

Safety Data Sheet
acc. to OSHA 29 CFR 1910.1200 HCS

Issue date: 07/14/2015

v 2

Revision Date: 04/24/2015

1 Identification

- **Product identifier**

- **Trade name: DOT 4 High Performance Brake Fluid**

- **Part number:** 205204, 205220

- **Application of the substance / the mixture** Automotive Brake Fluid

- **Details of the supplier of the safety data sheet**

- **Manufacturer/Supplier:**

- Terraclean, division of, CPS Products Canada Ltd.

- 1324 Blundell Road

- Mississauga, ON, L4Y 1M5

- Canada

- Phone: (905) 615-8620

- **Emergency telephone number:**

- CHEMTREC International +1 (703) 527-3887 (outside the US), 1-800-424-9300 (in the US) 24 hr

2 Hazard(s) identification

- **Classification of the substance or mixture**

Eye Dam. 1 H318 Causes serious eye damage.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05 GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

2-[2-(2-butoxyethoxy)ethoxy]ethanol

2,2'-oxybisethanol

- **Hazard statements**

Causes serious eye damage.

May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 1

Reactivity = 0

(Contd. on page 2)

US

Safety Data Sheet
acc. to OSHA 29 CFR 1910.1200 HCS

Issue date: 07/14/2015

v 2

Revision Date: 04/24/2015

Trade name: DOT 4 High Performance Brake Fluid

(Contd. of page 1)

· **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
FIRE	1	Fire = 1
REACTIVITY	0	Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

- **Description:** Mixture: consisting of the following hazardous components.

· **Chemical components:**

· Chemical components:		
112-34-5	2-(2-butoxyethoxy)ethanol	≤25%
143-22-6	2-[2-(2-butoxyethoxy)ethoxy]ethanol	10-<20%
111-90-0	2-(2-ethoxyethoxy)ethanol	2.5-<10%
6881-94-3	2-(2-propoxyethoxy)ethanol	2.5-<10%
111-46-6	2,2'-oxybisethanol	2.5-<10%

4 First-aid measures

· **Description of first aid measures**

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
 - **Most important symptoms and effects, both acute and delayed**
Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
 - **Indication of any immediate medical attention and special treatment needed**
May cause significant renal, respiratory and central nervous system toxicity. May cause significant acidosis. Consider: Gastric lavage with protected airway, administration of alcohol dehydrogenase inhibitors such as fomepizole, as antidotal treatments.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

- **Special hazards arising from the substance or mixture** See section 10 for additional information.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA 29 CFR 1910.1200 HCS

Issue date: 07/14/2015

v 2

Revision Date: 04/24/2015

Trade name: DOT 4 High Performance Brake Fluid

(Contd. of page 2)

- **Advice for firefighters**
 - **Protective equipment:**
Recommend wearing self-contained breathing apparatus. Water may cause splattering.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Personal protective equipment must be worn. Avoid contact with skin, eyes or clothing. Ventilate area if spilled in a confined space or other poorly ventilated area.
Keep people at a distance and stay upwind.
Particular danger of slipping on leaked/spilled product.
Keep away from ignition sources
Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Environmental precautions:** Prevent from spreading (e.g. by damming-in or oil barriers).
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
 - **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
 - **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:**
See section 10 for incompatible materials.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Engineering Controls** eye wash station
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

112-34-5 2-(2-butoxyethoxy)ethanol ($\leq 25\%$)

TLV	TWA: 67.5* mg/m ³ , 10* ppm
	*Inhalable fraction and vapor

111-90-0 2-(2-ethoxyethoxy)ethanol (2.5-<10%)

WEEL	TWA: 25 ppm
------	-------------

111-46-6 2,2'-oxybisethanol (2.5-<10%)

WEEL	TWA: 10 mg/m ³
------	---------------------------

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA 29 CFR 1910.1200 HCS

Issue date: 07/14/2015

v 2

Revision Date: 04/24/2015

Trade name: DOT 4 High Performance Brake Fluid

(Contd. of page 3)

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
 - **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
 - **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
 - **Protection of hands:**



Chemical resistant protective gloves

- **Eye protection:**



Safety glasses. If potential for splash or mist exists, wear chemical goggles or faceshield.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

- **Form:** Fluid
- **Color:** Light yellow
- **Odor:** Mild
- **Odour threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** 202 °C

