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DUALCO • 8404 Braniff, Houston, Texas 77061

713-644-1164 • FAX 713-644-7761

www.dualco-inc.com

e-mail: dualco@dualco-inc.com

Distributed by:

Linc Energy Systems

www.lincenergysystems.com

SDS

Safety Data Sheet

05-28-2024

DUALCO Hydraulic Fluid

DUALCO encourages and expects you to read and understand the entire SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

Section 1 - Product Identification

Product Name: DUALCO Hydraulic Fluid

Product Part Number: 10971

Product Type: Hydraulic Fluid

Recommended use of the chemical and restrictions on use:

Application _____ Valve Lubricant - Use Only as Intended.

Uses advised against _____ DO NOT use this material in oxygen service.

Recommended use of the chemical and restrictions on use Identified uses:

Selection of the appropriate polyglycol product for a specific application requires knowledge of the fluid requirements of the application, awareness of the most important of these requirements, and a match-up with the properties of the various polyglycol materials. Polyglycol products can be formulated for use in numerous industry applications such as hydraulic fluids, quenchants, compressor and refrigeration lubricants, heat transfer fluids, machinery lubricants, solder assist fluids, metalworking lubricants, textile finishing, etc. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

Details of the supplier of the safety data sheet:

Manufacturer:

DUALCO, Inc.

8404 Braniff, Houston, Texas 77061

Telephone: 713-644-1164 Website: dualco-inc.com

Emergency Telephone Number:

Emergency Telephone _____ 713-644-1164

Section 2 - Hazardous Identification

Hazards Classification

This material is hazardous under the criteria of the Federal OSHA

Hazard Communication Standard 29CFR 1910.1200.

Skin sensitization - Category 1

Specific target organ toxicity - repeated exposure - Category 2

Label elements • Hazard pictograms



Signal word: **WARNING!**

Hazards

May cause an allergic skin reaction.

May cause damage to organs (Blood) through prolonged or repeated exposure.

DUALCO Hydraulic Fluid

Section 2 - Hazardous Identification (cont.)**Precautionary statements****Prevention**

Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.

Response

If On Skin: Wash with plenty of soap and water.
Get medical advice/ attention if you feel unwell.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.

Disposal

Dispose of contents/ container to an approved waste disposal plant.

Other Hazards - No data available

Section 3 - Composition / Information on Ingredients**Mixtures**

Chemical Name	CAS Number	Composition (% w/w)
Polyalkylene glycol monobutyl ether	9038-95-3	> 95
N-phenyl-alpha-naphthylamine	90-30-2	≤ 2.4

The exact concentrations of the above listed chemicals are being withheld as a trade secret in accordance with 29 CFR 1910.1200.

Section 4 - First Aid Measures**First Aid Measures****General information:**

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Eye Contact:

Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Inhalation:

Move person to fresh air; if effects occur, consult a physician.

DUALCO Hydraulic Fluid

Section 4 - First Aid Measures (cont.)

Skin contact:

Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

Ingestion:

Rinse mouth with water. No emergency medical treatment expected. As a precaution, get medical advice.

Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Notes to Physician: Indication of any immediate medical attention or special treatment

Repeated excessive exposure may aggravate preexisting lung disease. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Section 5 - Fire Fighting Measures

Extinguishing Media

- **Appropriate Extinguishing Media:**

Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

- **Inappropriate Extinguishing Media:**

Do not use direct water stream. May spread fire.

Specific Hazards**Hazardous Combustion Products:**

During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: carbon monoxide and carbon dioxide. Combustion products may include trace amounts of: nitrogen oxides.

Unusual Fire and Explosion Hazards:

Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Liquid mist of this product can burn. Flammable concentrations of vapor can accumulate at temperatures above flash point; see Section 9.

DUALCO Hydraulic Fluid

Section 5 - Fire Fighting Measures (cont.)**Advice for Firefighters****Fire Fighting Procedures:**

Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water.

Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special protective equipment for firefighters:

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations.

If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

Section 6 - Accidental Release Measures**Personal precautions, protective equipment and emergency procedures:**

Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental Precautions:

Spillages: Avoid discharge to soil, ditches, sewers, waterways and/or groundwater or any aquatic environment. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air). See Section 12 for additional Ecological Information.

