



MATERIAL SAFETY DATA SHEET

BRAKE FLUID B054

MSDS No.:TCI-10189

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MSDS Revision Date (dd/mm/yyyy): 15/03/2012

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION





Product identifier : BRAKE FLUID B054

Trade Name : Formula GC325

Chemical Name : See ingredients listed in section 2.

Product Use : Automotive - Brake Fluid

Part No : C0009-00124, C0009-00126

Chemical response card (CRC) number			T1	
RESPONSE TEAM PPE				
WHMIS				
TDG				

Manufacturer's name and address:

CCI Manufacturing
15550 Canal Bank Road
Lemont, IL, USA
60439
Phone: (630) 739 0606

Emergency Tel : CANUTEC 1-613-996-6666

Supplier's / Distributor's name and Address:

TOYOTA CANADA INC.
1 Toyota Place
Toronto, ON, Canada
M1H 1H9
Phone: (416) 438 6320

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>% (weight)</u>	<u>OSHA PEL</u>		<u>ACGIH TLV</u>	
			<u>PEL</u>	<u>STEL</u>	<u>TWA</u>	<u>STEL</u>
Glycol ethers	111-46-6	N/Av	N/Av	N/Av	N/Av	N/Av
Glycol derivative	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
Glycol ether borate ester	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Light yellow liquid. Mild characteristic odour. May cause eye and skin irritation.

Routes of Entry: *Inhalation:* NO *Skin Absorption:* NO *Skin & Eyes:* YES *Ingestion:* YES

Signs and symptoms of short-term (acute) exposure

Inhalation: No exposure effects reported.

Skin: Mild irritation and redness.

Eyes: Mild stinging, redness, watering, and mucous discharge.

Ingestion: Gastrointestinal discomfort, nausea, vomiting, cramping and diarrhea.

Potential acute health effects

Eyes: Mild stinging, redness, watering, and mucous discharge.

Skin: May cause mild skin irritation on prolonged contact.

Inhalation: No exposure effects reported.

Ingestion: Gastrointestinal discomfort, nausea, vomiting, cramping and diarrhea.

Potential chronic health effects

: The manufacturer has not reported any chronic health effects.

Target organs : Eyes, skin and digestive system.

Toxicological data : See Section 11.

Medical conditions aggravated by overexposure

: None reported by the manufacturer.

Other important hazards : None reported by the manufacturer.

SECTION 4 - FIRST AID MEASURES



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- Inhalation** : Remove exposed person to fresh air if adverse effects, such as breathing difficulty arise . If breathing is difficult, give oxygen by qualified medical personnel only . If breathing has stopped, give artificial respiration. Consult a physician if necessary. Provide supportive treatment, keeping victim warm and quiet.
- Skin** : Remove and wash contaminated clothing before re-use. Wash affected areas with soap and water . If irritation persists, seek prompt medical attention.
- Eyes** : Flush eyes thoroughly with running water for at least 20 minutes, holding eyelids open to ensure complete flushing. Call a physician or Poison Control Centre immediately.
- Ingestion** : Do not induce vomiting. Call a physician or Poison Control Centre immediately. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.
- First aid notes to physician** : Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

- Flash point** : 123 °C **Flash point (Method)** : Cleveland Open Cup
- Auto-ignition Temperature** : Not available.

- Upper flammable limit (% by vol.)** : Not determined. **Lower flammable limit (% by vol.)** : Not determined.

- Unusual fire and explosion hazards** : None known or reported by the manufacturer.

- Means of extinction** : Alcohol foam, carbon dioxide, dry chemical, and water spray or fog.

- Special fire-fighting procedures/equipment** : Keep containers cool until after the fire is out. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply or any natural waterway. Firefighters should wear an approved full-face, self-contained breathing apparatus (SCBA) and impervious clothing.

- Conditions of flammability** : This product may be combustible at high temperatures.

- Sensitivity to mechanical impact/static discharge** : Not available.

- Hazardous combustion products** : Carbon oxides and other irritating fumes and smoke.

- Oxidizing properties** : None known.

- OSHA Classification** : Combustible Liquid Class III B

- NFPA** : *Health:* 1 *Fire:* 1 *Instability:* 1 *Other Hazards:* none

SECTION 6 - ACCIDENTAL RELEASE MEASURES

- Spill response/cleanup** : Secure spill area, remove or minimize all sources of ignition, and maximize ventilation. Stop the spill at source if it is safe to do so. Deny entry to all unprotected individuals. Recover free liquid or cover with inert absorbent material and place into appropriate container for disposal.

- Personal precautions** : Individuals involved in the clean up must wear appropriate personal protective equipment.

- Environmental precautions** : If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

- Prohibited materials** : None known.

