

# Material Safety Data Sheet

## 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

24-Hour Emergency Phone Number: 517-636-4400

Product: DOT4 BRAKE FLUID

Product Code: 02-12-12, 02-32-12

Effective Date: 9-1-03

Cartel Products, Inc. - Woodstock, IL. 60098

Customer Information Center: 800-821-3791

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Proprietary mixture of glycol ethers, polyglycols, glycols, oxidation inhibitors, and corrosion inhibitors.

Diethylene glycol-N-butyl ether CAS#000112-34-5 <10%

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

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Clear to orange-brown liquid. Mild odor. No significant immediate hazards for emergency response are known. \*

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POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause slight eye irritation.

SKIN: Prolonged contact is essentially nonirritating to skin. Repeated contact may cause drying or flaking of skin. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

INGESTION: Single dose oral toxicity is considered to be extremely low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger that may cause injury.

INHALATION: At room temperature, vapors are minimal due to physical properties; a single exposure is not likely to be hazardous.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Contains component (s) which, in animals, have been shown to cause blood, kidney, liver, or testicular effects.

**Product: DOT4 Brake Fluid**  
**Effective Date: 9-1-03**

**Product Code: 02-12-12, 02-32-12**

**TERATOLOGY (BIRTH DEFECTS):** Contains component (s) which did not cause birth defects; other fetal effects occurred only at doses toxic to the mother. Contains component (s) which did not cause birth defects or any other fetal effects in lab animals, even at exposure levels having an adverse effect on the mother. Minor component (s), when tested separately in animals, have shown fetotoxicity or birth defects (following ingestion of large doses or at levels toxic to the mother). Minor component, when tested separately in animals, is slightly toxic to the fetus at doses nontoxic to the mother following skin contact; birth defects seen only following high oral doses which have little relevance to human exposure.

**REPRODUCTIVE EFFECTS:** No relevant information found for major component (s). Contains component (s) which did not interfere with reproduction in animal studies. However, body weights of newborn animals were decreased.

4. **FIRST AID**

**EYE:** Flush eyes with plenty of water.

**SKIN:** Wash off in flowing water or shower.

**INGESTION:** If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

**INHALATION:** Remove to fresh air if effects occur. Consult a physician.

**NOTE TO PHYSICIAN:** No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. **FIRE FIGHTING MEASURES**

**FLAMMABLE PROPERTIES:**

**FLASH POINT:** 250oF, 121oC

**METHOD USED:** PMCC

**AUTOIGNITION TEMPERATURE:** 471oF, 244oC

**FLAMMABILITY LIMITS:** LFL: Not determined.

UFL: Not determined.

**Product: DOT4 Brake Fluid**  
**Effective Date: 9-1-03**

**Product Code: 02-12-12, 02-32-12**

**HAZARDOUS COMBUSTION PRODUCTS:** During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritation compounds.

**OTHER FLAMMABILITY INFORMATION:** Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. Container may rupture from gas generation in a fire situation.

**EXTINGUISHING MEDIA:** Water fog or fine spray, carbon dioxide, dry chemical, foam. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Do not use direct water stream. May spread fire.

**MEDIA TO BE AVOIDED:** Do not use direct water stream.

**FIRE FIGHTING INSTRUCTIONS:** Keep people away. Isolate fire area and deny unnecessary entry.

Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Burning liquids may be extinguished by dilution with water. Do not use direct water stream.

May spread fire. Fight fire from protected location or safe distance. Consider use of unmanned hose holder or monitor nozzles. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Immediately withdraw all personnel from area in case of rising sound from venting safety device or discoloration of the container. Move container from fire area if this is possible without hazard.

**PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. **ACCIDENTAL RELEASE MEASURES** (See Section 15 for Regulatory Information)

**PROTECT PEOPLE:** Isolate area.

**Product: DOT4 Brake Fluid**  
**Effective Date: 9-1-03**

**Product Code: 02-12-12, 02-32-12**

**PROTECT THE ENVIRONMENT:** Contain liquid to prevent contamination of soil, surface water or ground water.

**CLEANUP:** Clean up with absorbent material. Collect material in suitable and properly labeled open containers.

7. **HANDLING AND STORAGE**

**HANDLING:** Refer to “Exposure Controls/Personal Protection”, Section 8, of the MSDS.

**STORAGE:** Storage must be in original container. Keep containers tightly closed when not in use.

Protect from atmospheric moisture.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS:** Provide general and/or exhaust ventilation to control airborne levels below the exposure guidelines.

