

SAFETY DATA SHEET B307 – POLYGARD Brake Fluid DOT4 LV

SECTION 1: Identification of the substance/mixture and of the company/undertaking 1.1. Product identifier

Product name B307 – POLYGARD Brake Fluid DOT4 LV

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

Identified uses Brake fluid.

Uses advised against This product is not recommended for any industrial, professional or consumer use other than the identified uses stated above.

1.3. Details of the supplier of the safety data sheet

Supplier Miswa Chemicals Ltd
Caswell Road
Brackmills
Northampton
England
NN4 7PW
T: +44 (0)1604 701111 F: +44
(0)1604 701120
SDSAdmin@miswa.com

1.4. Emergency telephone number

Emergency telephone Tel.: +44 (0)1604 701111 (Miswa Office Hours Monday – Friday (0900Hrs – 1700Hrs))

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (SI 2019 No. 720) Not Classified

Physical hazards Eye Irrit. 2 – H319

Health hazards Not Classified

Environmental hazards

Human health The liquid is irritating to eyes and skin.

2.2. Label elements

Hazard pictograms



Signal word Warning

Hazard statements H319 Causes serious eye irritation.

Precautionary statements P264 Wash contaminated skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/ attention.
P102 Keep out of reach of children.

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2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

2-(2-(2-METHOXYETHOXY)ETHOXY)ETHANOL	10-30%
CAS number: 112-35-6	EC number: 203-962-1
Classification Not Classified	
2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL	10-30%
CAS number: 143-22-6	EC number: 205-592-6
Classification Eye Dam. 1 – H318	
2-(2-METHOXYETHOXY)ETHANOL	1-5%
CAS number: 111-77-3	EC number: 203-906-6
Classification Repr. 2 – H361d	
3,6,9,12-TETRAOXAHEXADECAN-1-OL	1-5%
CAS number: 1559-34-8	EC number: 216-322-1
Classification Eye Irrit. 2 – H319	
2-(2-BUTOXYETHOXY)ETHANOL	1-5%
CAS number: 112-34-5	EC number: 203-961-6
Classification Eye Irrit. 2 – H319	
1,1'-IMINODIPROPAN –2-OL	1-5%
CAS number: 110-97-4	EC number: 203-820-9
Classification Eye Irrit. 2 – H319	

The full text for all hazard statements is displayed in

Section 16. SECTION 4: First aid measures

4.1. Description of first aid measures

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General information	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
Inhalation Ingestion	Move affected person to fresh air at once. Get medical attention if any discomfort continues. Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention immediately.
Skin contact	Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.
Eye contact	Remove affected person from source of contamination. Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.
4.2. Most important symptoms and effects, both acute and delayed	
General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	No specific symptoms known.
Ingestion Skin	No specific symptoms known.
contact Eye	Prolonged skin contact may cause redness and irritation.
contact	Irritation and redness, followed by blurred vision. May cause severe eye irritation.
4.3. Indication of any immediate medical attention and special treatment needed	
Notes for the doctor	Treat symptomatically.

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

Suitable extinguishing media	The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire. Do not use water jet as an extinguisher, as this will spread the fire.
Unsuitable extinguishing media	

5.2. Special hazards arising from the substance or mixture

Specific hazards	Toxic gases or vapours.
Hazardous combustion products	Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting	Avoid breathing fire gases or vapours. Control run-off water by containing and keeping it out of sewers and watercourses. Containers close to fire should be removed or cooled with water.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet.
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6.2. Environmental precautions

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Environmental precautions Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Avoid discharge into drains or watercourses or onto the ground. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Absorb in vermiculite, dry sand or earth and place into containers. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.4. Reference to other

sections Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. For waste disposal, see Section 13.

SECTION 7: Handling and

storage 7.1. Precautions for safe

handling Avoid spilling. Eye wash facilities and emergency shower must be available when handling this product. Good personal hygiene procedures should be implemented. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site.

Usage precautions Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep only in the original container.

Storage class Chemical storage.

7.3. Specific end use(s)

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

Occupational exposure limits

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

No exposure limit value known.

2-(2-METHOXYETHOXY)ETHANOL

Long-term exposure limit (8-hour TWA): WEL 10 ppm 50.1 mg/m³

Sk

2-(2-BUTOXYETHOXY)ETHANOL

Long-term exposure limit (8-hour TWA): WEL 10 ppm 67.5 mg/m³

Short-term exposure limit (15-minute): WEL 15 ppm 101.2 mg/m³ WEL = Workplace Exposure Limit.

Sk = Can be absorbed through the skin.

