

SAFETY DATA SHEET

LUBENZ FLUX BRAKE FLUID 4 DOT 4

(In accordance with Article 41, Paragraph 1, of
Industrial Safety and Health Act)

Section 1. Chemical product and company identification

Product name	LUBENZ FLUX BRAKE FLUID 4 DOT 4
Code	466630-TH01
SDS no. Supplier	JLT 20th Floor Fortune Executive Tower Cluster T Dubai, UAE www.lubenzlubricants.com

Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/ mixture	Brake fluids. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
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Section 2. Hazards identification

GHS Classification REPRODUCTIVE TOXICITY (Unborn child) - Category 2

GHS label elements, including precautionary statements

Symbol



Signal word

Warning

Hazard statements

H361 - Suspected of damaging the unborn child.

Precautionary statements

General

Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.

Response

P308 + P313 - IF exposed or concerned: Get medical attention.

Storage

P405 - Store locked up.

Disposal

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification

Defatting to the skin.

Section 3. Composition/information on ingredients

Substance/mixture: Mixture polyethylene glycol Proprietary performance additives.
Hazardous ingredients:

Ingredient name	Synonym	CAS number	%
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	Ethanol, 2-[2- (2-methoxyethoxy)ethoxy]-, triester with boric acid; Ethanol, 2-[2- (2-methoxyethoxy)ethoxy]-, 1,1',1"-triester with boric acid (H3BO3); Ethanol, 2-[2-(2-methoxyethoxy) ethoxy]-, triester with boric acid (H3BO3); tris{2-[2- (2-methoxyethoxy)ethoxy] ethyl} borate; B-TEGME; Triethylene glycol monomethyl ether borate; Ethanol, 2-(2- (2-methoxyethoxy)ethoxy)-, triester with boric acid	30989-05-0	49.9
2-[2-(2-butoxyethoxy)ethoxy]ethanol	TEGBE; triethylene glycol monobutyl ether; butoxytriethylene glycol; 2- (2-(2-butoxyethoxy)ethoxy) ethanol; Ethanol, 2-[2- (2-butoxyethoxy)ethoxy]-; 2-[2-(2-butoxyethoxy) ethoxy] ethanol); Ethanol, 2-[2-(2-butoxyethoxy))ethoxy)-; triethylene glycol butyl ether; Butoxytriglycol	143-22-6 111-46-6	19.9 9.9
2,2' -oxybisethanol	diethylene glycol; 2,2'- oxydiethanol; Ethanol, 2,2'-oxybis-; 2,2'-Oxybis[ethanol; 2,2'-Oxybis[ethanol]; diethylene glycol propylene glycol triethanolamine titanate complexes (CAS RN 68784- 48-5) dissolved in diethylene glycol (CAS RN 111-46-6); digol; DEG; 3-Oxypentane-1,5-diol; 2,2'- Dihydroxyethyl ether; Ethylene diglycol diglycol di-isopropanolamine; 2-Propanol, 1,1'-iminobis-; Diisopropanolamine; 2-Propanol, 1,1'-iminodi-; 1,1'-Iminobis-2-propanol; Bis(2-propanol) amine; 1,1'-Iminodi-2-propanol; DIPA; N,N-Bis(2-hydroxypropyl) amine; Dipropyl-2,2'-dihydroxy-amine; Dipropyl-2,2'-dihydroxyamine	110-97-4	9.9

Non-hazardous ingredients

No non-hazardous ingredients

There are no additional 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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

Skin contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.

Inhalation

If inhaled, remove to fresh air. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. 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. If unconscious, place in recovery position and get medical attention immediately. Get medical attention.

Indication of immediate medical attention and special treatment needed, if

necessary Specific treatments No specific treatment.

Notes to physician

Treatment should in general be symptomatic and directed to relieving any effects. In case of inhalation of decomposition products in a fire, symptoms may be delayed.

Protection of first-aiders

The exposed person may need to be kept under medical surveillance for 48 hours. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.



Section 5. Firefighting measures

Extinguishing media Suitable

Not suitable

**Specific hazards arising from the chemical
Hazardous thermal decomposition products**

**Special protective equipment for fire-fighters
Special protective actions for fire-fighters**

In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray. Do not use water jet. In a fire or if heated, a pressure increase will occur and the container may burst.