- Special spill response procedures** : Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

SECTION 7 - HANDLING AND STORAGE

- General Hygiene Procedures** : Use normal hygiene practices.

- Storage requirements** : Use and store in a cool, dry, well-ventilated area. Keep away from excessive heat, open flames, sparks and other possible sources of ignition. Do not store in unmarked containers or storage devices.

- Handling procedures** : Use and store in a cool, dry, well-ventilated area.

- Special provisions** : Readily available emergency fire, first aid and spill response equipment and/or measures are highly recommended.



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SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation and engineering measures

: General mechanical ventilation and local exhaust is required for use with this product.

Physical protection

Respiratory: A respiratory protection program that meets CSA Z94.4-02 requirements must be followed whenever workplace conditions warrant use of a respirator.

Eye: Safety glasses with side shields should be used with this product. If splashing is anticipated, splash goggles and a faceshield are recommended.

Hand: Where contact is likely, impervious gloves are recommended. Do not wear rings, watches or jewelry that could entrap the material against the skin. Wear sufficient clothing to prevent skin contact.

Other: Emergency showers and eyewash facilities should be nearby.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Liquid.	Odour	: Mild characteristic odour.
Odour threshold	: N/Av	Appearance	: light yellow
Specific gravity	: 1.04	Solubility in water	: Complete
Vapour pressure (mmHg @ 20 C / 68 F)	: <0.1 mm Hg @ 20 °C	Vapour density (Air = 1)	: N/Av
Boiling point	: >240 °C	Melting/Freezing point	: N/Av
Evaporation rate (n-Butyl acetate = 1)	: N/Av	pH	: 9.2
Coefficient of water/oil distribution	: N/Av	Volatiles (% by weight)	: N/Av
Molecular Weight	: N/Av	Viscosity	: N/Av

SECTION 10 - REACTIVITY AND STABILITY DATA

Stability and reactivity : Stable under normal conditions.

Hazardous polymerization

: Will not occur.

Conditions to avoid

: Open flames, sparks, high heat and close proximity to incompatible substances.

Hazardous decomposition products

: See hazardous combustion products.

Materials To Avoid And Incompatibility

: Strong oxidizing agents, acids and bases.

SECTION 11 - TOXICOLOGICAL INFORMATION

<u>Ingredients</u>	LC50		LD50	
	<u>inh. rat</u>		<u>dermal. rabbit</u>	<u>oral. rat</u>
Glycol ethers	N/Av		N/Av	12565 mg/kg
Glycol derivative	N/Av		N/Av	N/Av
Glycol ether borate ester	N/Av		N/Av	N/Av

Carcinogenic status : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects : Not expected to have other reproductive effects.

Teratogenicity : Not expected to be a teratogen.

Mutagenicity : Not expected to be mutagenic in humans.

Sensitization to material : Not expected to be a sensitizer.

Synergistic materials : None known.

Embryotoxicity : Not expected to be embryotoxic.

Irritancy of product : May be mildly irritating to eyes and skin.

Biological exposure indices

: Not available.



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Medical recommendations

: Treat symptomatically.

Special remark other toxic effects

: A component of this product, glycol, has been tested and found that continuous exposure for 14 weeks in the drinking water at concentrations producing maternal toxicity resulted in an adverse effect in fertility and reproductive performance in laboratory animals. The fact that such findings were present only at those concentrations producing maternal toxicity diminishes the weight of such findings. Based on the limited exposure through industrial handling, exposure through ingestion being highly unlikely, and that this component is present at low concentrations in this product, the use of this product is not considered to pose any reproductive hazard. The glycol ether present has been tested in laboratory animals and was found to cause testicular degeneration and atrophy in male animals after administration of large doses in the drinking water for 90 days. The dose required from oral exposure to produce such effects makes it highly unlikely that sufficient exposure would be encountered industrially through normal use and handling. A similar study conducted to evaluate this glycol ether by dermal exposure for 90 days did not produce similar findings.

SECTION 12 - ECOLOGICAL INFORMATION

Persistence

: The manufacturer has not reported detailed studies on the environmental fate of the material.

Plant animal effects

: The manufacturer has not reported any plant or animal effects.

Aquatic toxicity

: The manufacturer has not reported any aquatic life effects.

Other Adverse Environmental Effects

: The manufacturer has not reported any detailed studies on the environmental fate of the material. However, prudent practices would dictate the material not be allowed to enter the environment.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal

: See Section 7 (Handling and Storage) for further details.




Methods of Disposal

: Dispose of in accordance with federal, provincial and local hazardous waste laws.

Special consideration

: If the material is unsuitable for recycling or reclamation, enclosed-controlled incineration is recommended unless otherwise prohibited.

