

MATERIAL SAFETY DATA SHEET



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PRODUCT RELATED HEALTH DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Pump Packing Lubricant (FR Fluid 40)

Binks Part No. 42-175

MSDS #: MSDS-20 **REVISION #:** 3.3

DATE REVISED: 03/21/2007 **DATE PREPARED:** 04/05/1999

ITW Industrial Finishing - Binks

195 Internationale Blvd.

Glendale Heights, IL 60139

Emergency Number - INFOTRAC

EMERGENCY PHONE (24 HOURS):

1-800-535-5053

630-237-5000

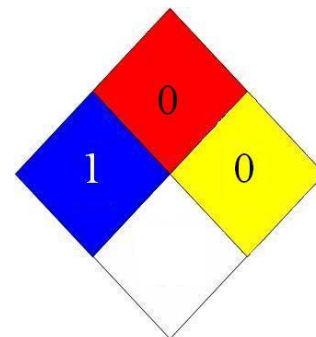
CHEMICAL FORMULA: Mixture

CAS NUMBER: Not Applicable.

DERIVATION: Not Applicable.

SYNONYMS: Not Applicable.

GENERAL USE: Pump Lubricant



2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS	CAS REG NO.	WGT. %	ACGIH TWA	OSHA TWA	UNITS	ACGIH TWA	OSHA TWA	AIHA WEEL TWA	UNITS
Diethylene glycol	111-46-6	40 - 60						10	mg/m3
Water	7732-18-5	40 - 60							
Polyalkylene Glycol	Proprietary	10- 30			ppm				mg /m3
Proprietary Ingredients	Proprietary Mixture	< 4			ppm				mg/m3
Morpholine	110-91-8	< 2	20	20	ppm	71	70		mg /m3

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Warning:

Harmful or fatal if swallowed.

Can cause liver and kidney damage.

Can be absorbed through the skin.

Can cause eye and skin irritation.

Vapors can cause temporary blurring of vision.

Thermal decomposition may release hazardous gases.

MAJOR ROUTE(S) OF ENTRY: Skin contact. Eye contact. Inhalation. Ingestion.

ACUTE EFFECTS:

Eye: This product can cause eye irritation with short-term contact with liquid, mists or vapors. Symptoms include stinging, watering, redness, and swelling.

Skin: This product can cause mild, transient skin irritation with short-term exposure. The severity of irritation will depend on the amount of material that is applied to the skin and the speed and thoroughness that it is removed.

Symptoms include redness, itching, and burning of the skin. Repeated or prolonged skin contact can produce moderate irritation (dermatitis).

Ingestion: The predominant hazard associated with this product is ingestion of large quantities at a single time. During the first 12 hours, the patient may experience central nervous system effects such as headache, weakness, nausea, dizziness, loss of judgment and coordination. In mild cases, the patient may appear to be drunk but without the breath odor of alcohol. In more severe cases the patient will experience cardiopulmonary symptoms including mild high blood pressure, abnormally fast heartbeat and elevated breathing rate. Convulsions and coma are possible. Kidney complications, including slow or no production of urine may be expected 24 to 72 hours after ingestion. Also, injury to the liver can occur.

Inhalation: Short-term harmful health effects are not expected from vapors generated at ambient temperatures. Overexposure to glycol ether vapors or mists can cause respiratory tract irritation. In general, this effect becomes noticeable with airborne concentrations of approximately 60 ppm. Cough and a burning sensation in the trachea are symptoms of inhalation exposures above 80 ppm. Overexposure to glycols and glycol ethers can cause central nervous system depression. Symptoms include headache, weakness, nausea, vomiting, dizziness, loss of coordination and increased heart rate. Seizures, convulsions, coma and death are possible at extreme high concentrations.

CHRONIC EFFECTS:

Eye: In repeated exposure studies, certain glycols produced severe eye irritation with corneal damage in laboratory animals.

Skin: May cause skin irritation.

Ingestion: Chronic ingestion studies with lower molecular weight glycols resulted in kidney damage with calcium deposits. Also, calcium oxalate crystals were identified in brain tissue of experimental animals.

Inhalation: Limited information is available regarding the effects of chronic inhalation of glycol and glycol ethers in humans. Overexposure or repeated and extensive inhalation of vapors, aerosol or mist generated can result in eye and respiratory tract irritation, dizziness and nausea.

CARCINOGENICITY: This product is not known to contain any components at concentrations above 0.1% which are considered carcinogenic by NTP, IARC, or OSHA.

TARGET ORGAN EFFECTS: May cause damage to the following organs: kidneys, liver, skin, eye, lens or cornea.


MEDICAL CONDITIONS AGGRAVATED by EXPOSURE: Persons with preexisting kidney or liver diseases may have their conditions aggravated by ingestion of or overexposure to this product.

