

Conforms to ANSI Z400.5-2004 Standard (United States, Canada).

**Material Safety Data Sheet****Biodegradable Hydraulic Oil ISO 46****Section 1. Product and company identification**

Product name

Biodegradable Hydraulic Oil ISO 46

Material uses

Lubricating oil.

Supplier/ManufacturerAMSOIL INC.
925 Tower Avenue
Superior, WI 54880**Code**

BHO

MSDS authored by

AMSOIL INC.

In case of emergency

CHEMTREC: (800) 424-9300

Section 2. Hazards identification

Emergency overview

- Color** : Yellow. [Light]
- Physical state** : Liquid.
- Odor** : Mild. / Hydrocarbon.
- Hazard statements** : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
- Precautions** : No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.
- OSHA/HCS status** : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Potential acute health effects

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

Potential chronic health effects

- Chronic effects** : 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.

Over-exposure signs/symptoms

- Inhalation** : No specific data.
- Ingestion** : No specific data.
- Skin** : No specific data.
- Eyes** : No specific data.

Medical conditions aggravated by over-exposure : None known.

See toxicological information (section 11)

Section 3. Composition/information on ingredients

There are no 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.

Section 4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
- Skin contact** : After contact with skin, wash immediately with plenty of soap and water. Get medical attention if symptoms occur.
- Inhalation** : Move exposed person to fresh air. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 5. Fire-fighting measures

- Flammability of the product** : No specific fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Hazardous decomposition products** : No specific data.
- Special protective equipment for fire-fighters** : No special protection is required.

Section 6. Accidental release measures

- Personal precautions** : 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).
- Methods for cleaning up**
- Small spill** : Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : 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. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Avoid contact with used product. 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. Do not reuse container.
- Storage** : 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

Under conditions which may generate mists, the following exposure limits are recommended:
ACGIH TLV TWA: 5 mg/m³ ; STEL: 10 mg/m³.

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Engineering measures** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- 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.
- Respiratory** : 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. Not required under normal conditions of use. Recommended:
- Hands** : Use gloves appropriate for work or task being performed. Not required under normal conditions of use.
- Eyes** : Safety eyewear should be used when there is a likelihood of exposure. Not required under normal conditions of use. Recommended: Safety glasses with side shields.
- Skin** : No special protective clothing is required.
- 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 9. Physical and chemical properties

Physical state	: Liquid.	Odor	: Mild. / Hydrocarbon.
Color	: Yellow. [Light]	pH	: Not available.
Flash point	: Open cup: 232°C (449.6°F) [Cleveland.]	Auto-ignition temperature	: Not available.
Flammable limits	: Not available.	Melting point/ Pour point	: -33°C (-27.4°F)
Boiling point	: Not available.	Vapor pressure	: Not available.
Relative density	: 0.938	Vapor density	: Not available.
Volatility	: Not available.	Evaporation rate	: Not available.

Viscosity : Kinematic: 0.096 cm²/s (9.6 cSt) (100°C)
Kinematic: 0.459 cm²/s (45.9 cSt) (40°C) **Solubility** : Not available.

Section 10. Stability and reactivity

Chemical stability : The product is stable.
Conditions to avoid : No specific data.
Materials to avoid : Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Acute toxicity : No specific data.
Chronic toxicity : No specific data.

Section 12. Ecological information

Environmental effects : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT/TDG/IMDG/IATA : Not regulated.

Section 15. Regulatory information

United States

HCS Classification : Not regulated.
U.S. Federal regulations : **TSCA 6 proposed risk management:** Lead
United States inventory (TSCA 8b): All components are listed or exempted.
TSCA 8(d) H and S data reporting: Lead: 2008

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

Clean Water Act (CWA) 307: Cadmium; Lead; Benzene; Toluene

Clean Water Act (CWA) 311: Benzene; Toluene

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

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.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
Toluene	No.	Yes.	No.	7000 µg/day (ingestion) 13000 µg/day (inhalation)
Benzene	Yes.	Yes.	6.4 µg/day (ingestion) 13 µg/day (inhalation)	24 µg/day (ingestion) 49 µg/day (inhalation)
Cadmium	Yes.	Yes.	0.05 µg/day (inhalation)	Yes.
Lead	Yes.	Yes.	15 µg/day (ingestion)	Yes.

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

Canadian lists : **CEPA Toxic substances:** None of the components are listed.

Canadian ARET: None of the components are listed.

Canadian NPRI: None of the components are listed.

Alberta Designated Substances: None of the components are listed.

Ontario Designated Substances: None of the components are listed.

Quebec Designated Substances: None of the components are listed.

Canada inventory : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations

International lists : **Australia inventory (AICS):** All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

Section 16. Other information

United States

Label requirements : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

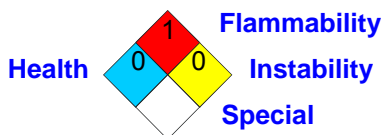
Hazardous Material Information System (U.S.A.) :

Health	0
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 MSDSs 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 (800) 327-6868.

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

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



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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.