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SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- Product Name: DOT 4 BF
- Product Part Number: MAI001
- UFI: SJY4-U01M-400P-C91V

1.2 Relevant identified uses of the substance or mixture and uses advised against

- Use of the substance/mixture: Hydraulic/ Brake Fluid
- Use advised against: Do not use in any other application., For specific application information consult Technical Data Sheet

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: Aztec Oils Europe BV
- Address of Supplier: Centraleweg 11-E
4931 NA
Geertruidenberg
THE NETHERLANDS
- Telephone: +31 (0)162-51 93 95
Mon - Fri 08:30 - 17:00
- Email: Info@aztecoilseurope.nl
- Name of Supplier: Aztec Oils Ltd
- Address of Supplier: Intake Road,
Bolsover Business Park,
Bolsover,
Derbyshire,
S44 6BB,
UK
- Telephone: +44 (0)1246 823007
Mon-Thurs 08:00 - 17:00
Fri 08:00 - 16:00, GMT/BST
- Email: Technical@aztecoils.co.uk

1.4 Emergency telephone number

- Emergency Telephone: For UK and Northern Ireland Tel: 999 or 101., For ROI dial 999 or 112
- Official body: National Poisons Information Service
- Emergency number: (0344 892 0111) HEALTHCARE PROFESSIONALS ONLY
- Country: United Kingdom & Northern Ireland
- Official body: National Poisons Information Centre
- Emergency number: +353 (1) 809 2566 HEALTHCARE PROFESSIONALS ONLY

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SECTION 1: Identification of the substance/mixture and of the company/undertaking (....)

- Country: Republic of Ireland

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- CLP: Eye Irrit. 2, Repr. 2

2.2 Label elements



- Signal Word: Warning

2.2.1 Hazard statements

Suspected of damaging fertility or the unborn child (H361).

Causes serious eye irritation (H319).

Contains: Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate, 2-(2-methoxyethoxy) ethanol

Supplemental Hazard information (EU): Repeated exposure may cause skin dryness or cracking (EUH066).

2.2.2 Precautionary statements

Keep out of reach of children (P102).

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing. If eye irritation persists: Get medical advice/ attention. (P305 + 351 + 338 + 337 + 313)

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician (P301+P310).

Dispose of contents and/or container in accordance with local/ national regulations (P501).

2.3 Other hazards

- This product does not contain any PBT or vPvB substances.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

3.2.1 2-(2-(2-butoxyethoxy)ethoxy)ethanol

CAS Number: 143-22-6

EC Number: 205-592-6

REACH Registration Number: 01-2119475107-38

Index No.: 603-183-00-0

Specific concentration limits: Eye Dam. 1 $\geq 30\%$; Eye Irrit. 2 $\geq 20 - < 30\%$

M factor: Not applicable

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SECTION 3: Composition/information on ingredients (....)

Concentration: 20 - 29.9%
H Statements: H318
Categories: Eye Dam. 1

3.2.2 2,2'-Oxybisethanol

CAS Number: 111-46-6
EC Number: 203-872-2
REACH Registration Number: 01-2119457857-21
Index No.: 603-140-00-6
Specific concentration limits: None assigned
M factor: Not applicable
Concentration: 15 - 24%
H Statements: H302
Categories: Acute Tox. 4

3.2.3 Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate

CAS Number: 30989-05-0
EC Number: 250-418-4
REACH Registration Number: 01-2119462824-33
Index No.: Not applicable
Specific concentration limits: None assigned
M factor: Not applicable
Concentration: 5 - 20%
H Statements: H361d
Categories: Repr. 2

3.2.4 Poly(oxy-1,2-ethanediyl), α -butyl- ω -hydroxy-

CAS Number: 9004-77-7
EC Number: 500-012-0
REACH Registration Number: 01-2119475115-41
Index No.: Not applicable
Specific concentration limits: Eye Dam. 1 SCL $\geq 30\%$, Eye Dam. 2 SCL $\geq 20 < 30\%$
M factor: Not applicable
Concentration: 5 - 10%
H Statements: H318
Categories: Eye Dam. 1

3.2.5 2-(2-butoxyethoxy)ethanol

CAS Number: 112-34-5

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SECTION 3: Composition/information on ingredients (....)