Methods and materials for containment and cleaning up:

Wear protective clothing as described in Section 8. Contain and Clear up spills immediately and dispose of waste safely. Reuse or recycle products wherever possible. Collect in suitable and properly labeled containers. See Section 13 for additional information.

DUALCO Hydraulic Fluid

Section 7 - Handling and Storage

Precautions for Safe Handling

Usage Precautions:

Avoid prolonged or repeated contact with skin. Avoid breathing mist. Use with adequate ventilation. Keep container closed. **Do Not** use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Wash thoroughly after handling.

Advice on General Occupational Hygiene:

Avoid prolonged or repeated contact with skin. Avoid breathing mist. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse.

Storage Precautions:

Store in the following material(s): 316 stainless steel. Carbon steel. Glass-lined container. Polypropylene. Polyethylene-lined container. Stainless steel. Teflon. This material may soften and lift certain paint and surface coatings. Use product promptly after opening. Store in original unopened container. Unopened containers of material stored beyond the recommended shelf life should be retested against the sales specifications before use. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage stability: Shelf life - Use within 24 Month

Section 8 - Exposure Controls / Personal Protection

Control Parameters

Exposure limits: None established

Exposure Controls

Appropriate Engineering Controls:

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual Protective Equipment:



Eye/Face Protection:

Eye-wear: Safety glasses with side shields complying with an approved standard are a minimum level of protection. Personal protective equipment for eye and face protection should comply with OSHA 1910.133.

DUALCO Hydraulic Fluid

Section 8 - Exposure Controls / Personal Protection (cont.)

Individual Protective Equipment: (cont.)

Skin Protection

Use gloves chemically resistant to this material. **Preferred** glove barrier materials include: Butyl rubber and Ethyl vinyl alcohol laminate ("EVAL").

Acceptable glove barrier materials include: Neoprene, Natural rubber ("latex"), Polyvinyl chloride ("PVC" or "vinyl") and Nitrile/butadiene rubber ("nitrile" or "NBR").

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other Protection

Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory Protection

No respiratory protection should be needed under normal and intended handling conditions.

Section 9 - Physical and Chemical Properties

Appearance:

Physical State	Liquid
Color	Brown
Odor	Mild
Odor Threshold	No test data available

Basic Physical and Chemical Properties:

pH	Not Determined
Melting point / Freezing point	Not Determined / See Pour Point
Boiling point (760 mmHg)	> 200°C (> 392°F) <i>Calculated.</i>
Flash point	218°C (424°F) <i>ASTM D 93 (Closed Cup)</i>
Evaporation Rate (Butyl Acetate = 1)	Not Determined
Flammability (solid, gas)	Not applicable to liquids
Upper and Lower Flammability or Explosion limits	Not Determined
Vapor Pressure	< 0.01 mmHg at 20°C (68°F) <i>ASTM E1719</i>
Relative Vapor Density (air = 1)	>1 <i>Calculated.</i>
Relative Density (water = 1)	1.038 at 20°C (68°F) / 20 °C <i>Calculated.</i>
Water solubility	100 % <i>Visual</i> Approximately
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	400°C (752°F) <i>Literature</i>
Decomposition temperature	> 288°C (> 550°F) <i>Literature</i>
Kinematic Viscosity	49.5 - 58.0 cSt at 40°C (104°F) <i>ASTM D 445</i>
Pour point	-48 °C (-54 °F) <i>ASTM D97</i>
Volatile Organic Compounds	0.00 g/L <i>EPA Method No. 24</i>

Note: The physical data presented above are typical values and should not be construed as a specification.

DUALCO Hydraulic Fluid

Section 10 - Stability And Reactivity

Reactivity: No data available

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Alcohols. Ethers. Hydrocarbons. Ketones. Organic acids. Polymer fragments.