**PERSONAL PROTECTIVE EQUIPMENT**

**EYE/FACE PROTECTION:** Use safety glasses.

**SKIN PROTECTION:** Use gloves impervious to this material when prolonged or frequently repeated contact could occur.

**RESPIRATORY PROTECTION:** Atmospheric levels should be maintained below the exposure guideline.

**EXPOSURE GUIDELINE (S):** Contains proprietary ingredient for which the exposure guideline has been omitted.

Diethylene glycol butyl ether: 35 ppm.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** Clear to orange-brown liquid.

**ODOR:** Mild odor.

**VAPOR PRESSURE:** (mmHg @ 20oC) low

**VAPOR DENSITY:** Not determined.

**BOILING POINT:** 478oF, 248oC

**SOLUBILITY IN WATER:** Infinite

**SPECIFIC GRAVITY:** 1.055

10. **STABILITY AND REACTIVITY**

**CHEMICAL STABILITY:** Thermally stable at typical use temperatures.

**Product: DOT4 Brake Fluid**  
**Effective Date: 9-1-03**

**Product Code: 02-12-12, 02-32-12**

**CONDITIONS TO AVOID:** Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed system.

**INCOMPATIBILITY WITH OTHER MATERIALS:** Avoid contact with oxidizing materials. Avoid contact with strong acids.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Hazardous decomposition products may include and are not limited to aldehydes, ketones, organic acids, polymer fragments.

**HAZARDOUS POLYMERIZATION:** Will not occur.

11. **TOXICOLOGICAL INFORMATION** (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

**SKIN:** The LD50 for skin absorption in rabbits is >2000 mg/kg.

**INGESTION:** The oral LD50 for rats is >5000 mg/kg.

**MUTAGENICITY:** Mutagenicity studies on tested components were predominantly negative.

12. **ECOLOGICAL INFORMATION** (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

**ENVIRONMENTAL FATE MOVEMENT & PARTITIONING:** Based largely or completely on information for glycol ether components, bioconcentration potential is low (BCF less than 100 or Log Pow less than 3). Potential

for mobility in soil is very high (Koc between 0 and 50).

**DEGRADATION & PERSISTENCE:** Based largely or completely on data for major component (s), biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). Based largely or completely on information for a glycol ether component, biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28/ThOD between 10% and 40%).

**Product: DOT4 Brake Fluid**  
**Effective Date: 9-1-03**

**Product Code: 02-12-12, 02-32-12**

ECOTOXICITY: Based largely or completely on data for major component (s), material is practically non-toxic to aquatic organisms on an acute basis (LD50/EC50 > 100 mg/L in most sensitive species).

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)  
DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THGROUND OR INTO ANY BODY OF WATER. All disposal methods 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. THE CARTEL COMPANY, INC. HAS 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 MSDS SECTION 2 (Composition/ Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION DEPARTMENT OF TRANSPORTATION (D.O.T.): For DOT regulatory information, if required, consult transportation regulations, product shipping papers or contact your Cartel representative.

15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)  
NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date show above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal state or provincial, and local laws and regulations. See other sections for health and safety information.

**Product: DOT4 Brake Fluid**  
**Effective Date: 9-1-03**

**Product Code: 02-12-12, 02-32-12**

U.S.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS
NUMBER	CONCENTRATION
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DIETHYLENE GLYCOL N-BUTYL ETHER	
000112-34-5	<10%

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" Promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Not to have met any hazard category

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
DIETHYLENE GLYCOL N-BUTYL ETHER	000112-34-5	PA1 NJ2

NJ2 = New Jersey Environmental Hazardous Substance (present at greater than or equal to 1.0%).

**Product: DOT4 Brake Fluid**  
**Effective Date: 9-1-03**

**Product Code: 02-12-12, 02-32-12**

PA1 = Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

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OSHA HAZARD COMMUNICATION STANDARD: This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

16. OTHER INFORMATION

MSDS STATUS: Revised Sections 2, 8 and 15.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	1
Flammability	1
Reactivity	1