OTHER INFORMATION: OSHA Health Hazard Classification - Irritant

4. FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with cool, clean, low-pressure water for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid tissue. If easily accomplished, check for and remove contact lenses. If contact lenses cannot be removed, seek immediate medical attention. Do not use eye ointment. Seek medical attention.

SKIN CONTACT: Remove contaminated shoes and clothing. Immediately wash exposed skin with warm water and mild soap. Seek medical attention if tissue appears

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damaged or if pain or irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated leather goods.

INGESTION: If swallowed, give two glasses of water to drink. Never give anything by mouth to a person who is not fully conscious. Induce vomiting only upon advise of a physician. **Seek medical attention immediately.**

INHALATION: Remove victim immediately to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately. Keep the affected individual warm and at rest.

OTHER INFORMATION: **Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid. For more specific information, refer to Exposure Controls and Personal Protection in Section 8 of this MSDS.**

5. FIRE FIGHTING MEASURES

FLASH POINT (method): 149°C (300°F) (Cleveland Open Cup). (After water component evaporates.)

AUTOIGNITION TEMPERATURE: Not Determined

LOWER EXPLOSION LIMIT: No data.

UPPER EXPLOSION LIMIT: No data.

NFPA FLAMMABILITY CLASSIFICATION: Not applicable.

EXTINGUISHING MEDIA: Use dry chemical, "alcohol" foam, carbon dioxide or halon. Carbon dioxide and inert gas can displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces.

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons, aldehydes and other products of incomplete combustion.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Material will burn after its water content has evaporated.

FIRE-FIGHTING INSTRUCTIONS/EQUIPMENT: Fire fighters must wear full bunker gear including NIOSH/NFPA approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.

SPECIAL PROPERTIES: This is an aqueous solution. After the water component evaporates, the remaining material will burn. Do not direct a solid stream of water or foam into hot, burning pools as this may cause frothing and increase the intensity of the fire.

NFPA RATING: See Section 15.

6. ACCIDENTAL RELEASE MEASURES

Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. For more specific information, refer to the Emergency Overview on Page 1, Exposure Controls and Personal Protection in Section 8 and Disposal Considerations in Section 13 of this MSDS.

Do not touch damaged containers or spilled material unless wearing appropriate personal protective equipment (see section 8). Slipping hazard: do not walk through spilled material. Stop leak if you can do so without risk.

SMALL SPILL: Contain spill with the aid of an absorbent, such as dry earth, sand or other inert non-combustible absorbent material and place in suitable waste containers for later disposal.

LARGE SPILL: Contain spill with the aid of an absorbent to maximize product recovery or disposal. Prevent entry into waterways, ground water, ditches, surface waters or sewers. In urban areas, cleanup spill as soon as possible. In natural environments, seek cleanup advice from specialist to minimize physical habitat damage. This material is miscible in water. If spill enters sewer, notify Authorities. Comply with all laws and regulations.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS: Protect from temperature extremes and direct sunlight. Maintain operating temperatures as low as possible. Do not allow operating temperatures to exceed 66°C (150°F). Loss of water through evaporation during use can reduce safety and performance efficiency. To ensure fire resistance, water content must be maintained above 35%. Product container is not designed for elevated pressure. Do not pressurize, cut, weld, braze, solder, drill, or grind on containers. Do not expose product containers to flames, sparks, heat or other potential ignition sources. Empty containers may contain product residues that can ignite with explosive force. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product. Remember to use appropriate personal protective equipment.

STORAGE REQUIREMENTS: Store in resin-coated, stainless steel or aluminum containers. Iron containers are acceptable for short durations although lower molecular weight glycols can cause corrosion. Keep containers tightly closed and dry. Protect against physical damage. Do not store with strong oxidizing agents. Keep away from heat, flame and all other potential ignition sources. Do not store at temperatures above 49°C (120°F) or in direct sunlight. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

OTHER PRECAUTIONS: Do not add nitrates or other nitrosating agents. This material contains amines that can react with nitrates to form nitrosamines. Certain nitrosamines have been associated with cancer in laboratory animals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits. An eye wash station and safety shower should be located near the work-station.


EYE and FACE PROTECTION: Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. Wear chemical safety goggles if splashing or spraying is anticipated. Wear goggles and face shield if material is heated above 125°F (51°C). Have suitable eye wash water available.

BODY PROTECTION: Use clean protective clothing if splashing or spraying conditions are present. Protective clothing may include long-sleeve outer garment, apron, or lab coat. If significant contact occurs, remove oil-contaminated clothing as soon as possible and promptly shower. Launder contaminated clothing before reuse or discard. Wear heat protective boots and protective clothing when handling material at elevated temperatures.

