

Material Safety Data Sheet**1. MATERIAL AND COMPANY IDENTIFICATION**

Material Name : Shell Brake and Clutch Fluid DOT 3
Product Code : 001B0640
Uses : Brake fluid

Manufacturer/Supplier : Shell Oil Products US
P.O. Box 4427
Houston TX 77210-4427
USA

SDS Request : (+1) 877-276-7285

Emergency Telephone Number

Spill Information : 877-242-7400

Health Information : 877-504-9351

2. COMPOSITION/INFORMATION ON INGREDIENTS

Complex mixture of glycols, glycol ethers and additives.

Contains corrosion inhibitor and anti-oxidant formulation.

Sensitiser not sufficient to classify : May produce an allergic reaction.

3. HAZARDS IDENTIFICATION

Emergency Overview	
Appearance and Odour	: Amber or as dyed. Liquid at room temperature. Ethereal.
Health Hazards	: Irritating to eyes.
Safety Hazards	: Not classified as flammable but will burn.
Environmental Hazards	: Not classified as dangerous for the environment.

Health Hazards

Inhalation : Under normal conditions of use, this is not expected to be a primary route of exposure.

Skin Contact : May cause slight irritation to skin.

Eye Contact : Irritating to eyes.

Ingestion : Low toxicity if swallowed.

Signs and Symptoms : Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.

Aggravated Medical Conditions : Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Eyes.

Environmental Hazards : Not classified as dangerous for the environment.

Additional Information : Under normal conditions of use or in a foreseeable emergency, this product meets the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communication

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Standard, 29 CFR 1910.1200.

4. FIRST-AID MEASURES

- General Information** : Not expected to be a health hazard when used under normal conditions.
- Inhalation** : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
- Skin Contact** : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
- Eye Contact** : Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.
- Ingestion** : If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
- Advice to Physician** : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

- Flash point** : > 100 °C / 212 °F
- Upper / lower Flammability or Explosion limits** : Data not available
- Auto ignition temperature** : > 300 °C / 572 °F
- Specific Hazards** : Material will not burn unless preheated. Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds.
- Suitable Extinguishing Media** : Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
- Unsuitable Extinguishing Media** : Do not use water in a jet.
- Protective Equipment for Firefighters** : Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.
- Additional Advice** : Keep adjacent containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations.

- Protective measures** : Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or

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- Clean Up Methods** : other appropriate barriers.
Slippery when spilled. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. Transfer to a salvage tank for recovery or safe disposal.
- Additional Advice** : U.S. regulations may require reporting releases of this material to the environment which exceed the reportable quantity (refer to Chapter 15) to the National Response Center at (800) 424-8802. Local authorities should be advised if significant spillages cannot be contained. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

7. HANDLING AND STORAGE

- General Precautions** : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
- Handling** : Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
- Storage** : Tanks must be clean, dry and rust-free. Keep container tightly closed. Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions. Drums should be stacked to a maximum of 3 high. Storage Temperature: Ambient. 60 °C maximum
- Product Transfer** : Keep containers closed when not in use. Do not pressurize drum containers to empty.
- Recommended Materials** : For containers or container linings, use mild steel or high density polyethylene. Stainless steel. Carbon steel.
- Unsuitable Materials** : PVC.

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Additional Information : Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion. Ensure that all local regulations regarding handling and storage facilities are followed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Occupational Exposure Limits**

None established.

Material	Source	Type	ppm	mg/m3	Notation
2-(2-butoxyethoxy)ethanol	ACGIH	TWA(Inhalable fraction and vapor.)	10 ppm		

Additional Information : Wash hands before eating, drinking, smoking and using the toilet.

Biological Exposure Index (BEI)

No biological limit allocated.

Exposure Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated. Define procedures for safe handling and maintenance of controls. Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Personal Protective Equipment : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory Protection : No respiratory protection is ordinarily required under normal

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conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65°C(149 °F)].

Hand Protection

: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739, AS/NZS:2161) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognise that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time may be acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Eye Protection

: Chemical splash goggles (chemical monogoggles).

Protective Clothing

: Skin protection not ordinarily required beyond standard issue work clothes.

Monitoring Methods

: Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory. Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH),
USA: Manual of Analytical Methods <http://www.cdc.gov/niosh/>

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Occupational Safety and Health Administration (OSHA), USA:
Sampling and Analytical Methods <http://www.osha.gov/>
Health and Safety Executive (HSE), UK: Methods for the
Determination of Hazardous Substances
<http://www.hse.gov.uk/>
Institut für Arbeitsschutz Deutschen Gesetzlichen
Unfallversicherung (IFA), Germany.
<http://www.dguv.de/inhalt/index.jsp>
L'Institut National de Recherche et de Sécurité, (INRS), France
<http://www.inrs.fr/accueil>

Environmental Exposure Controls : Take appropriate measures to fulfil the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water. Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Amber or as dyed. Liquid at room temperature.
 Odour : Ethereal.
 pH : Typical 7.0 - 11.5 As 50% volume aqueous ethanol solution.
 Initial Boiling Point and Boiling Range : > 238 °C / 460 °F
 Melting / freezing point : Data not available
 Flash point : > 100 °C / 212 °F
 Upper / lower Flammability or Explosion limits : Data not available
 Auto-ignition temperature : > 300 °C / 572 °F
 Vapour pressure : Data not available
 Specific gravity : Typical 1.000 - 1.065
 Density : Typical 1,038 kg/m³
 Water solubility : Miscible.
 n-octanol/water partition coefficient (log Pow) : Data not available
 Kinematic viscosity : 8 - 10 mm²/s at 40 °C / 104 °F
 Vapour density (air=1) : Data not available
 Electrical conductivity : This material is not expected to be a static accumulator.
 Evaporation rate (nBuAc=1) : Data not available

10. STABILITY AND REACTIVITY

Stability : Stable.
Conditions to Avoid : Exposure to water vapour.
Materials to Avoid : Mineral oils. Water vapour.
Hazardous Decomposition Products : Hazardous decomposition products are not expected to form during normal storage.

