

KLONDIKE DOT 4 BRAKE FLUID

SECTION 1: Identification

Product identifier

Trade name

KLONDIKE DOT 4 BRAKE FLUID: Grades with Boiling Points <260°C Product no.

1, 2, 5, 6, 15, 16, 26, 67, 91, 107, 174, 183, 187

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

Relevant identified uses of the substance or mixture

Hydraulic fluid

Uses advised against

No special

Details of the supplier of the safety data sheet

Company and address

KLONDIKE Lubricants Corporation

3078 275th Street

Langley, BC V4W 3L4

Canada

General Information

1-877-293-4691

www.klondikelubricants.com

info@klondikelubricants.com

Emergency telephone number

Chemtrec (Within US)

1-800-424-9300

Chemtrec (International)

1-703-527-3887

SECTION 2: Hazard(s) identification

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

▼ Classification of the substance or mixture

Eye Irrit. 2; H319, Causes serious eye irritation.

Repr. 2; H361d, Suspected of damaging the unborn child.

Label elements

Hazard pictogram(s)



Signal word

Warning

▼ Hazard statement(s)

Causes serious eye irritation. Suspected of damaging the unborn child.

Safety statement(s)

General

P101, If medical advice is needed, have product container or label at hand.

Prevention

P202, Do not handle until all safety precautions have been read and understood.

P280, Wear eye protection.

▼ Response

P337+P313, If eye irritation persists: Get medical advice/attention.

P305+P351+P338, IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P310, IF SWALLOWED: Immediately call a POISON CENTER/doctor.

Storage

P405, Store locked up.

Disposal

P501, Dispose of contents/container to an approved waste disposal plant.

▼ Hazardous substances

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate

Other hazards

Additional labelling

Not applicable

Additional warnings

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

Product is not classified as combustible but will burn.

SECTION 3: Composition/Information on Ingredients

▼ Mixtures

Product/Ingredient name	Identifiers	% w/w	Classification	Note
Butyl Triglycol	CAS No.: 143-22-6 EC No.: 205-592-6 REACH No.: 01-2119475107-38-XXXX Index No.: 603-183-00-0	20-29.9%	Eye Dam. 1, H318 (SCL: 30.00 %) Eye Irrit. 2B, H320 (SCL: 20.00 %)	
2,2'-oxybisethanol;	CAS No.: 111-46-6 EC No.: 203-872-2 REACH No.: 01-2119457857-21-XXXX	15-24%	Acute Tox. 4, H302	

	Index No.: 603-140-00-6		
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	CAS No.: 30989-05-0 EC No.: 250-418-4 REACH No.: 01-2119462824-33-XXXX	5-20%	Repr. 2, H361d
Butyl Polyglycol	Index No.: CAS No.: 9004-77-7 EC No.: 500-012-0 REACH No.: 01-2119475115-41-XXXX	5-10%	Eye Irrit. 2, H319 (SCL: 20.00 %)
2-(2-butoxyethoxy)ethanol;	Index No.: CAS No.: 112-34-5 EC No.: 203-961-6 REACH No.: 01-2119475104-44-XXXX	0-2.99%	Eye Irrit. 2, H319
2-(2-methoxyethoxy)ethanol;	Index No.: 603-096-00-8 CAS No.: 111-77-3 EC No.: 203-906-6 REACH No.: 01-2119475100-52-XXXX	0-2.99%	Repr. 2, H361d
	Index No.: 603-107-00-6		

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available. Other information

SECTION 4: First-aid measures

Description of first aid measures

General information

If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid).

Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

If recovery is not rapid, seek medical attention

Skin contact

Immediately remove contaminated clothing and shoes. Ensure that skin, which has been exposed to the material, is washed thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or

thinners.

Eye contact

Remove contact lenses. Flush eyes immediately with plenty of water or isotonic water (20-30°C) for at least 5 minutes and continue until irritation stops. Make sure to flush under upper and lower eyelids. If irritation continues, contact a doctor. Continue flushing during transport.

Ingestion

Provide plenty of water for the person to drink and stay with him/her. Seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the victim lean forward with head down to avoid inhalation of- or choking on vomited material. If medical attention is delayed, give adults 90-120 ml hard liquor such as 40% v/v spirits. Give children proportionately less at a rate of 2ml/kg body weight.

Burns

Not applicable

Most important symptoms and effects, both acute and delayed

The most important symptoms are described in sections 2 and 11.

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

Indication of any immediate medical attention and special treatment needed

IF exposed or concerned:

Get immediate medical advice/attention.

Information to medics

Bring this safety data sheet or the label from this product.

Treat symptomatically. There is no specific antidote. Due to the Diethylene Glycol content, treatment as for Ethylene Glycol poisoning may help.

