

Cross Packaging Company Material Safety Data Sheet

Cross Packaging
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SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product: GARD® DOT 3 and DOT 4 BRAKE FLUID
CAS Registry Number: Not applicable for mixtures.
Synonyms: GARD® Hydraulic Brake Fluid, DOT 3, SAE J1703 Brake Fluid

Item Number:
Generic/Chemical Name: Synthetic Alkoxy Alcohols.
Product Type: Synthetic hydraulic brake fluid

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS	CAS #	%	ACGIH TWA	OSHA PEL	OSHA STEL	SKIN
Ethanol, 2-[2-(2-butoxyethoxy) ethoxy]-	143-22-6	20 - 26	None	None	None	Yes
Ethanol, 2-[2-(2-methoxyethoxy) ethoxy]-	112-35-6	17 - 21	None	None	None	Yes
Ethanol, 2,2'-oxybis	111-46-6	13 - 18	None	None	None	Yes
Ethanol, 2,2'- (oxybis (2,1-ethanediyloxy)) bis-	112-60-7	9 - 15	None	None	None	Yes
Poly (oxy-1,2-ethanediyl), alpha, -hydro-, omega, -hydroxy-	25322-68-3	8.6 - 14	None	None	None	Yes
3,6,9,12-Tetraoxahexadecan -1-ol	1559-34-8	8 - 12	None	None	None	Yes
Poly (oxy-1,2-ethanediyl), alpha, -methyl-, omega, -hydroxy-	9004-74-4	4 - 8	None	None	None	Yes
Ethanol, 2-[2-(2-ethoxyethoxy) ethoxy]-	112-50-5	3 - 6	None	None	None	Yes
Ethanol, 2-(2-methoxyethoxy)-	111-77-3	0 - 5	None	None	None	Yes
Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]-	112-27-6	2 - 5	None	None	None	Yes
Ethanol, 2-(2-butoxyethoxy)-	112-34-5	1 - 4	None	None	None	Yes
3,6,9,12,15,18-Hexaoxaeicosane	23601-39-0	2 - 4	None	None	None	Yes
3,6,9,12-Tetraoxatetradecane-	4792-15-8	1 - 3	None	None	None	Yes
1,14-diol			Established	Established	Established	
Ethanol, 2-(2-ethoxyethoxy)-	111-90-0	0 - 2	None	None	None	Yes
3,6,9,12-Tetraoxatetradecan-1-ol	5650-20-4	None	None	None	None	Yes
		Established	Established	Established	Established	

SECTION 3 HAZARDS IDENTIFICATION

WARNING: EXPOSURE TO LIQUID, VAPOR, OR MIST MAY CAUSE IRRITATION TO EYES AND RESPIRATORY TRACT. INGESTION OR ABSORPTION

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THROUGH THE SKIN OR BREATHING OF HEATED VAPOR AND MIST MAY RESULT IN CENTRAL NERVOUS SYSTEM AND ADVERSE REPRODUCTIVE EFFECTS.

Eye Contact:	Contact with liquid can cause eye irritation, tearing, blurred vision and transient corneal injury.
Skin Contact:	May be irritating with prolonged or repeated contact. May be absorbed in toxic amounts through the skin.
Inhalation:	May produce symptoms of central nervous system depression including headache, dizziness, nausea, loss of sense of balance, drowsiness, and visual disturbances. On the basis of the low vapor pressure of the product, inhalation of vapor is unlikely except at elevated temperatures.
Ingestion:	Do not ingest. May cause irritation of the gastrointestinal tract. May produce symptoms of central nervous system depression including headache, dizziness, nausea, loss of sense of balance, drowsiness, and visual disturbances.

SECTION 4 FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation and continue flushing until irritation subsides. If irritation persists call a physician.
Skin Contact:	Remove contaminated clothing. Wash contaminated area thoroughly with soap and water. If redness or irritation occurs, seek medical attention. Wash contaminated clothing before reuse.
Inhalation:	Remove to fresh air. Use oxygen if there is difficulty breathing or artificial respiration by a trained person if breathing has stopped. Do not leave victim unattended. Seek immediate medical attention.
Oral Contact:	NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Immediately have patient drink several glasses of water, then induce vomiting by having patient tickle back of throat with finger. Keep airway clear. Lower head below knees to avoid aspiration. Seek immediate medical attention.

