



Safety Data Sheet According to 1907/2006/EC, Article 31

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1. Identification of Product and Company's Name:

PRODUCT DETAIL

Trade Name: OWS Brake Fluid DOT 3

Article Number: 4003

Application of the substance / the preparation:

Manufacturer / Supplier:

Our Workshop System (S) Pte Ltd
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2. Possible Hazards:

Principal Hazards:

If the product comes in contact with skin, eyes flush immediately with plenty of water. In case of swallowing please contact the physician.

Hazard designation:

The preparation described above is not classified as dangerous but contains at least one dangerous component acc. to Art. 14 §2.1 b of the Dangerous Preparations Directive 1999/45/EEC.

Classification system:

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

The classification results from the Conventional Method of 88/ 379 EEC concerning specific data of compounds.

3. Composition/Ingredients:

Hazardous Ingredients (in acc. to Dangerous Preparation Directive 1999/45/EC)

Components	wt.-%	Label	R-Phrase(s)	CAS No.
1,1 Iminodiacetic Propane-2-ol (1,1 -Iminodipropan-2-ol)	10	Xi	R36	110-97-4
2-(2-Butoxyethoxy) Ethanol	10	Xi	R36	112-34-5
Diethylene Glycol (Diethylenglycol)	30	Xi	R22	111-46-6
Polyethylene Glycol (Polyethylenglycolmonobutylether)	50	Xi	R36	9004-77-7

Chemical characterization of the product:

Mixture, containing polyethylene glycol ethers, boric acid esters additives and stabilizers.

4. First Aid Measures:

Acute symptoms in case of over-exposure:

Inhalation: When inhaled remove to fresh air and seek for medical aid.

Skin: In case of contact with skin wash off immediately with plenty of water.

Eyes: In case of contact with eyes rise thoroughly with plenty of water and seek for medical advice.

Swallowing / ingestion: Summon a doctor immediately.

General info: Remove soiled or soaked clothes immediately.

Chronical symptoms in case of exposure:

- Additional information: -

5. Fire Fighting measures:

Suitable extinguishing Media:

CO₂, dry chemical, alcohol-resistant foam or water mist or water jets. Do not use full water jets because of safety reasons. Water can be used to cool and protect exposed material.

Fire-fighting Procedures:

Use self-contained breathing apparatus.

Unusual Fire & Explosion Hazards:

Toxic fumes, gases or vapours may evolve on burning; thus CO and other organic compounds like NO_x may occur when the product burns.

Additional advises:

Dispose of fire debris and contaminate fire fighting water in acc. to official regulations.

6. Accidental release measures:

Personal Precautions:

Ensure adequate ventilation. Wear suitable personal protective equipment. Personal Protective Equipment must be worn, see Personal Protection recommendations. Particular danger of slipping on leaked / spilled product.

Spill Procedures:

Pick up free liquid for recycle/ disposal. Residual liquid can be absorbed on inert material. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Check under Transportation and Labelling and other Regulatory Information Section for hazardous Substances to determine regulatory reporting requirement for spills.

Environmental Precautions:

Do not allow to enter, surface or ground water. Prevent entry into drainage system, sewers and water-ways.

7. Storage and Handling:

Storage Procedures:

No special storage precautions required. Indoor-storage or under roof is recommended. Do not store the product with food or cereales. VbF (regulation of flammable liquids): void.

Maximum Storage Temperature:

Max. 40°C are recommended. Prevent from heat. Keep away from combustible materials.

Handling Procedures:

Safety glasses and gloves are recommended. Avoid contact with skin or eyes. Local regulations concerning handling and storage of water-polluting products have to be followed.

Temperature Handling Procedure:

Keep containers tightly closed and dry when not in use. Wash thoroughly after handling. Empty container contains product residue which may exhibit hazards of product. Do not eat, drink or smoke when working with the product. Take usual precautions when handling mineral oil products or chemical products.

Maximum Handling:

Max. 40°C are recommended.

8. Explosion Control/Personal Protection:

Exposure Limits See also Section 7. TWA (Time Weighted Average):

Diethylene glycol (Diethyleneglycol):	TWA 44 mg/m ³ (10 ppm)
2-(2-Butoxyethoxy)ethanol:	100 mg/m ³

If these max. TWA are kept then there is no risk given acc. to R62 and R63.

Other Exposure Limits: -

General personally protection:

The usual precautionary measures should be adhered to in handling the chemicals and the mineral oil products. Keep away from foodstuffs, beverages and food.

Wash hands during breaks and at the end of the work.

Avoid close or long term contact with the skin.

Use skin protection cream for preventive skin protection.

Do not carry cleaning cloths impregnated with the product in trouser pockets.

Hand Protection:

Use barrier skin cream. Butyl rubber or PVC gloves with ...

Min. Thickness (short / long-term exposure): 0,4/ 0,7 mm.

Min. Breakthrough time (short / long-term exposure): 30/ 480 min.

Eye Protection: Safety goggles.

Respiratory Protection: Use respirator in case of insufficient exhaust ventilation or prolonged exposure. Full mask, see standard DIN EN 136, Filter A (org. Gases or vapors) to standard DIN EN 141. Use Filter apparatus if at least 17 Vol. % O_2 is in the atmosphere and if it does not exceed the max. Gas conc., usually 0,5 Vol.%. Relevant guidelines to be considered including: EN 136/141/143/371/372.