EC Number: 203-961-6
REACH Registration Number: 01-2119475104-44
Index No.: Not applicable
Specific concentration limits: None assigned
M factor: Not applicable
Concentration: 0 - 2.99%
H Statements: H319
Categories: Eye Irrit. 2

3.2.6 2-(2-methoxyethoxy)ethanol

CAS Number: 111-77-3
EC Number: 203-906-6
REACH Registration Number: 01-2119475100-52-
Index No.: 603-107-00-6
Specific concentration limits: None assigned
M factor: Not applicable
Concentration: 0 - 2.99%
H Statements: H361d
Categories: Repr. 2

SECTION 4: First aid measures**4.1 Description of first aid measures****4.1.1 Inhalation**

If inhaled, remove to fresh air. Get medical attention if symptoms appear. In case of inhalation of decomposition products in a fire, symptoms may be delayed.

4.1.2 Contact with eyes

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses (if easy to do so). Get medical attention.

4.1.3 Contact with skin

Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
IF exposed or concerned: Get medical advice/attention.

4.1.4 Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention.

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SECTION 4: First aid measures (....)

If medical attention is delayed, give adults 90-120 ml hard liquor such as 40% v/v spirits. Give children proportionately less at a rate of 2ml/kg body weight.

4.2 Most important symptoms and effects, both acute and delayed

- If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

4.2.1 Ingestion

May cause gastro-intestinal disturbances

4.2.2 Contact with skin

May cause defatting of the skin. May cause skin dryness and irritation.

4.2.3 Contact with eyes

Causes serious eye irritation.

4.2.4 Inhalation

May cause respiratory irritation. The following symptoms may occur: Cough, Dizziness, Headache.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment should be symptomatic and directed to relieving any effects.
- Due to the Diethylene Glycol content, treatment as for Ethylene Glycol poisoning may help.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

- Extinguishing media: Extinguish with foam, carbon dioxide, dry powder or water fog.
- Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Special hazards arising from the substance or mixture

- If heated or in cases of fire, pressure in a vessel will increase and container may burst.
- Combustion products may include the following: carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide) nitrogen oxides (NO, NO₂ etc.)

5.3 Advice for firefighters

- Promptly isolate and secure the scene, remove all unnecessary and untrained persons from the vicinity if there is a fire. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European Standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

Spillage causes slippery surface

6.1 Personal precautions, protective equipment and emergency procedures

SECTION 6: Accidental release measures (....)

- Stop any leak if it is safe to do so.
- Adopt best manual handling considerations when handling, carrying and dispensing.
- Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations. If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow.

6.2 Environmental precautions

- Do not allow product to enter drains. Prevent further spillage if safe. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

- Stop any leak if it is safe to do so.
- Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.
- Dispose of in compliance with all local and national regulations.

6.4 Reference to other sections

- See Section 1 for emergency contact information.
- See Section 5 for firefighting measures.
- See Section 8 for information on appropriate personal protective equipment.
- See Section 12 for environmental precautions.
- See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Use appropriate personal protective equipment.
- Avoid frequent or prolonged skin contact.
- Good hygienic practices should be observed.
- Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Use personal protective equipment as required.
- Dispose of contents/container to
- Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Adopt best Manual Handling considerations when handling, carrying and dispensing. Temperature: 0 - 50 °C.

7.2 Conditions for safe storage, including any incompatibilities

- Store in accordance with local regulations.
- Keep in a cool, dry, well ventilated area. Keep containers tightly closed. Store in correctly labelled containers.
- Store between the following temperatures: 5 to 40°C (41 to 104°F). Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Protect from freezing. Keep away from heat and direct sunlight. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store and use only in equipment/containers designed for use with this product. Do not store in unlabelled containers.
- Store locked up.

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SECTION 7: Handling and storage (....)

7.3 Specific end use(s)

- The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Substances

Chemical Name	WEL (short term)	WEL (long term)	STEL	WEL
2,2'-Oxybisethanol		101 mg/m ³		100 mg/m ³ (IE)
2-(2-butoxyethoxy)ethanol	101.2 mg/m ³	67.5 mg/m ³	101.2 mg/m ³ (IE)	67.5 mg/m ³ (IE)
2-(2-methoxyethoxy)ethanol		50.1 mg/m ³		50.1 mg/m ³ (IE)

- If this product contains ingredients with exposure limits, personal and/or workplace atmosphere monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Substances