SECTION 14 - TRANSPORTATION INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label	Additional information
TDG	None	Not regulated.	Not regulated	none		None.
49CFR/DOT	None	Not regulated.	Not regulated	none		None.
ICAO/IATA	None	Not regulated.	Not regulated	none		None.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

SARA Section 313: This material is not subject to SARA notification requirements, since it does not contain any Toxic Chemical Constituents above de minimus concentrations.

US State Right to Know Laws:

California Proposition 65: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

Canadian Information:

Canadian WHMIS Classification: D2B

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.



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SECTION 16 - OTHER INFORMATION

Terms & Definitions:

Please see the concluding page of the Material Safety Data Sheet.

Disclaimer:

This Material Safety Data Sheet complies with Health Canada's Workplace Hazardous Materials Information System (WHMIS) and U.S. OSHA Hazard Communication Standard, 29 CFR §1910.1200. To the best of ICC or Toyota Canada's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either expressed or implied are provided. The information contained herein relates only to the specific product. Contact the manufacturer for additional information.

Preparation Date (dd/mm/yyyy)

: 03/02/2006

MSDS Reviewed Date (dd/mm/yyyy)

: 15/03/2012

Revision No.

: 4

Revision Information

- : (M)SDS sections updated
- 1. Product and Company Identification
- 2. Composition/information on ingredients

<p><u>Prepared for:</u> Toyota Canada, Inc. Parts Operations Department 1 Toyota Place Toronto, ON, Canada M1H 1H9 Phone: 1-416-438-6320 Hours of operation: 8:15 - 5:00 EST, Mon-Fri</p>	
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DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these that are commonly used include the following:

GENERAL INFORMATION:

CAS No. Chemical Abstract Service Number

EXPOSURE LIMITS IN AIR:

ACGIH American Conference on Governmental Industrial Hygienists
 TLV Threshold Limit Value
 OSHA U.S. Occupational Safety and Health Administration
 PEL Permissible Exposure Limit
 IDLH Immediately Dangerous to Life and Health

FLAMMABILITY LIMITS IN AIR:

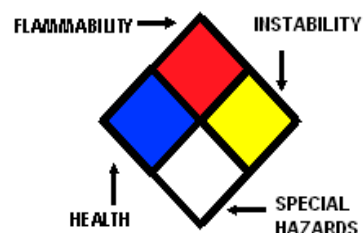
Autoignition Temperature Minimum temperature required to initiate combustion in air with no other source of ignition
 LEL Lower Explosive Limit- lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source
 UEL Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source
 TCC Tagliabue Closed Cup
 COC Cleveland Open Cup

FIRST AID MEASURES:

CPR Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.

NFPA HAZARD RATINGS:

0 Minimal Hazard
 1 Slight Hazard
 2 Moderate Hazard
 3 Severe Hazard
 4 Extreme Hazard



W Water Reactive
 OX Oxidizer

PERSONAL PROTECTION SYMBOLS:



Note: the dotted circle indicates that this respiratory protective equipment is required for high concentrations or for large volume spills or releases of product.

TOXICOLOGICAL INFORMATION:

LD50 Lethal Dose (solids & liquids) which kills 50% of the exposed animals
 LC50 Lethal concentration (gases) which kills 50% of the exposed animals
 ppm Concentration expressed in parts of material per million parts
 TDLo Lowest dose to cause a symptom
 TCLo Lowest concentration to cause a symptom
 LDlo, LClo Lowest dose (or concentration) to cause lethal or toxic effects
 IARC International Agency for Research on Cancer
 MSHA Mine Safety and Health Administration
 NIOSH National Institute for Occupational Safety and Health
 NTP National Toxicology Program
 RTECS Registry of Toxic Effects of Chemical Substances
 BCF Bioconcentration Factor
 TLm Median threshold limit
 log KOW or log KOC Coefficient of Oil/Water Distribution

OTHER STANDARD ABBREVIATIONS:

N/Av Not Available
 N/Ap Not Applicable
 NR No Results
 NE Not Established
 ND Not Determined
 ML Maximum Limit
 SCBA Self-Contained Breathing Apparatus

REGULATORY INFORMATION:

WHMIS Canadian Workplace Hazardous Material Information System
 DOT U.S. Department of Transportation
 TC Transport Canada
 EPA U.S. Environmental Protection Agency
 DSL Canadian Domestic Substance List
 NDSL Canadian Non-Domestic Substance List
 TSCA U.S. Toxic Substance Control Act
 TDG Transportation of Dangerous Goods Regulations
 49 CFR Title 49 of US Code of Federal Regulations
 ICAO International Civil Aviation Organization
 IATA International Air Transport Association
 IMDG International Maritime Dangerous Goods Code

NATIONAL FIRE PROTECTION ASSOCIATION: NFPA