Material Safety Data Sheet**11. TOXICOLOGICAL INFORMATION**

- Basis for Assessment** : Information given is based on data on the components and the toxicology of similar products.
Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
- Acute Oral Toxicity** : Expected to be of low toxicity: LD50 > 5000 mg/kg
Acute Dermal Toxicity : Expected to be of low toxicity: LD50 > 5000 mg/kg
Acute Inhalation Toxicity : Expected to be of low toxicity: LC50 >5 mg/l Rat
Skin Irritation : Expected to be non-irritating to skin.
Eye Irritation : Causes serious eye irritation.
Respiratory Irritation : Inhalation of vapours or mists may cause irritation.
Sensitisation : Not expected to be a skin sensitiser.
Repeated Dose Toxicity : Not expected to be a hazard.
Mutagenicity : Not expected to be mutagenic.
Carcinogenicity : Not expected to be carcinogenic.

2-(2-butoxyethoxy)ethanol	: GHS / CLP: No carcinogenicity classification
Triethylene glycol monobutyl ether	: GHS / CLP: No carcinogenicity classification
4,4'-isopropylidenediphenol	: GHS / CLP: No carcinogenicity classification

- Reproductive and Developmental Toxicity** : May impair fertility at doses which produce other toxic effects. (4,4'-isopropylidenediphenol)

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

- Acute Toxicity** : Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l (to aquatic organisms) LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract.
- Mobility** : Liquid under most environmental conditions. If product enters soil, it will be mobile and may contaminate groundwater. Dissolves in water.
- Persistence/degradability** : Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.
- Bioaccumulation** : Not expected to bioaccumulate significantly.
- Other Adverse Effects** : Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

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13. DISPOSAL CONSIDERATIONS

- Material Disposal** : Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
- Container Disposal** : Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
- Local Legislation** : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

US Department of Transportation Classification (49CFR)

This material is not subject to DOT regulations under 49 CFR Parts 171-180.

IMDG

This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)

This material is either not classified as dangerous under IATA regulations or needs to follow country specific requirements.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

Notification Status

EINECS	All components listed or polymer exempt.
TSCA	All components listed.
DSL	All components listed.

Comprehensive Environmental Release, Compensation & Liability Act (CERCLA)

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Shell Brake and Clutch Fluid DOT 3 Reportable quantity: 3 lbs
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Triethylene glycol monobutyl ether
(143-22-6)

2-(2-butoxyethoxy)ethanol (112-34-5)

Diethylene glycol monopropyl ether
(6881-94-3)

Diethylene Glycol Monoethyl Ether
(111-90-0)

Triethylene glycol monoethyl ether
(112-50-5)

The components with RQs are given for information.

SARA Hazard Categories (311/312)

Immediate (Acute) Health Hazard.

SARA Toxic Release Inventory (TRI) (313)

Triethylene glycol monobutyl ether (143-22-6)	30.00%
2-(2-butoxyethoxy)ethanol (112-34-5)	15.00%
Diethylene glycol monopropyl ether (6881-94-3)	15.00%
Diethylene Glycol Monoethyl Ether (111-90-0)	5.00%
Triethylene glycol monoethyl ether (112-50-5)	5.00%

State Regulatory Status

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

This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

New Jersey Right-To-Know Chemical List

Triethylene glycol monobutyl ether (143-22-6) 30.00% Listed.

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2-(2-butoxyethoxy)ethanol (112-34-5) 15.00%	Listed.
Diethylene glycol monopropyl ether (6881-94-3) 15.00%	Listed.
Diethylene Glycol Monoethyl Ether (111-90-0) 5.00%	Listed.
Triethylene glycol monoethyl ether (112-50-5) 5.00%	Listed.

Pennsylvania Right-To-Know Chemical List

Triethylene glycol monobutyl ether (143-22-6) 30.00%	Listed. Environmental hazard.
2-(2-butoxyethoxy)ethanol (112-34-5) 15.00%	Listed. Environmental hazard.
Diethylene glycol (111-46-6) 15.00%	Listed.
Diethylene glycol monopropyl ether (6881-94-3) 15.00%	Listed. Environmental hazard.
Triethylene glycol (112-27-6) 15.00%	Listed.
Diethylene Glycol Monoethyl Ether (111-90-0) 5.00%	Listed. Environmental hazard.
Triethylene glycol monoethyl ether (112-50-5) 5.00%	Listed. Environmental hazard.

16. OTHER INFORMATION

NFPA Rating (Health, Fire, Reactivity)	: 1, 1, 0
SDS Version Number	: 1.1
SDS Effective Date	: 02/05/2014
SDS Revisions	: A vertical bar () in the left margin indicates an amendment from the previous version.
SDS Regulation	: The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
SDS Distribution	: The information in this document should be made available to all who may handle the product.
Disclaimer	: The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.