



Brake Fluid

**Section 1 - Chemical Product and Company Identification**

**Product/Chemical Name:** DOT 4 BRAKE FLUID  
**Chemical Formula:** Not applicable, this product is a mixture of glycols / glycol ethers  
**CAS Number:** See below  
**Synonyms:** Brake fluid  
**General Use:** Brake fluid  
**Manufacturer:** Dot Chemical Inc. , 16503 Ramsey Road, Crosby, Texas 77532, Phone (281)328-3501, FAX (281)328-9528

**24 HOUR EMERGENCY NUMBER: CHEMTREC 1-800-424-9300**

**Section 2 - Composition / Information on Hazardous Ingredients**

Ingredient Name	CAS Number	% wt or % vol
Glycols	Trade Secret	0 – 100
Glycol Ethers	Trade Secret	0 – 100
Borate Ester	Trade Secret	0 – 100
Corrosion Inhibitor	Trade Secret	0 – 100

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Glycols	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Glycol Ethers	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Borate Ester	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Corrosion Inhibitor	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.

**Section 3 - Hazards Identification**

**☆☆☆☆☆ Emergency Overview ☆☆☆☆☆**  
 DANGER! MAY BE HARMFUL OR FATAL IF SWALLOWED. CAUSES EYE IRRITATION.  
 MAY CAUSE ALLERGIC SKIN REACTION.

<b>HMIS</b>
<b>H</b> 1
<b>F</b> 1
<b>R</b> 0

**Potential Health Effects**

**Acute Effects**

**Inhalation:** Vapors are mildly to markedly irritating to the lungs depending on the exposure level.  
**Eye:** Causes severe irritation experienced as discomfort or pain, excess blinking and tear production, with marked excess redness and swelling of the conjunctiva.  
**Skin:** No adverse effects expected with exposure to skin. Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling.  
**Ingestion:** Ingestion may be fatal. May cause abdominal discomfort, nausea, and vomiting. May produce central nervous system depression and kidney damage.  
**Carcinogenicity:** This compound contains no ingredients at concentration of 0.1% or greater that are carcinogens or suspect carcinogens.

**Medical Conditions Aggravated by Long-Term Exposure:** Pre-existing skin, eye, and respiratory disorders may be aggravated by exposure to this product. Impaired kidney function from pre-existing disorders may be aggravated by exposure to this product.

**Chronic Effects:** Repeated exposure may result in drying of the skin and mucous membranes, causing irritation and dryness.

#### Section 4 - First Aid Measures

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

**Skin Contact:** Remove any contaminated clothing. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists. Wash clothing before reuse.

**Ingestion:** Do not induce vomiting. Never give anything by mouth to an unconscious person.

**After first aid, get appropriate in-plant, paramedic, or community medical support.**

**Note to Physicians:** There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

#### Section 5 - Fire-Fighting Measures

**Flash Point:** >275 °F (>135°C)

**Flash Point Method:** CC

**Burning Rate:** Not Determined

**Autoignition Temperature:** Not Determined

**LEL:** Not Determined

**UEL:** Not Determined

**Flammability Classification:** Slight to moderate fire hazard when exposed to heat or flames.

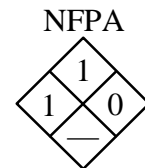
**Extinguishing Media:** Water fog, foam, dry chemical, carbon dioxide.

**Unusual Fire or Explosion Hazards:** None known

**Hazardous Combustion Products:** Carbon monoxide, carbon dioxide, and unidentified organic compounds.

**Fire-Fighting Instructions:** Do not release runoff from fire control methods to sewers or waterways.

**Fire-Fighting Equipment:** Wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.



#### Section 6 - Accidental Release Measures

**Spill /Leak Procedures:** Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Use non-sparking tools and equipment. Do not flush to sewer.

**Small Spills:** Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e.g. vermiculite, dry sand) and place in a chemical waste container. Do not use combustible materials, such as sawdust.

##### Large Spills

**Containment:** Wear respirator and protective clothing as appropriate. Shut off source of leak is safe to do so. For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

**Cleanup:** Contain and recover liquid when possible. Collect liquid in appropriate container. Absorb residue with an inert material. Consult with your environmental department for detailed clean up instructions.

**Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120).

#### Section 7 - Handling and Storage

**Handling Precautions:** May be harmful or fatal if swallowed.

**Storage Requirements:** Store in a cool, dry, ventilated area. Separate from acids, bases, and oxidizing materials.

**Regulatory Requirements:** This product contains the following chemical(s) subject to the reporting requirements of SARA Title III Section 311, 312, and 313: Glycol Ethers.