Clothing Recommendation: Long sleeve shirt is recommended.

Ventilation Procedures: Use local exhaust ventilation to control mists or vapours.

9. Physical & Chemical Characteristics:

Appearance:	Yellow, hygroscopic liquid
Smell:	Characteristic
Pour Point :	< -70°C (DIN 51583)
Flash Point:	>120°C (COC) (DIN ISO 2592)
Boiling Point:	>300°C at 1013 mbar, (typically 312° C)
Upper / Lower Flammable Limit:	Not determined / not determined.
Ignition Point:	> 200°C (DIN 51794)
Auto ignition Point:	Not self-igniting material.
Thermal decomposition:	360 °C
Upper / Lower Explosion Limits:	1.5 Vol.%
Vapour Pressure:	<1 mbar @20°C
pH:	Approx. 8 @20°C
Specific Gravity:	1.07, typically (@20°C)
Water Solubility:	Fully soluble.
Evaporation Rate:	Not determined.
Viscosity:	typically 15-17.5 mm ² /s (@20°C)
Odour Threshold	Unknown.

10. Stability & Reactivity Data:

Stability:

In general the material is stable at moderately elevated temperatures and pressures. Under ambient temperatures and conditions the product is stable and dangerous reactions are hardly possible.

Decomposition Temperature:

No decomposition if used acc. to specifications.

In general at higher temperatures than 360°C.

Incompatibility:

Oxidizing agents. Chemical reactions with alkalines and acids.

Thermal decomposition products:

Smoke, carbon monoxide, carbon dioxide, aldehydes NO_x and other products of incomplete combustion.

11. Toxicological Information:

· Acute Exposure-

LD/LC50 values, relevant for the classification:

LD50 >5000 mg/kg rat (OECD 401)

Eye Irritation:	Not determined, but prolonged should be avoided. Non-irritant to rabbit eyes (OECD 404).
Skin Irritation:	Not determined, but prolonged or repeated skin contact should be avoided.
Respiratory Irritation:	Not determined.
Dermal Toxicity:	Not determined.
Inhalation Toxicity:	Not determined.
Oral:	Not determined.
Dermal Sensitization:	No data available to indicate product or components may be a primary skin sensitizer. But prolonged contact should be avoided.
Inhalation Sensitization:	No data available to indicate product or components may be respiratory sensitizers.
Other information:	
- Chronical Exposure -	
Chronic Toxicity:	No data available.
Carcinogenicity:	No data available.
Mutagenicity:	No data available.
Reproductive Toxicity:	No data available.
Teratogenicity:	No data available.
Other information	See also: Acute Exposure ...other information.

12. Ecological Information:

- Environmental Toxicity -

Freshwater Fish Toxicity:	Not determined.
Freshwater Invertebrates Toxicity:	Not determined.
Aquatic fish toxicity:	LC50 250-350 mg/l (96h gold orfe) acc. to DIN 38412 Pt.15
Algae Toxicity:	Not determined.
Saltwater Fish Toxicity:	
Saltwater Invertebrates:	Not determined.
Toxicity:	Not determined.
Bacteria Toxicity:	EC50 6.25 mg/l
Miscellaneous Toxicity:	Not determined.

- Environmental Fate -

Biodegradation:	min. 90% after 4 d (acc. to statical test method)
Ecotoxicological effects:	No data available.
Dissolved Org. Carbon (DOC):	Not determined.
Chemical oxygen demand (COD):	Not determined.
Bioaccumulation:	Not determined.
Soil Mobility:	Not determined.
WPC (german WGK):	Estimated: 1 acc. to german regulations – slightly hazardous to environment.
Heavy metals:	The product does not contain any heavy metals.
Other information:	Do not allow to reach ground water, water bodies or sewage systems.

13. Disposal Instructions:

Waste Disposal:

In accordance with European Law and regulations for special waste.
Must not be disposed of together with household garbage.
Do not allow product to reach sewage system.
Must only be taken to an officially authorized collector for special waste incineration.

Uncleaned packagings:

Recommendation: Absolutely not recommended !

14. Transportation Instructions:

ICAO/ IATA:	Not regulated.
IMDG (Ambient):	Not regulated.
IMDG (Elevated):	Not regulated.
IMDG EMS / MFAG:	Not applicable / not applicable.
IMO Marine Bulk:	Not applicable.
ADR/ RID (Ambient):	Not regulated / not regulated.
Other information:	No dangerous good acc. to dangerous goods/ transport directions;
MATC:	Not fixed

15. Regulation Instructions:

Symbol(s) / Labelling:	-
Indication of danger / R-phrase:	-
Precautionary Labels:	S37/ S39 Wear suitable gloves & goggles. S26 Flush with plenty of water, immediately after contamination. S24/26 Avoid contact with skin and eyes. S46 If swallowed, seek for medical advise immediately and show this container or label. S2 Keep away from children
[Product contains:	Polyglycols and corresponding ether-derivatives]

16. Other Information:

R-phrases, mentioned under chapter 3 (ingredients / components)

Xn	Harmful
R22	Harmful if swallowed
R36	Irritating to eyes