SECTION 5: Fire-fighting measures

Extinguishing media

Recommended: alcohol-resistant foam, carbonic acid, powder, water mist. Waterjets should not be used, since they can spread the fire. However they may be used to cool adjacent containers.

Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Carbon oxides (CO / CO₂).

Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact the Poison Help Line on 1-800-222-1222 (24/7) in order to obtain further advice.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid direct contact with spilled substances.

Avoid inhalation of vapours from spilled material.

Prevent unnecessary personnel entering area of spillage. When cleaning up large spills appropriate protective clothing should be worn -see section 8.

Environmental precautions

Avoid discharge to lakes, streams, sewers, etc.

Methods and material for containment and cleaning up

Limit spillage and collect using granular absorbent or similar materials, and dispose of it in accordance with the regulations on dangerous waste.

Use sand, sawdust, earth, vermiculite, diatomaceous earth to contain and collect non-combustible absorbent

materials and place in container for disposal, according to local regulations.
Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.
Reference to other sections

See section on "Disposal considerations" in regard of handling of waste.
See section on 'Exposure controls/personal protection' for protective measures.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid any method of handling that generates mists or aerosols.
Do not eat, drink or smoke when handling this product.
See section on 'Exposure controls/personal protection' for information on personal protection.

Conditions for safe storage, including any incompatibilities

Always store in containers of the same material as the original container.
Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Storage temperature

Room temperature 15 to 30°C

Specific end use(s)

This product should only be used for applications quoted in section 1.2
Users are referred to the specification SAE J1707 "Service maintenance of brake fluids".

SECTION 8: Exposure controls/personal protection

Control parameters

—
2-(2-butoxyethoxy)ethanol;

Long term exposure limit (ACGIH TLV): 10

Part 1910 - Occupational Safety and Health Standards (29 CFR 1910.1000 TABLE Z-1 - Limits for Air Contaminants)

Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

General recommendations

Do not eat, drink or smoke in the workplace

Exposure scenarios

There are no exposure scenarios implemented for this product.

Exposure limits

Professional users are subjected to the legally set maximum concentrations for occupational exposure.

See occupational hygiene limit values above.

Appropriate technical measures

Airborne vapour and mist concentrations must be kept at a minimum and below current limit values (see above). Installation of a Local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure emergency eyewash and -showers are clearly marked.

Hygiene measures

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Always wash hands, forearms and face.

Measures to avoid environmental exposure

Keep spill absorbent materials available in the workplace. If possible, clean up any spills immediately.

Individual protection measures, such as personal protective equipment

Generally

Use only protective equipment with a recognized certification mark, e.g. the UL mark.



Respiratory Equipment

No specific requirements


Skin protection

No specific requirements

Hand protection

Work situation	Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
	Butyl	0.3	> 480	EN374-2, EN374-3, EN388	
	Nitrile	0.2	> 480	EN374-2, EN374-3, EN388	

Eye protection

Work situation	Recommended	Standards	
	Wear safety glasses with side shields.	EN166	

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state

Liquid Colour

Amber

Odour

Mild

Odour threshold (ppm)

Testing not relevant or not possible due to nature of the product.

pH

7-10.5

Density (g/cm³)

1.01-1.06

Viscosity (40°C)

5-10 centistokes (20.00 °C)

Phase changes

Melting point (°C)

< -50

Boiling point (°C)

>210 °C

Vapour pressure

1.00 millibar

Vapour density

Testing not relevant or not possible due to nature of the product.

Decomposition temperature (°C)

300

Evaporation rate (n-butylacetate = 100)

0.01

Data on fire and explosion hazards

Flash point (°C)

>100 °C

Ignition (°C)

>280 °C

Auto flammability (°C)

Testing not relevant or not possible due to nature of the product.

Explosion limits (% v/v)

Testing not relevant or not possible due to nature of the product.

Solubility

Solubility in water

Soluble

n-octanol/water coefficient

1.50

9.2. Other information

Solubility in fat (g/L)

Testing not relevant or not possible due to nature of the product.

SECTION 10: Stability and reactivity

▼ Reactivity

No hazardous reactions if stored and handled as indicated.

Chemical stability

The product is stable under the conditions, noted in the section "Handling and storage".

Possibility of hazardous reactions

No special
Conditions to avoid

No special

Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

Hazardous decomposition products

The product is not degraded when used as specified in section 1.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.

Oral - Based on read across data toxicity is low (LD 50 Rat >5000 mg/kg). Sparse experience indicates toxicity in man could be greater.

Inhalation - Not applicable due to low vapour pressure of product.

Dermal - Based on read across data toxicity is low (LD 50 Rabbit >3000 mg/kg).

General - Although acute toxicity of this product is low, if significant amounts are absorbed there is a risk of renal damage which could lead to kidney failure or even death. Other symptoms of overexposure include Central Nervous System effects, abdominal discomfort, metabolic acidosis and headache or nausea.