Ingredient comments WEL = Workplace Exposure Limits

2-(2-(2-METHOXYETHOXY)ETHOXY)ETHANOL (CAS: 112-35-6)

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DNEL Workers – Inhalation; Long term systemic effects: 154 mg/m³
Workers – Dermal; Long term systemic effects: 167 mg/kg bw/day
General population – Inhalation; Long term systemic effects: 93 mg/m³ General
population – Dermal; Long term systemic effects: 100 mg/kg bw/day General
population – Oral; Long term systemic effects: 10 mg/kg bw/day

PNEC – Fresh water; 10 mg/l
– marine water; 1 mg/l
– Intermittent release; 50 mg/l
– STP; 200 mg/l
– Sediment (Freshwater); 36.6 mg/kg sediment dw
– Sediment (Marinewater); 3.66 mg/kg sediment dw
– Soil; 1.56 mg/kg soil dw

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (CAS: 143-22-6)

DNEL Workers – Inhalation; Long term systemic effects: 195 mg/m³
Workers – Dermal; Long term systemic effects: 50 mg/kg bw/day
General population – Inhalation; Long term systemic effects: 117 mg/m³ General
population – Dermal; Long term systemic effects: 25 mg/kg bw/day General
population – Oral; Long term systemic effects: 2.5 mg/kg bw/day

PNEC – Fresh water; 1.5 mg/l
– marine water; 0.15 mg/l
– Intermittent release; 5 mg/l
– STP; 200 mg/l
– Sediment (Freshwater); 5.77 mg/kg sediment dw
– Sediment (Marinewater); 0.13 mg/kg sediment dw
– Soil; 0.45 mg/kg soil dw

2-(2-METHOXYETHOXY)ETHANOL (CAS: 111-77-3)

DNEL Workers – Inhalation; Long term systemic effects: 50.1 mg/m³
Workers – Dermal; Long term systemic effects: 2.22 mg/kg bw/day
General population – Inhalation; Long term systemic effects: 30.1 mg/m³ General
population – Dermal; Long term systemic effects: 1.33 mg/kg bw/day General
population – Oral; Long term systemic effects: 7.5 mg/kg bw/day

PNEC – Fresh water; 12 mg/l
– marine water; 1.2 mg/l
– Intermittent release; 12 mg/l
– STP; 10000 mg/l
– Sediment (Freshwater); 44.4 mg/kg sediment dw
– Sediment (Marinewater); 0.44 mg/kg sediment dw
– Soil; 2.1 mg/kg soil dw

2-(2-BUTOXYETHOXY)ETHANOL (CAS: 112-34-5)

DNEL Workers – Inhalation; Long term local effects, systemic effects: 67.5 mg/m³
Workers – Inhalation; Short term Acute, local effects: 101.2 mg/m³
Workers – Dermal; Long term systemic effects: 83 mg/kg bw/day
General population – Inhalation; Long term local effects, systemic effects: 40.5
mg/m³ General population – Inhalation; Short term local effects, Acute: 60.7 mg/m³
General population – Dermal; Long term systemic effects: 50 mg/kg bw/day
General population – Oral; Long term systemic effects: 5 mg/kg bw/day

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PNEC	- Fresh water; 1.1 mg/l - Intermittent release; 11 mg/l - marine water; 0.11 mg/l - STP; 200 mg/l - Sediment (Freshwater); 4.4 mg/kg sediment dw - Sediment (Marinewater); 0.44 mg/kg sediment dw - Soil; 0.32 mg/kg soil dw 1,1'-IMINODIPROPAN -2-OL (CAS: 110-97-4)
DNEL	Workers - Inhalation; Long term systemic effects: 16 mg/m³ Workers - Dermal; Long term systemic effects: 12.5 mg/kg bw/day General population - Inhalation; Long term systemic effects: 3.9 mg/m³ General population - Dermal; Long term systemic effects: 6.3 mg/kg bw/day General population - Oral; Long term systemic effects: 1.3 mg/kg bw/day
PNEC	- Fresh water; 0.278 mg/l - marine water; 0.028 mg/l - Intermittent release; 2.777 mg/l - STP; 15000 mg/l - Sediment (Freshwater); 2.33 mg/kg sediment dw - Sediment (Marinewater); 0.233 mg/kg sediment dw - Soil; 0.303 mg/kg soil dw

8.2. Exposure controls Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.



Eye/face protection

Contact lenses should not be worn when working with this chemical. Use safety glasses (with side shields), consistent with EN 166 or equivalent.

Hand protection

Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. If hands are cut or scratched, use gloves chemically resistant to this material even for brief exposures. Use gloves with insulation for thermal protection (EN 407), when needed. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact. Provide eyewash station and safety shower. Barrier cream applied before work may make it easier to clean the skin after exposure, but does not prevent absorption through the skin.

