chemicals)

DEA List II Chemicals : Not listed  
 (Essential Chemicals)

### SARA 302/304

#### Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

### SARA 311/312

Classification : Immediate (acute) health hazard

#### Composition/information on ingredients

| Name   | %     | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|--|-------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts | 1 - 5 | No.         | No.                        | No.      | Yes.                            | No.                             |

### SARA 313

|                                 | Product name   | CAS number | %     |
|---------------------------------|--|------------|-------|
| Form R - Reporting requirements | Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts | 84605-29-8 | 1 - 5 |
| Supplier notification           | Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts | 84605-29-8 | 1 - 5 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

## Section 15. Regulatory information

- New Jersey** : The following components are listed: Residual oils (petroleum), hydrotreated; Distillates (petroleum), solvent-dewaxed heavy paraffinic; Phosphorodithioic acid, mixed O,O-bis(1, 3-dimethylbutyl and iso-Pr) esters, zinc salts
- Pennsylvania** : The following components are listed: Phosphorodithioic acid, mixed O,O-bis(1, 3-dimethylbutyl and iso-Pr) esters, zinc salts

### California Prop. 65

**WARNING:** This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

**WARNING:** This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level  |
|-----------------|--------|--------------|---------------------------|----------------------------------|
| Toluene         | No.    | Yes.         | No.                       | 7000 µg/day (ingestion)          |
| Naphthalene     | Yes.   | No.          | Yes.                      | 13000 µg/day (inhalation)<br>No. |

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

**Health :** 1      **Flammability :** 1      **Physical hazards :** 0

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. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller.

The customer is responsible for determining the PPE code for this material.

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

**Health :** 1      **Flammability :** 1      **Instability :** 0

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**US Tariff Heading Number** : 2710.19.3020

**Schedule B Code** : 2710.19.3020

### History

**Date of issue mm/dd/yyyy** : 10/15/2014

**Version** : 1

**Revised Section(s)** : Not applicable.

**Prepared by** : KMK Regulatory Services Inc.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