HAND PROTECTION: Use gloves constructed of glycol-resistant materials such as butyl rubber or polyvinyl chloride (PVC). Use heat-protective gloves when handling product at elevated temperatures.

RESPIRATORY PROTECTION: If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist pre-filter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).

OTHER PERSONAL PROTECTIVE EQUIPMENT: Personal protective equipment should be selected or based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. For certain operations, additional PPE may be required.

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EXPOSURE GUIDELINES: See section 2

WORK HYGIENIC PRACTICES: As with all chemicals, use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities or leaving work. DO NOT use gasoline, kerosene, solvents, or harsh abrasive skin cleaners. Keep this and other chemicals out of reach of children. Minimize body contact with this product. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Fluorescent, Pink.

PHYSICAL STATE: liquid.

ODOR: Musky, ammonia-type odor.

ODOR THRESHOLD (PPM): Not Determined.

SPECIFIC GRAVITY (WATER=1): 1.09

SOLUBILITY IN WATER (20°C): Easily soluble in cold water.

SOLUBILITY IN FAT: Not Determined

PARTITION COEFFICIENT (n-octanol/water): Not Determined.

pH: Not Determined

MELTING/FREEZING POINT: AP -30°C (AP -22°F)

BOILING RANGE: AP 130°C (AP 266°F)

VAPOR PRESSURE (20°C) (mm Hg): AP 7

VAPOR DENSITY (AIR=1): AP 2.75

EVAPORATION RATE (n-BUTYL ACETATE=1): Not Determined.

VOLATILITY/V.O.C.: 592 g/l VOC (w/v)

FLASH POINT: / AUTO IGNITION TEMPERATURE: / FLAMMABILITY CLASSIFICATION: /

UNUSUAL FIRE or EXPLOSION HAZARDS: See Section 5.

OXIDIZING PROPERTIES: None Known.

DENSITY: 9.1 Lbs/gal.

VISCOSITY (ASTM D2161): 205 SUS @ 100°F.

VISCOSITY (cSt @ 40°C): 41.

NOTE: AP=Approximately

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

HAZARDOUS POLYMERIZATION: Not expected to Occur.

CONDITIONS TO AVOID: Not considered to be reactive. Avoid strong bases, strong acids, strong oxidizing agents and materials reactive with hydroxyl compounds.

CHEMICALS TO AVOID/INCOMPATIBILITY: This material contains amines that can react with nitrates to form nitrosamines. Certain nitrosamines have been associated with cancer in laboratory animals. Avoid contact with strong acids, such as nitric or sulfuric, alkalies, oxidizers such as liquid chlorine and oxygen, and compounds with reactive hydroxy functions.

HAZARDOUS DECOMPOSITION PRODUCTS: No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS.

11. TOXICOLOGICAL INFORMATION


For other health-related information, refer to the Emergency Overview on Page 1 and the Hazardous identification in Section 3 of this MSDS.

TOXICOLOGICAL INFORMATION:

Diethylene glycol:

ORAL (LD50):	Acute: 12565 mg/kg (Rat). 13300 mg/kg (Mouse). 2690 mg/kg (Rabbit).
DERMAL (LD50):	Acute: 11890 mg/kg (Rabbit).

The major hazards from diethylene glycol occurs following the ingestion of relatively large single doses. Diethylene glycol can cause central nervous system depression and hydropic degenerative lesions in the liver and kidney.

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Anuria from tubular degeneration can prove fatal within a few days. In a 1937 case study, 105 fatalities occurred among 353 people who ingested a solution of sulfanilamide in an aqueous mixture containing 72% diethylene glycol. The symptoms included nausea, dizziness, and pain in the kidney region. In a few days, oliguria and anuria, with death resulting from uremic poisoning, (Amdur, Doull and Kiaasen, 1991). Autopsies revealed that the principal signs of intoxication were in the kidneys and liver (cortical necroses, nephrosis with severe vaculization of the tubular epithelium, liver congestion and fatty degeneration). (AIHA, 1999)

Morpholine:

ORAL (LD50): Acute: 1050 mg/kg (Rat).

Morpholine vapor can irritate the eyes, nose and throat. It has been associated with eye, skin and mucous membrane irritation in rats exposed repeatedly at 25 ppm. Shark and Newberne reported ocular injury, including retinal degeneration, corneal irritation, uveitis and corneal damage in rats exposed 150 ppm, 6 hr/day, 5 days/week, for 104 weeks. ACGIH has recommended a "Skin" notation for Morpholine because of the material's ability to permeate the skin in sufficient quantities to cause systemic toxicity. Morpholine is a highly alkaline secondary amine. Amines can react with nitrates to form nitrosamines. Certain nitrosamines have been shown to be carcinogenic in laboratory animals.