### Section 8 - Exposure Controls / Personal Protection

**Engineering Controls:** Controls should be such that adequate ventilation is provided.

**Ventilation:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

**Administrative Controls:** Normal industrial requirements should be in place.

**Respiratory Protection:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

**Protective Clothing/Equipment:** Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

**Safety Stations:** Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

**Contaminated Equipment:** Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

**Comments:** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

### Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance and Odor:** Yellow to amber liquid with a mild odor.

**Odor Threshold:** Not Determined

**Vapor Pressure:** Not Determined

**Vapor Density (Air=1):** >1

**Formula Weight:** Mixture

**Density:** 8.33 to 9.02 lb/gal

**Specific Gravity (H<sub>2</sub>O=1, at 4 °C):** 1.000 to 1.070

**pH:** 8.0 – 11.5

**Water Solubility:** Soluble

**Other Solubilities:** Not Given

**Boiling Point:** 480°F (248.9°C)

**Freezing/Melting Point:** Not Determined

**Viscosity:** Not Determined

**Refractive Index:** Not Determined

**Surface Tension:** Not Determined

**% Volatile:** Not Determined

**Evaporation Rate(BuAc=1):** <0.01

### Section 10 - Stability and Reactivity

**Stability:** DOT 4 Brake Fluid is stable at room temperature in closed containers under normal storage and handling conditions.

**Polymerization:** Hazardous polymerization cannot occur.

**Chemical Incompatibilities:** None Known

**Conditions to Avoid:** None

**Hazardous Decomposition Products:** Thermal oxidative decomposition of DOT 4 Brake Fluid can produce carbon monoxide, carbon dioxide and unknown organic compounds.

**Section 11- Toxicological Information****Toxicity Data: \***

**Eye Effects:** Causes severe irritation experienced as discomfort or pain, excess blinking and tear production, with marked excess redness and swelling of the conjunctiva.

**Skin Effects:** No adverse effects expected with exposure to skin. Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling.

**Inhalation:** Vapors are mildly to markedly irritating to the lungs depending on the exposure level.

**Ingestion:** Ingestion may be fatal. May cause abdominal discomfort, nausea, and vomiting. May produce central nervous system depression and kidney damage.

**Acute Inhalation Effects:**

Human, inhalation, TC<sub>LO</sub>: Data not available.

**Acute Oral Effects:**

Rat, oral, LD<sub>50</sub>: >Data not available.

**Chronic Effects:** Data not available.

**Carcinogenicity:** Not a listed carcinogen.

**Mutagenicity:** Data not available.

**Teratogenicity:** Data not available.

\* See NIOSH, *RTECS*, for additional toxicity data.

**Section 12 - Ecological Information**

**Ecotoxicity:** Data not available.

**Environmental Fate:** Data not available.

**Environmental Degradation:** Data not available.

**Soil Absorption/Mobility:** Data not available.

**Section 13 - Disposal Considerations**

Whatever cannot be saved for recovery or recycling should be disposed of in an approved waste facility, in accordance with applicable Federal, State/Provincial and Local requirements.

**Section 14 - Transport Information****DOT Transportation Data (49 CFR 172.101):**

**Shipping Name:** DOT 4  
Brake Fluid

**Hazard Class:** Non-hazardous liquid

**ID No.:** Not Determined

**Packing Group:** Not Applicable (N/A)

**Label:** N/A

**Special Provisions**

**(172.102):** N/A

**Shipping Symbols:** N/A

**Packaging****Authorizations**

a) **Exceptions:** N/A

b) **Non-bulk Packaging:**  
N/A

c) **Bulk Packaging:** N/A

**Quantity Limitations**

a) **Passenger, Aircraft, or**

**Railcar:** no limit

b) **Cargo Aircraft Only:** no limit

**Vessel Stowage Requirements**

a) **Vessel Stowage:** none

b) **Other:** none

**Section 15 - Regulatory Information****EPA Regulations:**

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification (40 CFR 261): Not classified

CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112

CERCLA Reportable Quantity (RQ) (40 CFR 302.4): none

SARA 311/312 (40 CFR 370) Codes: none

SARA 313 Toxic Chemical (40 CFR 372.65): Glycol Ethers

SARA 304 EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed

**OSHA Regulations:**

Air Contaminant (29 CFR 1910.1000, Table Z-1): Not listed

OSHA Specifically Regulated Substance (29CFR 1910): Not listed

**California Proposition 65 ingredients:** None

**Section 16 - Other Information**

**Prepared By:** Dot Chemicals, Inc.

**Revision Notes:** All sections revised as part of conversion to 16 Section format.

**Additional Hazard Rating Systems:** None

**Disclaimer:** This product is FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.

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