SAFETY DATA SHEET

1. Identification

Product identifier **Bel-Ray Super DOT 4 Brake Fluid**

Product Code 301292

SDS number 6419

Other means of identification

Synonyms Old Product Code 99480; For Package Codes 301292XXXXXX

Product Code 301292

Recommended use of the chemical and restrictions on use

Recommended use Brake Fluid

Restrictions on use Not available.

Details of manufacturer or importer

Calumet Branded Products, LLC
GPO Darling Park Towers 2 201 Sussex St. Sydney AU NSW 2000 Australia
2780 Waterfront Pkwy E. Dr., Suite 200 Indianapolis, IN 46214
1 317 328 5660
CHEMTREC: 1800 069 100 (AUS)

2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Not classified.	

Label elements, including precautionary statements

Hazard symbol(s)

Corrosion

Signal word Danger

Hazard statement(s) Causes skin irritation. Causes serious eye damage.

Precautionary statement(s)

Prevention Keep out of reach of children. Read label before use. Wash thoroughly after handling. Wear eye protection/face protection. Wear protective gloves.

Response If medical advice is needed, have product container or label at hand. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Other hazards which do not result in classification None known.

Supplemental information 89% of the mixture consists of component(s) of unknown acute oral toxicity. 100% of the mixture consists of component(s) of unknown acute dermal toxicity. 100% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

3. Composition / information on ingredients

Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
TRIETHYLENE GLYCOL MONOMETHYL ETHER	112-35-6	10 - 30
TRIETHYLENE GLYCOL MONOBUTYL ETHER	143-22-6	8 - 18
TETRAETHYLENE GLYCOL	112-60-7	≤ 10
PENTAETHYLENE GLYCOL	4792-15-8	≤ 5
TRIETHYLENE GLYCOL	112-27-6	≤ 5
DIISOPROPANOLAMINE	110-97-4	< 2
2,6-DITERT-BUTYL-P-CRESOL	128-37-0	≤ 1
Sodium Hydroxide	1310-73-2	≤ 1

4. First-aid measures

Description of necessary first aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Personal protection for first-aid responders	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
Symptoms caused by exposure	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.
Medical attention and special treatment	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Water fog. Alcohol resistant foam. Powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for fire fighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Wear suitable protective equipment.
Hazchem code	None.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

Environmental precautions Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Methods and materials for containment and cleaning up Use water spray to reduce vapors or divert vapor cloud drift.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions for safe handling Do not get this material in contact with eyes. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store in tightly closed container. Keep out of the reach of children. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls and personal protection

Control parameters Follow standard monitoring procedures.

Occupational exposure limits

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value
2,6-DITERT-BUTYL-P-CRESOL (CAS 128-37-0)	TWA	10 mg/m3
Sodium Hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

Components	Type	Value
2,6-DITERT-BUTYL-P-CRESOL (CAS 128-37-0)	TWA	10 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
2,6-DITERT-BUTYL-P-CRESOL (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapor.
Sodium Hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3	

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
2,6-DITERT-BUTYL-P-CRESOL (CAS 128-37-0)	TWA	10 mg/m3
Sodium Hydroxide (CAS 1310-73-2)	STEL	2 mg/m3

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
2,6-DITERT-BUTYL-P-CRESOL (CAS 128-37-0)	TWA	10 mg/m3	Vapor and aerosol, inhalable fraction.
PENTAETHYLENE GLYCOL (CAS 4792-15-8)	TWA	1000 mg/m3	Inhalable fraction.
TETRAETHYLENE GLYCOL (CAS 112-60-7)	TWA	1000 mg/m3	Inhalable fraction.

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
TRIETHYLENE GLYCOL (CAS 112-27-6)	TWA	1000 mg/m3	Vapor and aerosol, inhalable fraction.
TRIETHYLENE GLYCOL MONOMETHYL ETHER (CAS 112-35-6)	TWA	50 mg/m3	Vapor and aerosol, inhalable fraction.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield. Applicable for industrial settings only.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Applicable for industrial settings only.

Other Wear appropriate chemical resistant clothing. Applicable for industrial settings only.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. Applicable for industrial settings only.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Not available.

Odor Not available.

Odor threshold Not available.

pH 7.7 estimated

Melting point/freezing point -119.2 °F (-84 °C) estimated / < -74.2 °F (< -59 °C)

Initial boiling point and boiling range 538.7 °F (281.5 °C)

Flash point 269.6 °F (132.0 °C) Pensky-Martens Closed Cup

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 0.11 hPa estimated

Density 1.07 - 1.09 g/cm3

Vapor density Not available.