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Hygiene measures	Do not smoke in work area. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Do not eat, drink or smoke when using this product.
Respiratory protection	No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical

Appearance	Clear liquid.
Colour Odour	Amber.
pH	No characteristic odour.
Melting point	pH (concentrated solution): 7.0-10.5
Initial boiling point and range	< -50°C
Flash point	260-300°C @ 760 mm Hg
Relative density	> 200°C Closed cup.
Solubility(ies)	~ 1.035 @ 15°C
Auto-ignition temperature	Miscible with water. Miscible with the following materials:
9.2. Other information	Ethanol. >300°C

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity

10.2. Chemical stability

Stability

There are no known reactivity hazards associated with this product.

Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid

Conditions to avoid Avoid the formation of mists.

10.5. Incompatible materials

Materials to avoid Strong alkalis. Strong acids.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended.

SECTION 11: Toxicological information

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11.1. Information on toxicological effects

General information	To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.
Skin contact	May cause skin irritation.
Eye contact	May cause severe eye irritation.
Acute and chronic health hazards	Not expected to be a health hazard when used under normal conditions.
Route of exposure	Skin and/or eye contact
Medical symptoms	Irritation of eyes and mucous membranes.

Toxicological information on ingredients.

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

Acute toxicity – oral

Acute toxicity oral (LD₅₀) 5,170.0 mg/kg

Species

Rat

ATE oral (mg/kg)

5,170.0

Acute toxicity – dermal

Acute toxicity dermal (LD₅₀) 3,540.0 mg/kg

Species

ATE dermal (mg/kg)

Rabbit

Acute toxicity – inhalation 3,540.

Notes (inhalation LC₅₀) 0

Skin corrosion/irritation Data lacking.

Animal data

Serious eye damage/irritation Conclusive data but not sufficient for classification.

Serious eye damage/irritation

Respiratory sensitisation Risk of serious damage to eyes.

Respiratory sensitisation

Skin sensitisation Data lacking.

Skin sensitisation

Germ cell mutagenicity Conclusive data but not sufficient for classification.

Genotoxicity – in vitro Genotoxicity – in vivo

Carcinogenicity Negative.

Carcinogenicity Conclusive data but not sufficient for classification.

Reproductive toxicity Data lacking.

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Reproductive toxicity – fertility Conclusive data but not sufficient for classification.

Specific target organ toxicity – single exposure

STOT – single exposure Conclusive data but not sufficient for classification.

Specific target organ toxicity – repeated exposure

STOT – repeated exposure Conclusive data but not sufficient for classification.

Aspiration hazard

Aspiration hazard No data available.

hazard

Eye contact May cause chemical eye burns.

SECTION 12: Ecological information

Ecotoxicity Not regarded as dangerous for the environment. The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Ecological information on ingredients.

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

Acute aquatic toxicity

Acute toxicity – fish LC50, 96 hours: 2400 mg/l, Pimephales promelas (Fat-head

Minnow) EC₅₀, 48 hours: 2210 mg/l, Daphnia magna

invertebrates

Acute toxicity – aquatic plants EC₅₀, 72 hours: > 612.6 mg/l, Scenedesmus subspicatus NOEC, 72 hours: 62.5 mg/l, Scenedesmus subspicatus

Acute toxicity – microorganisms

IC₅₀, 16 hours: >5000 mg/l, Activated sludge

12.2. Persistence and degradability Ecological information on ingredients.

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

Persistence and degradability The product is readily

biodegradable. Biodegradation Water – Degradation (%) 85:

28 days

The substance is readily biodegradable.

12.3. Bioaccumulative potential Ecological information on ingredients.

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

Bioaccumulative Not potentially

potential Partition bioaccumulative log Pow:

12.4. Mobility in soil coefficient -0.49 log Kow: ≤ 4.5

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Mobility The product is soluble in water.

Ecological information on ingredients.

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

Mobility	Potential for mobility in soil is very
Adsorption/desorption coefficient	high. Water – Koc: 0 – 50 @ °C
Henry's law constant	~ 1.40E-06 atm m ³ /mol @ °C

12.5. Results of PBT and vPvB assessment Ecological information on ingredients.

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL

Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB.
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12.6. Other adverse effects

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

General information	The packaging must be empty (drop-free when inverted). Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
Disposal methods	Waste material and any included combustible absorbent and containers should be suitable for incineration at an approved facility.

SECTION 14: Transport information

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).
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14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not applicable.

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14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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

SECTION 15: Regulatory information

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

National regulations The Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No. 2677) (as
Guidance amended). Workplace Exposure Limits EH40.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision comments Issued by	NOTE: Lines within the margin indicate significant changes from the previous revision. HS&E Manager.
Revision date	22/03/2023
Revision	2
Supersedes date	05/05/2017
SDS number	20787
SDS status	Approved.
Hazard statements in full	H318 Causes serious eye damage. H319 Causes serious eye irritation. H361 Suspected of damaging fertility or the unborn child.

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 process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.