

ENGEN SUPER BRAKE FLUID DOT 4+



MATERIAL SAFETY DATA SHEET

Revision Date : 24.07.2006

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ENGEN SUPER BRAKE FLUID DOT 4+
Product use : High performance brake and clutch fluid

Supplier : Engen Petroleum Limited (Tel: 021-403 4911, a/h: 021-403 4099)
Health Emergency Telephone : 021-658 5111 (Red Cross Poison Service)
Transport Emergency Telephone : 011-975 1278/83 (Hazchemwise)
Customer Service Center : 0860 036 436 (Sales and Technical Information)
MSDS Internet website : www.engen.co.za/content/products/default2.htm

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No.	Weight%	Symbol Codes	R-Phrase Numbers
Diethylene glycol monoethyl ether	111-90-0	30.00 - 40.00	None	Not Applicable
Triethyleneglycol methyl ether	112-35-6	30.00 - 40.00	None	Not Applicable
Additives		< 2.00	None	Not Applicable

See Section 15 for European Label Information.

See Section 8 for Exposure Limits (if applicable).

3. HAZARDS IDENTIFICATION

Emergency response data : Pale Straw Liquid. DOT ERG No. - Not applicable.

Potential health effects

Note : Under normal conditions of intended use, this product does not pose a risk to health. Excessive exposure may result in eye, skin and respiratory irritation.

See Section 11 for further health effects/toxicological data.

4. FIRST AID MEASURES

Inhalation : Not expected to be a problem. However, if respiratory irritation occurs due to excessive vapour or mist exposure, seek immediate medical assistance.

Skin contact : Remove contaminated clothing. Dry wipe exposed skin and cleanse with hand cleaner, soap and water. Launder contaminated clothing before reuse. (See Section 16 - Injection Injury)

Eye contact : Flush thoroughly with water. If irritation occurs call a doctor.

Ingestion : Do not induce vomiting. However, if discomfort occurs seek medical attention.

5. FIRE-FIGHTING MEASURES

Extinguishing media : Carbon dioxide, foam, dry chemical and water fog.

Special fire fighting : Water spray should only be used to keep fire-exposed containers cool,

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procedure	:	flush spills away from exposures, disperse vapours and protect personnel attempting to stop leak. Prevent runoff from fire control or dilution from entering streams, municipal sewers, or drinking water supply.
Special protective equipment for firefighters	:	For fires in enclosed areas, fire fighters must use Self-Contained Breathing Apparatus.
Unusual fire and explosive hazards	:	Although not flammable, this product will burn.
Products of decomposition	:	Fumes, smoke, carbon monoxide, aldehydes and other decomposition products, in the case of incomplete combustion.
Flash Point	:	154 °C (ASTM D-92)
NFPA Hazard Id	:	Health: 0; Flammability: 1; Reactivity: 0

6. ACCIDENTAL RELEASE MEASURES

Procedure if material is released or spilled	:	Report spills/releases as required to appropriate authorities.
Methods for cleaning up	:	Absorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up for later approved disposal.
Personal precautions	:	See Section 8.
Environmental precautions	:	Prevent spills from entering municipal sewers or drains and contact with soil.

7. HANDLING AND STORAGE

Safe handling advice	:	Avoid prolonged repeated skin contact., Avoid prolonged or repeated contact with skin and eyes.
Storage information	:	Do not store in open or unlabelled containers. Store away from strong oxidizing agents or combustible material.
Storage and handling procedures	:	Prevent small spills and leakages to avoid slip hazard.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits (OELs)

Components	CAS-No.	Source	TWA	Value	Notations
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Note : This product does not contain any components which have recognised exposure limits.

LTEL: Long Term Exposure Limits - Time Weight Average (TWA) over 8 hours.

STEL: Short Term Exposure Limits - Time Weight Average (TWA) over 15 Minutes

Note: Limits Shown for guidance only. Follow applicable regulations.

Personal Protection Equipment (PPE)

Engineering controls	:	Use in well ventilated area.
Respiratory protection	:	Approved respiratory equipment should be used if ventilation is inadequate and breathing of mists or vapours is likely.
Eye protection	:	Normal industrial eye protection practices should be employed.
Skin and body protection	:	Impervious gloves must be worn. If body contact is likely, appropriate personal protective equipment must be worn. Good personal hygiene practices should always be followed.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid.
Colour	:	Pale Straw
Odour	:	Characteristic
Solubility	:	Miscible
Flash Point	:	154 °C (ASTM D-92)
Vapour pressure	:	< 150 hPa
Density	:	1,070 g/cm ³ @ 20 °C (ASTM D-4052)
Viscosity, kinematic	:	1,200 mm ² /s @ 40 °C (ASTM D-445) 2.3 mm ² /s @ 100 °C (ASTM D-445)