Relative density 1.053

Relative density temperature	68 °F (20 °C)
Solubility(ies)	
Solubility (water)	350 g/l
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other physical and chemical parameters	
Explosive properties	Not explosive.
Kinematic viscosity	1100 mm2/s (-40 °F (-40 °C))
Oxidizing properties	Not oxidizing.
Percent volatile	2 % estimated
Specific gravity	1.07 estimated
VOC	2 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	May form explosive peroxides.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong acids.
Hazardous decomposition products	Nitrogen oxides (NOx). At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

11. Toxicological information

Information on possible routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to exposure	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.
Acute toxicity	Not known.

Components	Species	Test Results
2,6-DITERT-BUTYL-P-CRESOL (CAS 128-37-0)		
Acute		
Oral		
LD50	Rat	890 mg/kg
DIISOPROPANOLAMINE (CAS 110-97-4)		
Acute		
Dermal		
LD50	Rabbit	8000 mg/kg
Oral		
LD50	Rat	4765 mg/kg
TETRAETHYLENE GLYCOL (CAS 112-60-7)		
Acute		
Dermal		
LD50	Rabbit	22570 mg/kg

Components	Species	Test Results
Oral		
LD50	Rat	29 g/kg
TRIETHYLENE GLYCOL (CAS 112-27-6)		
Acute		
Dermal		
LD50	Rabbit	22460 mg/kg
Inhalation		
LC50	Rat	> 3.9 mg/l, 4 Hours
Oral		
LD50	Rat	15000 - 22000 mg/kg
TRIETHYLENE GLYCOL MONOBUTYL ETHER (CAS 143-22-6)		
Acute		
Oral		
LD50	Rat	5300 mg/kg
TRIETHYLENE GLYCOL MONOMETHYL ETHER (CAS 112-35-6)		
Acute		
Dermal		
LD50	Rabbit	7100 mg/kg
Oral		
LD50	Rat	11300 mg/kg

Skin corrosion / irritation Causes skin irritation.

Serious eye damage / irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Due to lack of data the classification is not possible.

ACGIH Carcinogens

2,6-DITERT-BUTYL-P-CRESOL (CAS 128-37-0) A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

2,6-DITERT-BUTYL-P-CRESOL (CAS 128-37-0) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Due to lack of data the classification is not possible.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
Bel-Ray Super DOT 4 Brake Fluid			
Aquatic			
Crustacea	EC50	Daphnia	92.9663 mg/l, 48 hours estimated
Fish	LC50	Fish	5462.2324 mg/l, 96 hours estimated

Components		Species	Test Results
2,6-DITERT-BUTYL-P-CRESOL (CAS 128-37-0)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	1.44 mg/l, 48 hours
PENTAETHYLENE GLYCOL (CAS 4792-15-8)			
Aquatic			
Fish	LC50	Atlantic salmon (Salmo salar)	> 1000 mg/l, 96 hours
Sodium Hydroxide (CAS 1310-73-2)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours
TETRAETHYLENE GLYCOL (CAS 112-60-7)			
Aquatic			
Fish	LC50	Atlantic salmon (Salmo salar)	> 1000 mg/l, 96 hours
TRIETHYLENE GLYCOL (CAS 112-27-6)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	48.9 - 56 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	> 10000 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
DIISOPROPANOLAMINE	-0.82

Mobility in soil No data available for this product.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal methods Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

ADG

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

Safety, health and environmental regulations

National regulations This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals (23/12/2011).

Australia Medicines & Poisons Appendix B

TRIETHYLENE GLYCOL (CAS 112-27-6)

Australia Medicines & Poisons Appendix E

Sodium Hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Appendix F

Sodium Hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Schedule 10

Sodium Hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Schedule 2

PENTAETHYLENE GLYCOL (CAS 4792-15-8)
TETRAETHYLENE GLYCOL (CAS 112-60-7)
TRIETHYLENE GLYCOL (CAS 112-27-6)

Australia Medicines & Poisons Schedule 3

PENTAETHYLENE GLYCOL (CAS 4792-15-8)
TETRAETHYLENE GLYCOL (CAS 112-60-7)
TRIETHYLENE GLYCOL (CAS 112-27-6)

Australia Medicines & Poisons Schedule 5

Sodium Hydroxide (CAS 1310-73-2)

Australia Medicines & Poisons Schedule 6

Sodium Hydroxide (CAS 1310-73-2)

High Volume Industrial Chemicals (HVIC)

Sodium Hydroxide (CAS 1310-73-2) > 1000000 TONNES See the regulation for additional information.

International regulations

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date 01-05-2016

Revision date 01-18-2019

Disclaimer Calumet Branded Products, LLC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information This document has undergone significant changes and should be reviewed in its entirety.