Section 11 - Toxicological Information**Likely Routes of Exposure:**

Eyes _____	May cause slight temporary eye irritation. Corneal injury is unlikely.
Inhalation _____	Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Ingestion _____	Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.
Skin Contact _____	Brief contact is essentially nonirritating to skin.
Sensitization _____	A component in this mixture has caused allergic skin reactions in humans.
	For respiratory sensitization: No specific, relevant data available for assessment.

Acute Toxicity**Acute oral toxicity**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):

LD50, Rat, > 7,000 mg/kg Estimated.

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: Single dose dermal LD50 has not been determined.

Based on information for component(s):

LD50, Rat, > 2,000 mg/kg Estimated. No deaths occurred at this concentration.

Acute inhalation toxicity

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. For respiratory irritation and narcotic effects: No relevant data found. As product: The LC50 has not been determined.

DUALCO Hydraulic Fluid

Section 11 - Toxicological Information (cont.)

Acute Toxicity (cont.)**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Mist may cause irritation of upper respiratory tract (nose and throat) and lungs.

Contains component(s) which have been reported to cause effects on the following organs in animals: Blood.

Carcinogenicity

Based on information for component(s): Did not cause cancer in laboratory animals.

Teratogenicity

No specific, relevant data available for assessment.

Reproductive toxicity

No specific, relevant data available for assessment.

Mutagenicity

For the minor component(s): In vitro genetic toxicity studies were negative in some cases and positive in other cases.

Components Influencing Toxicology**Polyalkylene glycol monobutyl ether**

Acute inhalation toxicity: At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. For respiratory irritation and narcotic effects: No relevant data found.

For similar material(s): LC50, Rat, 4 Hour, dust/mist, > 5.01 mg/l
No deaths occurred at this concentration.

N-phenyl-alpha-naphthylamine

Acute inhalation toxicity: At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. For respiratory irritation and narcotic effects: No relevant data found.

Rat, 8 Hour, vapor, No deaths occurred following exposure to a saturated atmosphere.

Section 12 - Ecological Information

Eco-toxicity:**Acute toxicity to fish**

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 55 mg/l,
OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), static test, 48 Hour, 25 mg/l, OECD Test Guideline 202 or Equivalent.

Toxicity to bacteria

IC50, Bacteria, 16 Hour, > 1,000 mg/l

DUALCO Hydraulic Fluid

Section 12 - Ecological Information (cont.)

Persistence and Degradability

Biodegradability:

Biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28/ThOD between 10 and 40%).

Chemical Oxygen Demand: 2.01 mg/mg

Biological Oxygen Demand (BOD)

Incubation Time	5 d	10 d	15 d	20 d
BOD	0%	8%	14%	15%

Bio-Accumulative Potential:

Bioaccumulation: No bioconcentration is expected because of the relatively high water solubility.

Mobility in Soil:

Not Determined

Section 13 - Disposal Considerations

Waste Treatment Methods:

General information

The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

Disposal methods:

DO NOT dump into any sewers, on the ground, or into any body of water.

All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

As your supplier, we have no control over the management practices or manufacturing processes of parties handling or using this material. The information presented here pertains only to the product as shipped in its intended condition as described in the SDS.

For unused and uncontaminated product, the preferred options include sending to a licensed, permitted: incinerator or other thermal destruction device.

DUALCO Hydraulic Fluid

Section 14 - Transport Information

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code.

Not regulated for transport. Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Section 15 - Regulatory Information

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Acute Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania (Worker and Community Right-To-Know-act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

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

Component	CAS
Aniline	62-53-3
1 -Naphthalamine	134-32-7
2-Aminonaphthalene	91-59-8

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

DUALCO Hydraulic Fluid

Section 16 - Other Information

Hazard Rating System

NFPA Codes	
Health	1
Fire	1
Reactivity	0

General information — Only trained personnel should use this material.

Revision

Date: 05/28/2024

Responsibility

DUALCO Inc. urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary and appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product.

It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer- specific SDS, we are not and cannot be responsible for SDS obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

This document is prepared pursuant to the OSHA Hazard Communication Standard (29CFR1910.1200). The information herein is given in good faith, but no warranty, express or implied, is made. Consult Dualco Inc. for further information: 713-644-1164.

End of SDS