Combustion products may include the following: carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide) nitrogen oxides (NO, NO₂ etc.)
Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

Environmental precautions

Avoid dispersal of spilt 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 and material for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. 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. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling Protective measures

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

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. Store locked up. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature



Section 8. Exposure controls/personal protection

Control parameters

Ingredient name	Exposure limits
None.	

Other ingredients including trade secret: not applicable

Recommended monitoring procedures

If this product contains ingredients with exposure limits, 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. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards. Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Personal protective equipment

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.



Eye protection

Safety glasses with side shields.

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Butyl gloves. Neoprene gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions

Skin protection

Use of protective clothing is good industrial practice. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 9. Physical and chemical properties

Appearance Physical state Colour

Odour	Liquid.
Odour threshold pH	Yellow.
Melting/freezing point	Characteristic. Not available. 7.5 to 9 <-70°C (<-94°F)

Boiling point/boiling range	>260°C (>500°F)
Flash point	Closed cup: >125°C (>257°F) [Pensky-Martens.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.

Not applicable. Based on - Physical state
Lower: 1.5%

Lower and upper explosive (flammable) limits

Vapour pressure <0.13 kPa (<1 mm Hg) [20°C (68°F)]

Solubility Vapour density Relative density

Miscible in water.
Not available.

Density >1000 kg/m³ (>1 g/cm³) at 20°C

Partition coefficient: n- octanol/water Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Kinematic: 16 mm²/s (16 cSt) at 20°C

Molecular weight Not applicable as it is a mixture

Section 10. Stability and reactivity

Chemical stability

The product is stable.

Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.

Conditions to avoid

Avoid all possible sources of ignition (spark or flame).

Incompatible materials

Reactive or incompatible with the following materials:
oxidising materials.

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.



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Section 11. Toxicological information

Information on likely routes of exposure

Routes of entry anticipated: Dermal, Inhalation.

Acute toxicity

Inhalation

Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion

Diethylene glycol: Ingestion of diethylene glycol can cause metabolic acidosis, kidney damage, central nervous system depression, and convulsions. The estimated human lethal dose is approximately 100 ml (3.4 ounces for an adult).

Skin contact

Defatting to the skin. May cause skin dryness and irritation.

Eye contact

No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation

May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.

Ingestion

Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths skeletal malformations

Skin

Adverse symptoms may include the following:
irritation
dryness cracking
reduced foetal weight increase in foetal deaths
skeletal malformations

Eyes

No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Product/ingredient name	Test Result	Species	Exposure	Remarks
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Di-isopropanolamine	LD50 Dermal	Rabbit	16000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Species	Route / Result	Conc. Remarks
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Test authority / Test number

Skin corrosion or irritation

Serious eye damage/eye irritation



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Respiratory Irritation

Sensitisation

Not available for product and all ingredients.

Not available for product and all ingredients.

Not available for product and all ingredients.

Respiratory Sensitisation Not available for product and all ingredients.

Skin Sensitisation Not available for product and all ingredients.

Product/ingredient name	Route of exposure	Species	Result	Remarks
Not available for product and all ingredients.				

CMR - ISHA Article 42 Public Notice No 2016-41 Occupational Exposure Limits

Product/ingredient name	CAS number	Classification
Not available for product and all ingredients.		

Carcinogenicity Not available for product and all ingredients.

Germ cell mutagenicity

Product/ingredient name	Test	Experiment	Result
Not available for product and all ingredients.			

Reproductive toxicity

Product/ingredient name	Test detail	Species Exposure	Developmental Maternal	Fertility	Remarks
ingredient name		toxin		toxicity	
Not available for product and all ingredients.					

Teratogenicity Suspected of damaging the unborn child.

Developmental effects Birth defects and decreased fetal weight have been observed in laboratory animals fed diethylene glycol in large amounts repeatedly during pregnancy.

Fertility effects No known significant effects or critical hazards.



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Specific target organ toxicity (single exposure)

Not available for product and all ingredients.

Specific target organ toxicity (repeated exposure)

Not available for product and all ingredients.

Potential chronic health effects

General Carcinogenicity

May cause damage to organs through prolonged or repeated exposure. (kidney) No known significant effects or critical hazards.

No known significant effects or critical hazards.

Mutagenicity

Aspiration hazard

Not available for product and all ingredients.

Other information

Not available.

Section 12. Ecological information

Ecotoxicity

No known significant effects or critical hazards.

Persistence/degradability

Expected to be biodegradable.

