1. Chemical product and company identification

Product name          MOLUB-ALLOY 369
MSDS #                75050
Code                  75050-AT
Product use           Dry film 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 CHEMREC (USA)

2. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS #</th>
<th>% by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>propan-2-ol</td>
<td>67-63-0</td>
<td>95 - 100</td>
</tr>
</tbody>
</table>

3. Hazards identification

Physical state       Liquid.
Color                Grey. Liquid. (Dark.)

Emergency overview  WARNING!
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
HARMFUL IF SWALLOWED.
MAY BE HARMFUL IF INHALED.
CAUSES EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

Do not ingest. Avoid prolonged contact with eyes, skin, and clothing. In accordance with good
industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest
extent practicable. Keep away from heat, sparks and flame. Keep container closed. Use only with
adequate ventilation. Wash thoroughly after handling.

Routes of entry      Absorbed through skin. Eye contact. Inhalation. Ingestion.
Potential health effects

<table>
<thead>
<tr>
<th>Eyes</th>
<th>Causes eye irritation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>May cause skin irritation.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>May be harmful if inhaled. May cause respiratory tract irritation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Harmful if swallowed.</td>
</tr>
</tbody>
</table>
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 immediately.

**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 occurs.

**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**
Flammable.

**Flash point**
11 °C (Closed cup) Pensky-Martens.

**Products of combustion**
These products are carbon oxides (CO, CO₂), sulfur oxides (SO₂, SO₃ etc.). Some metallic oxides.

**Unusual fire/explosion hazards**
Flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Slightly explosive in presence of open flames, sparks and static discharge, of shocks, of heat. This material is combustible/flammable and is sensitive to fire, heat, and static discharge.

**Fire-fighting media and instructions**
In case of fire, use water fog, foam, dry chemicals, or carbon dioxide. DO NOT FIGHT FIRE WHEN IT REACHES MATERIAL. Withdraw from fire and let it burn. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. First move people out of line-of-sight of the scene and away from windows. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

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

**Special remarks on fire hazards**
DO NOT FIGHT FIRE WHEN IT REACHES MATERIAL. Withdraw from fire and let it burn. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. First move people out of line-of-sight of the scene and away from windows.

6. Accidental release measures

**Personal precautions**
Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (See Section: “Exposure controls/personal protection”). Follow all fire fighting procedures (See Section: “Fire-fighting measures”). Do not touch or walk through spilled material.

**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) and use a non-sparking or explosion proof means to transfer material to a sealed, appropriate 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**
Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
7. Handling and storage

Handling
Do not ingest. Avoid contact with skin and clothing. Avoid contact with eyes. 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. Wash thoroughly after handling. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

Storage
Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

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>propan-2-ol</td>
<td>ACGIH TLV (United States, 1/2005).</td>
</tr>
<tr>
<td></td>
<td>STEL: 400 ppm  15 minute(s).</td>
</tr>
<tr>
<td></td>
<td>TWA: 200 ppm  8 hour(s).</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL (United States, 8/1997).</td>
</tr>
<tr>
<td></td>
<td>TWA: 980 mg/m³  8 hour(s).</td>
</tr>
<tr>
<td></td>
<td>TWA: 400 ppm  8 hour(s).</td>
</tr>
</tbody>
</table>

Control Measures
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure 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.

Personal protection

<table>
<thead>
<tr>
<th>Eyes</th>
<th>Avoid contact with eyes. Chemical splash goggles.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin and body</td>
<td>Avoid contact with skin and clothing. Wear clothing and footwear that cannot be penetrated by chemicals or oil.</td>
</tr>
<tr>
<td>Respiratory</td>
<td>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.</td>
</tr>
<tr>
<td>Hands</td>
<td>Wear gloves that cannot be penetrated by chemicals or oil.</td>
</tr>
<tr>
<td></td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>Alcohol like. (Strong.)</td>
</tr>
<tr>
<td>Color</td>
<td>Grey. Liquid. (Dark.)</td>
</tr>
<tr>
<td>Density</td>
<td>790 kg/m³ (0.79 g/cm³) at 15.6°C</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Dispersibility properties</td>
<td>See solubility in water.</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Stability and reactivity  The product is stable.
Conditions to avoid  Avoid excessive heat.
Incompatibility with various substances  Reactive or incompatible with the following materials: oxidizing materials and acids.
Hazardous decomposition products  Not available.
Hazardous polymerization  Will not occur.

11. Toxicological information

Chronic toxicity

Carcinogenic effects  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).

Mutagenic effects  No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.

Reproductive effects  No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a reproductive toxin.

Teratogenic effects  No component of this product at levels greater than 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.