10. STABILITY AND REACTIVITY

Stability	:	Stable.
Conditions to avoid	:	Exposure to water vapour.
Materials to avoid	:	Mineral oils. Water.
Hazardous decomposition products	:	Fumes, smoke, carbon monoxide, aldehydes and other decomposition products, in the case of incomplete combustion.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	(Rats): Practically non-toxic (LD50: Greater than 2000 mg/kg). Based on testing of similar products and/or components.
Acute inhalation toxicity	:	(Rats): Practically non-toxic (LC50: greater than 5mg/l). Based on testing of similar products and/or the components.
Acute dermal toxicity	:	(Rabbits): Practically non-toxic (LD50: greater than 2000 mg/kg). Based on testing of similar products and/or the components.
Skin irritation	:	(Rabbits): Practically non-irritating. (Primary Irritation Index: greater than 0.5 but less than 3). Based on testing of similar products and/or the components.
Eye irritation	:	(Rabbits): Slightly irritating. (Draize score: average 15.1 - 25.0). Based on testing of similar products and/or the components.
Sensitization	:	Not expected to be sensitizing based on tests of this product, components, or similar products.
Other toxicological information	:	Absorption of high doses may cause renal injury.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability	:	This product is expected to be inherently biodegradable.
Physico-chemical removability	:	Soluble in water. Evaporation does occur from soil surface. However, significant proportions remain and may contaminate groundwater through absorption into soil.
Bioaccumulation	:	Does not bio-accumulate significantly.

Ecotoxicity effects

Further information on ecology

Remarks	:	This product is not expected to have short-term harmful effects on aquatic organisms (LL50 or EL50 >100 mg/L), however, there may be long-term adverse effects.
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13. DISPOSAL CONSIDERATIONS

Waste disposal	:	Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and considerations of product characteristics at time of disposal.
Contaminated packaging	:	Empty containers retain residue (liquid and/or vapour) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.
Other regulations	:	The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.
Flash Point	:	154 °C (ASTM D-92)

14. TRANSPORT INFORMATION

Note	:	This product is not regulated by the following: U.S. DOT (CFR), ADR, IATA and IMDG.
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15. REGULATORY INFORMATION

US OSHA Hazard Communication Standard	:	Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined to be hazardous.
Governmental Inventory Status	:	All components comply with TSCA, EINECS/ELINCS, AICS, METI, DSL, KECI, ENCS, PICCS and IECSC.
EU Labelling	:	Product is not dangerous as defined by the European Union Dangerous Substances/Preparations Directives. EU labelling not required.
S-phrases(s)	:	S2, S24, S46 Keep out of the reach of children., Avoid contact with the skin., If swallowed, seek medical advice immediately and show this container or label.

SARA

U.S. Superfund Amendments and Reauthorization Act SARA Title III	:	This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".
SARA (311/312) Reportable Hazard Categories	:	Chronic Acute

The following product ingredients are cited on the lists below

Chemical name	CAS-No.	Concentration [%]	List Citations
Diethylene glycol monoethyl ether	111-90-0	30.00 - 40.00	Not listed
Triethyleneglycol methyl ether	112-35-6	30.00 - 40.00	Not listed
Additives		< 2.00	Not listed

Regulatory List Searched

1 = ACGIH ALL

6 = IARC 1

11 = TSCA 4

17 = CA P65

22 = MI 293

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2 = ACGIH A1	7 = IARC 2A	12 = TSCA 5a2	18 = CA RTK	23 = MN RTK
3 = ACGIH A2	8 = IARC 2B	13 = TSCA 5e	19 = FL RTK	24 = NJ RTK
4 = NTP CARC	9 = OSHA CARC	14 = TSCA 6	20 = IL RTK	25 = PA RTK
5 = NTP SUS	10 = OSHA Z	15 = TSCA 12b	21 = LA RTK	26 = RI RTK

Code Key: CARC = Carcinogen; SUS = Suspected Carcinogen

16. OTHER INFORMATION

Note: Engen products do not contain PCBs.

INJECTION INJURY WARNING: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a doctor as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

KEEP OUT OF REACH OF CHILDREN. AVOID CONTACT WITH SKIN. IF SWALLOWED, SEEK MEDICAL ADVICE IMMEDIATELY AND SHOW THIS CONTAINER OF LABEL.

SAFETY: Under normal conditions of intended use, this product does not pose a risk to health. Excessive exposure may result in eye, skin or respiratory irritation. Always observe good hygiene measures.

FIRST AID: Wash skin with soap and water. Flush eyes with water. If overcome by fumes or vapour, remove to fresh air. If ingested do not induce vomiting. If symptoms persist seek medical attention. Read and understand the MSDS before using this product.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights. This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm. Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product. Refer to product Material Safety Data Sheet for further safety and health information.

Disclaimer

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and we expressly disclaim all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of the product. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.

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