Mobility in soil

Spillages may penetrate the soil causing ground water contamination.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Other adverse effects

No known significant effects or critical hazards.

Other ecological information

Miscible in water.

Section 13. Disposal considerations

Disposal methods The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non- recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Disposal precautions

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	IMDG	IATA
A. UN number	Not regulated.	Not regulated.
B. UN proper shipping name	-	-
C. Transport hazard class(es)	-	-
D. Packing group	-	-
E. Environmental hazards	No.	No.
F. Additional information	-	-

Special precautions for user Not available.

Section 15. Regulatory information

Regulation according to ISHA

None of the components are listed.

ISHA article 37 (Harmful substances prohibited from manufacture)

ISHA article 38 (Harmful substances requiring permission)

None of the components are listed.

Exposure Limits of Chemical Substances and Physical Factors

None of the components have an OEL.

ISHA Enforcement Regs Annex 11-3 (Exposure standards established for harmful factors)

None of the components are listed.



ISHA Enforcement Regs Annex 11-5 (Harmful factors subject to Work Environment Measurement)

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ISHA Enforcement Regs Annex 12-2 (Harmful Factors Subject to Special Health Check-up)

None of the components are listed.

Standard of Industrial Safety and Health Annex 12 (Hazardous substances subject to control)

None of the components are listed.

None of the components are listed.

Regulation according to Chemicals Control Act

CCA Article 20 Toxic Chemicals (K-Reach Article 20)

Not applicable

CCA Article 18 Prohibited (K-Reach Article 27)

CCA Article 20 Restricted (K-Reach Article 27)

CCA Article 11 (TRI)

CCA Article 39 (Accident Precaution Chemicals)

Dangerous Materials Safety Management Act

None of the components are listed. None of the components are listed.

None of the components are listed. None of the components are listed.

Class: Class 4 - Flammable Liquid
Item: 5. Class 3 petroleums - Water soluble liquid
Threshold: 4000 L
Danger category: III
Signal word: Contact with sources of ignition prohibited Designated Waste

Wastes regulation

Regulation according to other foreign laws

Australia inventory (AICS) Canada inventory

All components are listed or exempted.

At least one component is not listed in DSL but all such components are listed in NDSL.

China inventory (IECSC)

All components are listed or exempted.

REACH Status

For the REACH status of this product please consult your company contact as identified in Section 1.

Japan inventory (ENCS)

All components are listed or exempted. At least one component is not listed.

Korea inventory (KECI)

All components are listed or exempted.

Philippines inventory (PICCS)

Taiwan inventory (TCSI)

All components are listed or exempted.

United States inventory (TSCA 8b)

All components are active or exempted.



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Section 16. Other information

History

Source of Information

Sources of key data used to compile the Safety Data Sheet: Hazard assessment review data, toxicological reviews, and product physical properties; component supplier hazard communication data; and other publically available resources.

Date first prepared 28/07/201

Number of revisions and date of last revision 2.01 29/10/2020.

Prepared by

Product Stewardship

Key to abbreviations

AMP = Acceptable Maximum Peak

ACGIH = American Conference of Governmental Industrial Hygienists, an agency that promulgates exposure standards.

ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail

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CAS Number = Chemical Abstracts Service Registry Number

HAZCHEM Code = Emergency action code of numbers and letters which gives information to emergency services. Its use is required by the ADG Code for Dangerous Goods in bulk.

ICAO = International Civil Aviation Organization.

IATA = International Air Transport Association, the organization promulgating rules governing shipment of goods by air.

IMDG = International Maritime Organization Rules, rules governing shipment of goods by water.

IP 346 = A chemical screening assay for dermal toxicity. The European Commission has recommended that Method IP 346 be used as the basis for labelling certain lubricant oil base stocks for carcinogenicity. The EU Commission has stipulated that the classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP

346. (See Note L, European Commission Directive 67/548/EEC as amended and adapted.) DMSO is a solvent.

NOHSC = National Occupational Health & Safety Commission, Australia



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REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]

TWA = Time weighted average

STEL = Short term exposure limit

UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

TCCA = Toxic Chemical Control Act

GHS = Global Harmonized System

ISHA = Industrial Safety and Health Act

Varies = may contain one or more of the following 64741-88-4, 64741-89-5,

64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6,

64742-52-5,

64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1,

64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0,

72623-87-1

▣ Indicates information that has changed from previously issued version.

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 BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP

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