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

However, repeated contact may de-fat the skin and cause dermatitis.

Serious eye damage/irritation

Causes serious eye irritation. Respiratory or skin sensitisation

Based on available data, the classification criteria are not met. Germ

cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Suspected of damaging the unborn child.

STOT-single exposure

Based on available data, the classification criteria are not met.

▼ STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Long term effects

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

Other information

No special

SECTION 12: Ecological information

Toxicity

Product is of low ecotoxicity

Fish 96h LC50 >100mg/l (Oncorhynchus Mykiss)

Daphnia 48h EC50 Not determined but expected to be virtually non-toxic Algae 72h

EC50 Not determined but expected to be virtually non-toxic

Persistence and degradability

Product is inherently biodegradable and is expected to be readily biodegradable based on ingredients (OECD 302B).

If admitted into adapted biological water treatment plants no adverse effects of the degrading action of the live sludge are expected

Bioaccumulative potential

Not expected to Bio-accumulate. Log POW for all main ingredients <2.0

▼ Mobility in soil

Product is soluble in water and will be mobile in soil until degraded. Volatilisation from water to air not expected.

Results of PBT and vPvB assessment

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

Other adverse effects

No special

SECTION 13: Disposal considerations

Waste treatment methods

Product is covered by the regulations on hazardous waste.

Dispose of in accord with local and national regulations. Recycling or controlled incineration with energy recovery are recommended.

RCRA Hazardous waste ("P" and "U" list) (40 CFR 261)

None of the components are listed

Specific labelling

Not applicable Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: Transport information

Not dangerous goods according to DOT, IATA and IMDG.

DOT

Not applicable

IMDG

Not applicable

IATA

Not applicable

"MARINE POLLUTANT"

No
Environmental hazards
Not applicable
Special precautions for user
Not applicable
Transport in bulk according to Annex II of Marpol and the IBC Code
No data available

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations

TSCA

Butyl Triglycol is listed in the non-confidential portion
2,2'-oxybisethanol; is listed in the non-confidential portion
Butyl Polyglycol is listed in the non-confidential portion
2-(2-butoxyethoxy)ethanol; is listed in the non-confidential portion
2-(2-methoxyethoxy)ethanol; is listed in the non-confidential portion

Clean Air Act

Glycol ethers are regulated as a generic class under this legislation.

EPCRA Section 302

None of the components are listed

EPCRA Section 304

None of the components are listed

EPCRA section 313

Glycol ethers are regulated as a generic class under this legislation.

CERCLA

Glycol ethers are regulated as a generic class under this legislation.

State regulations

California Prop. 65

None of the components are listed

Restrictions for application

Pregnant women and women breastfeeding must not be exposed to this product. The risk, and possible technical precautions or design of the workplace needed to eliminate exposure, must be considered. Demands for specific education

No specific requirements

▼ Additional information

Not applicable

Chemical safety assessment

No Sources

OSHA Hazard Communication Standard (29 CFR 1910.1200)

SECTION 16: Other information

▼ Full text of H-phrases as mentioned in section 3

H318, Causes serious eye damage.

H320, Causes eye irritation.

H302, Harmful if swallowed.

H361d, Suspected of damaging the unborn child.

H319, Causes serious eye irritation.

Abbreviations and acronyms

ACGIH = American Conference of Governmental Industrial Hygienists

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CERCLA = Comprehensive Environmental Response Compensation and Liability Act
EINECS = European Inventory of Existing Commercial chemical Substances
EPCRA = Emergency Planning and Community Right-To-Know Act
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HCIS = Hazardous Chemical Information System
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NFPA = National Fire Protection Association
NIOSH = National Institute for Occupational Safety and Health
OECD = Organisation for Economic Co-operation and Development
OSHA = Occupational Safety and Health Administration
RCRA = Resource Conservation and Recovery Act
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SARA = Superfund Amendments and Reauthorization Act
STEL = Short-term exposure limits
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TSCA = The Toxic Substances Control Act
TWA = Time weighted average
UN = United Nations
UVCB = Complex hydrocarbon substance
VOC = Volatile Organic Compound

Additional information

In accordance with OSHA CFR 1910.1200 the evaluation of the classification of the mixture is based on:

The classification of the mixture in regard of health hazards are in accordance with the calculation methods given by HCS (29 CFR 1910.1200).

The classification of the mixture is based on test data.

The information contained herein is based on the present knowledge and experience of Orthene Chemicals Ltd. It in no way constitutes the users own assessment of work place risk as required by other Health and Safety legislation.

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This information is provided subject to Orthene Chemicals Limited's Conditions of Sale, and in particular Conditions 9 and 14 thereof.

The safety data sheet is validated by

Steve Jay

Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.