SENSITIZATION TO PRODUCT: Not Known

IRRITANCY OF PRODUCT: Severe skin and eye irritation.

REPRODUCTIVE TOXICITY: Reproductive toxicity was noted in a mouse continuous breeding study with large doses of diethylene glycol in drinking water. In addition, health effects including liver and kidney disease were noted in studies with pregnant rats receiving undiluted diethylene glycol. The relevance of these large dose studies to human health is not certain.

TERATOGENICITY: Not Known.

MUTAGENICITY: Not Known.

ADDITIONAL INFORMATION: Carcinogenicity Classification: **NTP:** No **IARC:** No

OSHA: No

12. ECOLOGICAL INFORMATION

MOBILITY/ENVIRONMENTAL FATE: This product is miscible in water and is expected to readily disperse in marine environments.

DEGRADABILITY: Not Determined.

ACCUMULATION: Not Determined.

ECOTOXICITY:

Diethylene Glycol:

LC50 Fathead Minnows, >100 ppm/96 hrs (Static Test Environment)

LC50 Daphnia Magna, 0.3-1 ppm/96 hrs (Static Test Environment)


No Effect Level, Selenastrum Capricomutum, 100 ppm (Static Test Environment)

OTHER ADVERSE EFFECTS: Not Determined.

13. DISPOSAL CONSIDERATIONS

Hazard characteristics and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

DISPOSAL METHOD: Conditions of use may cause this material to become "hazardous waste", as defined by federal or state regulations. It is the responsibility of the user to determine if the material is a "hazardous waste" at the time of disposal. Transportation, treatment, storage, and disposal of waste materials must be conducted in accordance with RCRA regulations (see 40 CFR 260 through 40 CFR 271). State and/or local regulations may be more restrictive. Contact your

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regional US EPA office for guidance concerning case specific disposal issues. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose this product's empty container to flames, sparks, heat or other potential ignition sources. DO NOT attempt to clean it. Empty drums and pails should be drained completely, properly bunged or sealed, and properly sent to a re-conditioner. Dispose of waste at an approved disposal facility in compliance with all current Local, State/Province, and Federal/Canadian laws and regulations.

14. TRANSPORT INFORMATION

The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside the United States.

U.S. D.O.T. PROPER SHIPPING NAME: Not Regulated.

HAZARD CLASS OR DIVISION: Not Regulated.

PROPER SHIPPING NAME: Not Regulated.

I.D. NUMBER: Not Regulated.

PACKING GROUP: Not applicable.

UN/NA: Not regulated.

IATA: Not regulated.

IMO: Not regulated.

PLACARD(S): None Required.

REPORTABLE QUANTITY (RQ): A Reportable Quantity (RQ) has not been established for this material.

EMERGENCY RESPONSE GUIDE No.: Not Applicable.

MARPOL II STATUS: Not a DOT "Marine Pollutant" per 49 CFR 171.8.

15. REGULATORY INFORMATION

EPA SARA 302/303 EMERGENCY PLANNING and NOTIFICATION: No Components were identified.

TOXIC SUBSTANCES CONTROL ACT (TSCA): This product and/or its components are listed on the Toxic Substances Act (TSCA) Inventory.

EPA SARA Sec. 311/ 312 HAZARD CATEGORIES: Acute (Immediate) Health Hazard, Chronic (Delayed) Health Hazard

CERCLA: No RQ for product. However it is recommended that you contact state and local authorities to determine if there are any other reporting requirements in the event of a spill.

CLEAN WATER ACT (CWA): Discharges or spills of this material onto or in waters of the United States, adjoining shorelines, or into conduits leading to surface waters of the US without proper Federal or State permits should be reported to the National Response Center at (800) 424-8802.

SARA Title III, Section 313, CHEMICALS: No components were identified.

CALIFORNIA Proposition 65 - Safe Drinking Water and Toxic Enforcement Act

Substances List: Ethylene oxide: <0.0001%, 1,4-Dioxane: <0.0001%, Propylene oxide: <0.0001%

NEW JERSEY RIGHT-TO-KNOW HAZARDOUS SUBSTANCES LIST: New Jersey RTK: 648325001.

HMIS RATING: Health 2, Flammability 0, Reactivity 0.

NFPA RATING: Health 1, Flammability 0, Reactivity 0.

16. OTHER INFORMATION

MSDS PREPARED BY: Director of Chemical Safety

The information contained herein is based on data available to us and is accurate and reliable to the best of our knowledge and belief. However, ITW Industrial Finishing Binks makes no representations as to its completeness or accuracy. Information is supplied on condition that persons receiving such information will make their own determination as to its suitability for their purposes prior to use. In no event will ITW Industrial Finishing - Binks be responsible for damages of any nature whatsoever resulting from the use of or reliance upon the information contained herein.

*** END OF MSDS ***