Other chronic toxicity data  Isopropanol Data With Possible Relevance to Humans (a summary of TSCA Section 4 Test Results): Large doses (>800 mg/kg/day) of isopropanol given orally to pregnant rats during the critical period of gestation produced a slight decrease in fetal weight. These do also caused evidence of toxicity in the mothers. Oral doses as high as 480 mg/kg/day caused evidence of toxicity in pregnant rabbits but did not produce evidence of embryo or fetal toxicity. Isopropanol did not produce an increased incidence of malformations (teratogenicity) in either species. An indication of reduced mating performance in 2nd generation male rats was noted at oral doses of 1000 mg/kg/day in a two generation reproductive study. Increased neonatal mortality was also seen at doses of 500 mg/kg/day and greater in this study. No evidence of neurotoxic effects was observed in studies specifically designed to assess neurobehavioral functions in neonatal rats after oral dosing of mothers during gestation and lactation. In an acute vapor inhalation study, high concentrations of isopropanol (1500 ppm and greater) caused a spectrum of transient effects indicative of narcosis. In repeated inhalation exposure studies, high vapor concentrations (5000 ppm) produced an increase in motor activity in rats first noted after 4 weeks of exposure. The effect was reversible, completely resolving within 14 days after 13 weeks of exposure. No evidence of damage to nerve tissue was seen in this study. Lifetime exposure of laboratory animals to high concentrations of isopropanol vapor (greater than 1500 ppm) exacerbated chronic progressive nephropathy commonly seen in aged animals. The relevance of this finding to human health hazard evaluation is unknown. No evidence suggestive of carcinogenic activity was noted in chronic vapor inhalation studies with isopropanol in rats and mice. Observations in animals include middle ear lining damage upon exposure to vapors of isopropanol. The relevance of this to humans is unknown.

12. Ecological information

Ecotoxicity  No testing has been performed by the manufacturer.
Not available.
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.

RCRA Waste Code(s)
D001

Remarks
No additional remark.

Consult your local or regional authorities.

14. Transport information

International transport regulations

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Class</th>
<th>Packing group</th>
<th>Label</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Classification</td>
<td>UN1993</td>
<td>Flammable liquid, n.o.s. (Contains isopropanol or isopropyl alcohol)</td>
<td>3</td>
<td>II</td>
<td><img src="image" alt="Label" /></td>
<td>Not determined.</td>
</tr>
<tr>
<td>TDG Classification</td>
<td>UN1993</td>
<td>Flammable liquid, n.o.s. (Contains isopropanol or isopropyl alcohol)</td>
<td>3</td>
<td>II</td>
<td><img src="image" alt="Label" /></td>
<td>Not determined.</td>
</tr>
<tr>
<td>IMDG Classification</td>
<td>UN1993</td>
<td>Flammable liquid, n.o.s. (Contains isopropanol or isopropyl alcohol)</td>
<td>3</td>
<td>II</td>
<td><img src="image" alt="Label" /></td>
<td>Not determined.</td>
</tr>
<tr>
<td>IATA Classification</td>
<td>UN1993</td>
<td>Flammable liquid, n.o.s. (Contains isopropanol or isopropyl alcohol)</td>
<td>3</td>
<td>II</td>
<td><img src="image" alt="Label" /></td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

15. Regulatory information

U.S. Federal regulations
US INVENTORY (TSCA): In compliance.

TSCA 12(b) one-time export notification: propan-2-ol; Butan-1-ol
This product is not regulated under Section 302 of SARA and 40 CFR Part 355.


SARA 313

Form R - Reporting requirements
Product name: propan-2-ol
CAS number: 67-63-0
Concentration: 89.92 - 100

Supplier notification
Product name: propan-2-ol
CAS number: 67-63-0
Concentration: 89.92 - 100

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4): MOLUB-ALLOY 369

State regulations
Massachusetts RTK:propan-2-ol; molybdenum sulfide; graphite, natural; 1-Methoxy-2-propanol
New Jersey:propan-2-ol; molybdenum sulfide; 1-Methoxy-2-propanol
Pennsylvania RTK:propan-2-ol (environmental hazard, generic environmental hazard); graphite, natural (generic environmental hazard); 1-Methoxy-2-propanol (generic environmental hazard)
California Prop 65: No products were found
16. Other information

Label requirements

WARNING!
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
HARMFUL IF SWALLOWED.
MAY BE HARMFUL IF INHALED.
CAUSES EYE IRRITATION.
MAY CAUSE 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>2</td>
<td>3</td>
<td>0</td>
<td></td>
<td>B</td>
<td>National Fire Protection Association (U.S.A.)</td>
</tr>
</tbody>
</table>

Specific hazard: Heat

Other special considerations
No additional remark.

History

Date of issue 10/20/2005.
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.