1. Chemical product and company identification

Product name: Hysol MB 50
MSDS #: 465450
Historic MSDS #: 03105-BE
Code: 465450-US03
Product use: Coolant lubricant
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)

2. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS #</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amine neutralised phosphoric acid esters</td>
<td>Not available.</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Dialkylamine amine fatty acid salt</td>
<td>Not available.</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Alkanolamine fatty acid salt</td>
<td>Not available.</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Isopropanolamine</td>
<td>78-96-6</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td>1 - 5</td>
</tr>
<tr>
<td>amines, tallow alkyl, ethoxylated</td>
<td>61791-26-2</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Base oil - highly refined</td>
<td>64742-52-5 &amp;/or 64742-53-6</td>
<td>50 - 55</td>
</tr>
</tbody>
</table>

3. Hazards identification

Physical state: Liquid.
Color: Amber. Yellow. [Light]
Emergency overview: WARNING!

HARMFUL IF SWALLOWED.
CAUSES EYE IRRITATION.
CAUSES SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

Routes of entry: Dermal contact. Eye contact. Inhalation. Ingestion.

Potential health effects:
- Eyes: Causes eye irritation.
- Skin: Causes skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
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 irritation develops.

**Skin contact**
Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

**Inhalation**
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion**
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 appear.

5. Fire-fighting measures

**Flammability of the product**
May be combustible at high temperature.

**Flash point**
Water content interferes with flash point determination.

**Products of combustion**
These products are carbon oxides nitrogen oxides phosphorus oxides

**Unusual fire/explosion hazards**
Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts and oxidizing materials.

**Fire-fighting media and instructions**
In case of fire, use water fog, foam, dry chemicals, or carbon dioxide.

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

6. Accidental release measures

**Personal precautions**
Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").

**Environmental precautions and clean-up methods**
If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways. See Section 13 for Waste Disposal Information.

**Personal protection in case of a large spill**
Chemical splash goggles. Chemical resistant protective suit. Boots. Chemical resistant gloves. Vapor respirator or a self-contained breathing apparatus. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of air-purifying respirator.
7. Handling and storage

**Handling**

Do not ingest. Do not get in eyes, on skin or on clothing. Wash thoroughly after handling. Use only with adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

**Storage**

Keep container tightly closed. Keep container in a cool, well-ventilated area. Empty containers may contain harmful, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.

8. Exposure controls/personal protection

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Occupational exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amine neutralised phosphoric acid esters</td>
<td>None assigned.</td>
</tr>
<tr>
<td>Dialkylamine amine fatty acid salt</td>
<td>None assigned.</td>
</tr>
<tr>
<td>Alkanolamine fatty acid salt</td>
<td>None assigned.</td>
</tr>
<tr>
<td>Isopropanolamine</td>
<td>None assigned.</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td><strong>ACGIH TLV (United States, 1/2006).</strong> TWA: 5 mg/m³ 8 hour(s).</td>
</tr>
<tr>
<td>amines, tallow alkyl, ethoxylated</td>
<td>None assigned.</td>
</tr>
<tr>
<td>Base oil - highly refined</td>
<td><strong>ACGIH (United States).</strong> STEL: 10 mg/m³ 15 minute(s). Form: Oil mist, mineral TWA: 5 mg/m³ 8 hour(s). Form: Oil mist, mineral <strong>OSHA (United States).</strong> TWA: 5 mg/m³ 8 hour(s). Form: Oil mist, mineral</td>
</tr>
</tbody>
</table>

Some states may enforce more stringent exposure limits.

**Control Measures**

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

**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.

**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 only with adequate ventilation.

- **Hands**
  
  Wear suitable gloves.

Consult local authorities for acceptable exposure limits.
9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>pH</td>
<td>9.5 to 9.9 at 5%</td>
</tr>
<tr>
<td>Color</td>
<td>Amber. Yellow. [Light]</td>
</tr>
<tr>
<td>Heat of combustion</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>0.94 to 0.96</td>
</tr>
<tr>
<td>Density</td>
<td>950 kg/m³ (0.95 g/cm³) at 15.6°C</td>
</tr>
<tr>
<td>Solubility</td>
<td>Easily soluble in cold water and hot water.</td>
</tr>
<tr>
<td>Dispersibility properties</td>
<td>Easily dispersed in hot water.</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability and reactivity</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Not available</td>
</tr>
<tr>
<td>Incompatibility with various substances</td>
<td>Reactive or incompatible with the following materials: oxidizing materials.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
<tr>
<td>Hazardous polymerization</td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

11. Toxicological information

<table>
<thead>
<tr>
<th>Toxicological Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic toxicity</td>
<td></td>
</tr>
<tr>
<td>Carcinogenic effects</td>
<td>No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).</td>
</tr>
<tr>
<td>Mutagenic effects</td>
<td>No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.</td>
</tr>
<tr>
<td>Reproductive effects</td>
<td>No component of this product at levels greater than or equal to 0.1% is classified by established regulatory criteria as a reproductive toxin.</td>
</tr>
<tr>
<td>Teratogenic effects</td>
<td>No component of this product at levels greater than 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.</td>
</tr>
<tr>
<td>Other chronic toxicity data</td>
<td>Alkanolamine: This product contains an alkanolamine. In all metalworking fluids containing amines, there is a potential for forming nitrosamines which are animal carcinogens. Therefore, no nitrates or related nitrosating agents should be added to such compositions. Contains material that may cause target organ damage, based on animal data. kidneys</td>
</tr>
</tbody>
</table>

12. Ecological information

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No testing has been performed by the manufacturer.</td>
<td></td>
</tr>
</tbody>
</table>
13. Disposal considerations

Waste information

Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of in accordance with all applicable local and national regulations.

Consult your local or regional authorities.

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.

This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Hysol MB 50: Immediate (Acute) Health Hazard, Delayed (Chronic) 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): Diethanolamine; 2,2'-Iminodiethanol: 100 lbs. (45.36 kg); Aniline: 5000 lbs. (2268 kg);

State regulations

Massachusetts RTK: The following components are listed: 1-AMINO-2-PROPANOL; TRIETHANOLAMINE

New Jersey Hazardous Substances: None of the components are listed.

Pennsylvania RTK Hazardous Substances: The following components are listed: 2-PROPANOL, 1-AMINO-ETHANOL, 2,2',2''-NITRILOTRIS-...

WARNING: This product contains a chemical known to the State of California to cause cancer. Aniline

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): At least one component is not listed.

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

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

Philippines inventory (PICCS): Not determined.
16. Other information

Label requirements

WARNING!
HARMFUL IF SWALLOWED.
CAUSES EYE IRRITATION.
CAUSES SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

HMIS® Rating :

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical</th>
<th>Hazard</th>
<th>Personal</th>
<th>protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>B</td>
<td></td>
<td>B</td>
</tr>
</tbody>
</table>

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

History

Date of issue 06/07/2007.
Date of previous issue 05/15/2007.
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.

Product name Hysol MB 50
Product code 465450-US03
Version 2
Date of issue 06/07/2007.
Format US
Language ENGLISH.
Build 5.3.1