SECTION 5 FIRE FIGHTING MEASURES

Flash Point:	>121°C (>250°F) by Pensky-Martens Closed Cup, ASTM D 93.
Upper Flammable Limit:	Not determined.
Lower Flammable Limit:	Not Determined.
Extinguishing Media:	Use dry chemical, foam, water fog or carbon dioxide.
Special Fire fighting Procedures:	Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.
Unusual Fire & Explosion Hazards:	Dense smoke may be generated while burning. Toxic fumes, gases or vapors may evolve on burning. Heavy flammable vapors may settle along ground level and low spots to create an invisible fire hazard. The vapors may extend to sources of ignition and flash back.
Byproducts of Combustion:	Oxides of carbon and water.
Auto-ignition Temperature:	310°C (590°F).
Explosion Data:	Not determined. Care should always be exercised in dust/mist areas.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill Control

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Procedures (Land): Immediately turn off or isolate any source of ignition (pilot lights, electrical equipment, flames, and heaters). Evacuate area and ventilate. Personnel wearing proper protective equipment should contain spill immediately with inert materials (sand, earth, chemical spill pads of cotton) by forming dikes. Dikes should be placed to contain spill in a manner that will prevent material from entering sewers and waterways. Large spill, once contained, may be picked up using explosion proof, non-sparking vacuum pumps, shovels, or buckets, and disposed of in suitable containers for disposal. If a large spill occurs notify appropriate authorities. DO NOT FLUSH TO SEWER.

Spill Control

Procedures (Water): Remove from surface by skimming or with suitable adsorbents. If a large spill occurs notify appropriate authorities.

Waste Disposal

Method:

DO NOT FLUSH TO SEWERS. All disposals must comply with federal, state, and local regulations. The material, if spilled or discarded may be a regulated waste. Refer to state and local regulations. Department of Transportation regulations may apply for transporting this material when spilled. See Section 14.

CAUTION - If spilled material is cleaned up using a regulated solvent, the resulting waste mixture may be regulated.

SECTION 7

HANDLING AND STORAGE

Handling Procedures: Keep containers closed when not in use. Keep away from sources of ignition. Avoid open heating or agitation, which may generate vapors or mists. Do not transfer to unmarked containers. Fire extinguishers should be kept readily available. See NFPA 30 and OSHA 1910.106 -- Flammable and Combustible Liquids. Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld, or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

Storage Procedures: Store containers away from heat, sparks, open flame, or oxidizing materials.

Additional

Information: Do not eat, drink or smoke in areas where this material is used. Wash thoroughly after handling.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal Protection: Applicable mainly to persons in repeated contact situations such as packaging of product, service/maintenance, and cleanup/spill control personnel.

Respiratory

Protection: For emergencies and unknown concentrations, use NIOSH/MSHA approved positive pressure self-contained breathing apparatus. Otherwise a respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed where airborne contaminants may occur.

Eye Protection: Eye protection is always recommended. If material is handled such that it could be splashed into the eyes, wear safety glasses plus full-face shield (ANSI Z87.1 or approved equivalent).

Hand Protection: Impervious gloves such as neoprene, rubber or vinyl to avoid skin sensitization and toxic absorption.

Other Protection: Emergency shower and eyewash facility should be in close proximity (ANSI Z358.1). Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin absorption. If handling hot material use insulated protective equipment. Launder soiled clothes. Properly dispose of contaminated leather articles and other materials, which cannot be decontaminated.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION CONT.

Local Control

Measures: Use adequate ventilation when working with material in an enclosed area. Mechanical methods such as fume hoods or area fans may be used to reduce localized vapor/mist areas. If vapor or mist is generated when the material is

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heated or handled, adequate ventilation in accordance with good engineering practice must be provided to maintain concentrations below the specified exposure. Eyewash stations and showers should be available in areas where this material is used and stored.

Other: Consumption of food and drink should be avoided in work areas where product is present. Always wash hands and face with soap and water before eating, drinking, or smoking.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure:	Not determined.
API Gravity:	3.2° at 15.6°C (60°F) by ASTM D 1298
Density:	8.75 lb./gal at 15.6°C (60°F) by ASTM D 1298
Specific Gravity:	1.051 at 15.6°C (60°F) by ASTM D 1298
Solubility:	100% soluble in water, soluble in alcohols.
Percent Volatile:	100% volatiles by weight.
Vapor Density, Air = 1:	>1 at STP
Evaporation Rate, n-Butyl Acetate = 1:	Not determined.
Odor:	Mild odor.
Appearance:	Amber, clear fluid.
pH	10.4
Viscosity:	1.9 cSt at 100°C (212°F) by ASTM D 445. 7.6 cSt at 40°C (104°F) by ASTM D 445.
Boiling Point:	>232°C (450°F).
Pour Point:	<-50°C <-58°F) by ASTM D 97.
Molecular Weight:	Not determined.