- **Flash point:** 203 °C

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 190 °C

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

- **Lower:** 0.9 Vol %
- **Upper:** 5.9 Vol %

- **Vapor pressure at 20 °C:** 0.1 hPa

- **Density at 20 °C:**

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA 29 CFR 1910.1200 HCS

Issue date: 07/14/2015

v 2

Revision Date: 04/24/2015

Trade name: DOT 4 High Performance Brake Fluid

(Contd. of page 4)

· Relative density	1-1.1
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
· Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
· Dynamic:	Not determined.
· Kinematic:	Not determined.
· Solvent content:	
· Organic solvents:	37.5 %
· VOC content:	37.5 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
 - **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** High temperatures
- **Incompatible materials:** Strong acids. Oxidizing agents. Strong alkalis.
- **Hazardous decomposition products:**
Smoke, carbon monoxide, carbon dioxide and other products of incomplete combustion.

11 Toxicological information

- **Information on toxicological effects**
 - **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
ATE (Acute Toxicity Estimates)		
Oral	LD50	11429 mg/kg (rat)
Dermal	LD50	12366 mg/kg
112-34-5 2-(2-butoxyethoxy)ethanol		
Oral	LD50	5660 mg/kg (rat)
Dermal	LD50	4000 mg/kg (rabbit)
111-90-0 2-(2-ethoxyethoxy)ethanol		
Oral	LD50	5500 mg/kg (rat)
Dermal	LD50	8500 mg/kg (rabbit)
6881-94-3 2-(2-propoxyethoxy)ethanol		
Oral	LD50	6661 mg/kg (rat)
Dermal	LD50	3811 mg/kg (mouse) 5048 mg/kg (rabbit)
111-46-6 2,2'-oxybisethanol		
Oral	LD50	12565 mg/kg (rat)

(Contd. on page 6)

US

Safety Data Sheet
acc. to OSHA 29 CFR 1910.1200 HCS

Issue date: 07/14/2015

v 2

Revision Date: 04/24/2015

Trade name: DOT 4 High Performance Brake Fluid

(Contd. of page 5)

Dermal	LD50	11890 mg/kg (rabbit)
--------	------	----------------------

- **Primary irritant effect:**
 - **on the skin:**
May cause mild skin irritation. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis.
 - **on the eye:** Irritating effect.
 - **Ingestion:**
Causes nerve depression, liver and kidney lesions and anuria (urination retardation). Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:**
Can cause liver and kidney lesions and damage based on repeated exposure.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

6881-94-3 2-(2-propoxyethoxy)ethanol

LC50 (96 h)	>96 mg/l (fathead)
-------------	--------------------

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
 - **Bioaccumulative potential** No further relevant information available.
 - **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
 - **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
 - **Other adverse effects** No further relevant information available.

US

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA 29 CFR 1910.1200 HCS

Issue date: 07/14/2015

v 2

Revision Date: 04/24/2015

Trade name: DOT 4 High Performance Brake Fluid

(Contd. of page 6)

13 Disposal considerations

- **Waste treatment methods**
 - **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
 - **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|--|-----------------|
| · UN-Number
· DOT, IMDG, IATA | Not Regulated |
| · UN proper shipping name
· DOT, IMDG, IATA | Not Regulated |
| · Transport hazard class(es)
· DOT, IMDG, IATA
· Class | Not Regulated |
| · Packing group
· DOT, IMDG, IATA | Not Regulated |
| · Environmental hazards:
· Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **Sara**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

143-22-6 2-[2-(2-butoxyethoxy)ethoxy]ethanol

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA 29 CFR 1910.1200 HCS

Issue date: 07/14/2015

v 2

Revision Date: 04/24/2015

Trade name: DOT 4 High Performance Brake Fluid

(Contd. of page 7)

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS05 GHS08

· Signal word Danger

· Hazard-determining components of labeling:

2-[2-(2-butoxyethoxy)ethoxy]ethanol
2,2'-oxybisethanol

· Hazard statements

Causes serious eye damage.
May cause damage to organs through prolonged or repeated exposure.

· Precautionary statements

Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Dispose of contents/container in accordance with local/regional/national/international regulations.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Contact: Engineering Department

· Issue Date July 14, 2015

· Revision Changes:

v 1.0 - original release (April 24, 2015)
v 2.0 - revised part number (July 14, 2015)

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA 29 CFR 1910.1200 HCS

Issue date: 07/14/2015

v 2

Revision Date: 04/24/2015

Trade name: DOT 4 High Performance Brake Fluid

(Contd. of page 8)

IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

US