Chemical Name	DNEL (Industry; inhalational, long term systemic effects)	DNEL (Industry; dermal, long term systemic effects)	DNEL (Industry; oral, long term systemic effects)
2-(2-(2-butoxyethoxy)ethoxy)ethanol	195 mg/m ³	50 mg/kg bw/day	- mg/kg bw/day
2,2'-Oxybisethanol	60 mg/m ³	106 mg/kg bw/day	- mg/kg bw/day
Tris[2-(2-(2-methoxyethoxy)ethoxy)ethyl] orthoborate	29.1 mg/m ³	8.3 mg/kg bw/day	- mg/kg bw/day
2-(2-butoxyethoxy)ethanol	67 mg/m ³	20 mg/kg bw/day	- mg/kg bw/day
2-(2-methoxyethoxy)ethanol	50.1 mg/m ³	0.53 mg/kg bw/day	- mg/kg bw/day

Substances

Chemical Name	DNEL (Consumer; inhalational, long term systemic effects)	DNEL (Consumer; dermal, long term systemic effects)	DNEL (Consumer; oral, long term systemic effects)
2-(2-(2-butoxyethoxy)ethoxy)ethanol	117 mg/m ³	125 mg/kg bw/day	12.5 mg/kg bw/day
2,2'-Oxybisethanol	12 mg/m ³	21 mg/kg bw/day	- mg/kg bw/day

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SECTION 8: Exposure controls/personal protection (....)

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	7.2 mg/m ³	4.1 mg/kg bw/day	4.1 mg/kg bw/day
2-(2-methoxyethoxy)ethanol	30.1 mg/m ³	1.33 mg/kg bw/day	7.5 mg/kg bw/day

8.2 Exposure controls

- A full risk assessment should be undertaken before handling this material.



- Engineering Controls
- Appropriate engineering controls:
Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.
All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.
The final choice of protective equipment will depend upon a risk assessment.
- Eye Protection:
If contact is likely, safety glasses are recommended.
- Hand Protection:
The correct choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. Most gloves provide protection for only a limited time before they must be discarded and replaced (even the best chemically resistant gloves will break down after repeated chemical exposures).
Gloves should be chosen in consultation with the supplier / manufacturer and taking account of a full assessment of the working conditions.
Recommended: Nitrile gloves.

Breakthrough time data are generated by glove manufacturers under laboratory test conditions and represent how long a glove can be expected to provide effective permeation resistance. It is important when following breakthrough time recommendations that actual workplace conditions are taken into account.
Consult with your glove supplier for up-to-date technical information.

Gloves with a minimum breakthrough time of 240 minutes are recommended. Gloves with shorter breakthrough times may be acceptable as long as appropriate glove maintenance and replacement regimes are determined and adhered to.

- Skin and Body Protection
Wear appropriate clothing as protection against splashing.
In accordance with good industrial hygiene practices, precautions should be taken to minimise skin contact.
- 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.

SECTION 8: Exposure controls/personal protection (....)

- Respiratory protection

No special requirements under ordinary conditions of use and with adequate ventilation.

In case of insufficient ventilation, wear suitable respiratory equipment.

The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application.

Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance: Amber
- Physical state: Liquid
- Odour: Mild
- Density: 1.01 - 1.06 g/cm³ at 15 °C
- pH: 7 - 10.5 at 100 % concentration
- Solubility: Miscible with water
- Viscosity (kinematic): 5 - 10cSt at 20°C
- Freezing point/Range: < -50 °C
- Boiling Point/Range: >210 °C
- Flashpoint: >100°C
- Autoignition Temperature: No information available
- Vapour Pressure: 1.0 mbar

9.2 Other information

- The figures in this section are for guidance only please always use them in conjunction with the technical data sheet.

SECTION 10: Stability and reactivity

10.1 Reactivity

- No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

10.2 Chemical stability

- Considered stable under normal conditions

10.3 Possibility of hazardous reactions

- None under normal processing.
- Hazardous polymerisation does not occur.

10.4 Conditions to avoid

- Avoid excessive heat for prolonged periods of time. Avoid frost.

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SECTION 10: Stability and reactivity (....)

10.5 Incompatible materials

- Incompatibility with other materials: Strong acids, strong bases, strong oxidising agents and strong reducing agents.