SECTION 10 STABILITY AND REACTIVITY

Stability:	Material is stable at room temperature and pressure.
Conditions to Avoid:	Avoid high temperatures and product contamination.
Incompatibility With Other Materials:	Avoid contact with high concentrations of oxygen and with oxidizing materials.
Hazardous Decomposition Products:	Incomplete combustion may result in the formation of carbon monoxide.
Hazardous Polymerization:	Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Oral Toxicity:	Acute Oral LD50 (rat) = 5.5 g/kg (based on most hazardous component) Acute Oral LD50 (rabbit) = 2.2 g/kg (based on most hazardous component) Acute Oral LD50 (guinea pig) = 4.2 g/kg (based on most hazardous component)
Dermal Toxicity:	Acute Dermal LD50 (rabbit) = 3.5 g/kg (based on most hazardous component) Absorption through the skin may result in central nervous system damage and adverse reproductive effects.
Inhalation Toxicity:	Breathing of heated vapor or mist may result in central nervous system damage and adverse reproductive effects.
Chronic Toxicity:	Not determined.
Carcinogenicity:	Not determined.
Mutagenicity:	Not determined.

SECTION 11 TOXICOLOGICAL INFORMATION (continued)

Reproductive Toxicity:	Not determined.
Teratogenicity:	Not determined.
Other:	Not determined.

SECTION 12 ECOLOGICAL INFORMATION

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Environmental

Toxicity: This material may be toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water.

Environmental Fate: No data available.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Disposal: Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state, and local laws.

Disposal Considerations: Place used, contaminated, or excess material into disposable containers and dispose of in a manner consistent with local and state regulations. Contact local environmental or health authorities for approved disposal of this material.

SECTION 14 TRANSPORT INFORMATION

U.S. DOT Bulk Shipping Description: Brake Fluid, Hydraulic.

U.S. DOT Non-Bulk Shipping Description: Brake Fluid, Hydraulic.

U.S. DOT Identification Number: UN 1118.

U.S. DOT Hazard Classification: Emergency Response Guidebook - Guide 130.

Other: See 49 CFR for additional requirements for descriptions, allowed modes of transport, and packaging. For more information concerning spills during transport, consult latest DOT Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.3.

SECTION 15 REGULATORY INFORMATION

Clean Water Act/Oil Pollution Act: Under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Control Act of 1990, this material is a polyalkylene glycol / glycol ether mixture. Any spills into waterways, ditches, or sewers leading to surface water must be reported. Contact the National Response Center at 800-424-8802.

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SECTION 15

REGULATORY INFORMATION (continued)

TSCA: All components of this material are listed in the U.S. TSCA Inventory.
Other TSCA: Not applicable.
SARA Title III: Section 302/304 Extremely Hazardous Substances: None.
 Section 311, 312 Hazard Categorization:
 Acute (immediate health effects): Yes.
 Chronic (delayed health effects): Yes.
 Fire (hazard): No.
 Reactivity (hazard): No.
 Pressure (sudden release hazard): No.
 Section 313 Toxic Chemicals:
 Triethylene Glycol Monobutyl Ether = Ethanol, 2-[2-(2-butoxyethoxy)ethoxy]-
 Triethylene Glycol Monomethyl Ether = Ethanol, 2-[2-(2-methoxyethoxy)ethoxy]-
 Triethylene Glycol Monoethyl Ether = Ethanol, 2-[2-(2-ethoxyethoxy)ethoxy]-
 Diethylene Glycol Monobutyl Ether = Ethanol, 2-(2-butoxyethoxy)-
 Diethylene Glycol Monomethyl Ether = Ethanol, 2-(2-methoxyethoxy)-
 Diethylene Glycol Monoethyl Ether = Ethanol, 2-(2-ethoxyethoxy)-

CERCLA: For stationary sources - reportable quantity: Not determined.
 Due to: Not applicable.
 For moving sources - reportable quantity: Not determined.
 Due to: Not applicable.
 Recommend contacting the local authorities in the event of any type of spill to determine local reporting requirements and also to aid in the cleanup.

California Prop. 65: Not applicable.

SECTION 16

OTHER INFORMATION

	NFPA 704	NPCA-HMIS	KEY
HEALTH:	2	2	0 = Minimal
FIRE:	1	1	1 = Slight
REACTIVITY:	0	0	2 = Moderate
SPECIFIC HAZARD:	NONE	N/A	3 = Serious
PROTECTION INDEX:	N/A	B	4 = Severe

Precautionary Labels: **WARNING:**

- EXPOSURE TO LIQUID, VAPOR OR MIST MAY CAUSE IRRITATION TO EYES AND RESPIRATORY TRACT. ABSORPTION THROUGH THE SKIN OR BREATHING OF HEATED VAPOR AND MIST MAY RESULT IN CENTRAL NERVOUS SYSTEM DAMAGE AND ADVERSE REPRODUCTIVE EFFECTS.
- Avoid contact with eyes, skin and clothing.
- Avoid breathing vapor or mist.
- Wash thoroughly after handling

This product may be formulated in part with components purchased from other companies. In many instances, especially when proprietary or trade secret materials are used, Cross Packaging must rely upon information provided by those materials manufacturers or distributors.

Prepared by: Michael S. McLemore
 File: DOT 3/DOT 4

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