10.6 Hazardous decomposition products

- Under normal conditions of storage and use, hazardous decomposition products should not be produced

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Substances

Chemical Name	LC ₅₀ (inhalation, rat)	LD ₅₀ (dermal, rabbit)	LD ₅₀ (oral, rat)
2-(2-(2-butoxyethoxy)ethoxy)ethanol	- mg/l	3540 mg/kg bw	5170 mg/kg bw
2,2'-Oxybisethanol	4.6 mg/l	13300 mg/kg bw	16500 mg/kg bw
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	- mg/l	- mg/kg bw	2000 mg/kg bw
Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-	- mg/l	>2000 mg/kg bw	>2000 mg/kg bw

- Eye contact: Causes serious eye irritation (H319).
- Skin contact: May cause defatting of the skin. May cause skin dryness and irritation., If significant amounts are absorbed there is a risk of renal damage which could lead to kidney failure or even death. Other symptoms of overexposure include Central Nervous System effects, abdominal discomfort, metabolic acidosis and headache or nausea.
- Inhalation: May cause irritation
- Ingestion: May cause gastro-intestinal disturbances
- Reproductive toxicity: Suspected of damaging the unborn child.
- Long Term: Reproductive toxicity: This product contains teratogenic substances, which may produce anomalies and/or developmental defects to the human offspring. Adverse effects include: death, growth retardation, congenital disorders, delayed mental development, and functional disorders. Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

11.2 Information on other hazards

- No information available

SECTION 12: Ecological information

12.1 Toxicity

SECTION 12: Ecological information (....)

- The product is mainly low in toxicity.

12.2 Persistence and degradability

- Expected to be inherently biodegradable.

12.2.1 2-(2-(2-butoxyethoxy)ethoxy)ethanol

Readily biodegradable but failing the 10-day window.

12.2.2 2,2'-Oxybisethanol

Readily biodegradable.

12.3 Bioaccumulative potential

- Bioaccumulation is insignificant

12.4 Mobility in soil

- Spillages may penetrate the soil causing ground water contamination.
- miscible with water

12.5 Results of PBT and vPvB assessment

- This product does not contain any PBT or vPvB substances.

12.5.1 2-(2-(2-butoxyethoxy)ethoxy)ethanol

Not Classified as PBT/vPvB by current EU criteria.

12.5.2 2,2'-Oxybisethanol

Not Classified as PBT/vPvB by current EU criteria.

12.6 Endocrine disrupting properties

- Not applicable

12.7 Other adverse effects

- No known significant effects or critical hazards.
- May cause long-term adverse effects in the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Dispose of in compliance with all local and national regulations.

13.2 Classification

- This material and its containers must be disposed of as controlled waste. Dispose of waste via a licensed waste disposal contractor.
- EWC NUMBER: Allocation of a waste code number in accordance with the European Waste Catalogue, should be carried out in agreement with an EA authorised waste disposal company.
- Where possible, arrange for product to be recycled.

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SECTION 14: Transport information

14.1 UN number or ID number

- UN No.: Not regulated.

14.2 UN proper shipping name

- Proper Shipping Name: Not applicable.

14.3 Transport hazard class(es)

- Hazard Class: Not applicable.

14.4 Packing group

- Packing Group: Not applicable.

14.5 Environmental hazards

- Not classified.

14.6 Special precautions for user

- Not available.

14.7 Maritime transport in bulk according to IMO instruments

- Not available.

SECTION 15: Regulatory information

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

- Regulation (EC) No 1907/2006 of the European Parliament and the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
- Regulation (EC) No 1272/2008 of the European Parliament and the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
- Refer to current Health and Safety at Work Act
- Supply regulations: DPD: Dangerous Preparations Directive; GHS: Globally Harmonised System of classification and labelling of chemicals; CLP: Classification, Labelling and Packaging regulations. Transport regulations: CDG: Carriage of Dangerous Goods regulations; ADR/RID/IMDG/ICAO/IATA regulations.
- We recycle 205L and 1000L packaging.

15.2 Chemical safety assessment

- A chemical safety assessment (CSA) for this product has not yet been completed

SECTION 16: Other information

Text not given with phrase codes where they are used elsewhere in this safety data sheet:- H302: Harmful if swallowed. H318: Causes serious eye damage. H319: Causes serious eye irritation. H361d: Suspected of damaging the unborn child.

Disclaimer

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SECTION 16: Other information (....)

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.

--- end of safety datasheet ---