



Antifreeze

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

1.1. Product identifier

Product name	Antifreeze
Product number	G62662
Synonyms; trade names	GP3 Universal Antifreeze, GP3 Antifreeze with Bitrex
REACH registration notes	This material is a mixture. All components have been registered under REACH by the Manufacturer or Supplier.

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

Identified uses	Automotive Industry.
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1.3. Details of the supplier of the safety data sheet

Supplier	Force Products Ltd Stock House, Seymour Road Nuneaton, CV11 4LB United Kingdom +44 (0) 2476 322130
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Contact person	sales@forceproducts.co.uk
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1.4. Emergency telephone number

Emergency telephone	Please contact +44 (0) 1744 813535
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National emergency telephone number NCEC (UK) National Chemical Emergency Centre +44 (0) 1235 239670

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

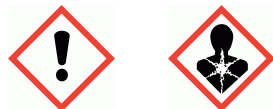
Classification

Physical hazards	Not Classified
Health hazards	Acute Tox. 4 - H302 STOT RE 2 - H373
Environmental hazards	Not Classified

Classification (67/548/EEC or 1999/45/EC) Xn;R22.

2.2. Label elements

Pictogram



Signal word	Warning
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Antifreeze

Hazard statements	H302 Harmful if swallowed. H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
Precautionary statements	P260 Do not breathe vapour/spray. P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor. P501 Dispose of contents/container in accordance with national regulations.
Contains	Mono Ethylene Glycol
Supplementary precautionary statements	P330 Rinse mouth.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Mono Ethylene Glycol <div>>60-100%</div>		
CAS number: 107-21-1	EC number: 203-473-3	REACH registration number: 01-2119456816-28- xx
Classification <div>Acute Tox. 4 - H302</div> <div>STOT RE 2 - H373</div>	Classification (67/548/EEC or 1999/45/EC) <div>Xn;R22.</div>	

Disodium tetraborate pentahydrate <div>>1-<3%</div>		
CAS number: 12179-04-3	EC number: 215-540-4	REACH registration number: 01-2119490790-32-xxxx
Classification <div>Eye Irrit. 2 - H319</div> <div>Repr. 1B - H360FD</div>	Classification (67/548/EEC or 1999/45/EC) <div>Repr. Cat. 2;R60,R61. Xi;R36.</div>	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments	Bitrex [Denatonium benzoate CAS 3734-33-6] may have been added in small quantities by customer request.
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SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on the side in the recovery position and ensure breathing can take place. Never give anything by mouth to an unconscious person.
Inhalation	Move affected person to fresh air at once. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if any discomfort continues.
Ingestion	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.

Antifreeze

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Antifreeze

Skin contact Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if any discomfort continues.

Eye contact Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. 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

Inhalation Upper respiratory irritation.

Ingestion Nausea, vomiting. May cause stomach pain or vomiting.

Skin contact Prolonged skin contact may cause redness and irritation.

Eye contact May cause temporary 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 Extinguish with alcohol-resistant 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

Specific hazards Containers can burst violently or explode when heated, due to excessive pressure build-up.

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

5.3. Advice for firefighters

Protective actions during firefighting Use water to keep fire exposed containers cool and disperse vapours. Keep up-wind to avoid fumes. Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

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. Provide adequate ventilation. Avoid inhalation of vapours and contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. No smoking, sparks, flames or other sources of ignition near spillage. Absorb in vermiculite, dry sand or earth and place into containers. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

Antifreeze

DNEL

Industry - Inhalation; Long term local effects: 35 mg/m³
 Industry - Dermal; Long term systemic effects: 106 mg/kg
 Consumer - Inhalation; Long term local effects: 7 mg/m³
 Consumer - Dermal; Long term systemic effects: 53 mg/m³

PNEC

- Fresh water; 10 mg/l
- Marine water; 1 mg/l
- STP; 199.5 mg/l
- Sediment Freshwater; 20.9 mg/kg
- Soil; 1.53 mg/kg
- Intermittent release; 10 mg/l

Disodium tetraborate pentahydrate (CAS: 12179-04-3)

DNEL

Consumer - Oral; Short term systemic effects: 1.15 mg/kg/day
 Industry - Inhalation; Short term local effects: 17.04 mg/m³
 Industry - Inhalation; Long term local effects: 17.04 mg/m³
 Industry - Inhalation; Long term systemic effects: 9.8 mg/m³
 Consumer - Inhalation; Short term local effects: 17.04 mg/m³
 Consumer - Inhalation; Long term local effects: 17.04 mg/m³
 Consumer - Inhalation; Long term systemic effects: 4.9 mg/m³
 Industry - Dermal; Long term systemic effects: 458.2 mg/kg/day
 Consumer - Dermal; Long term systemic effects: 231.8 mg/kg/day

PNEC

- Fresh water; 2.02 mg/l
- Marine water; 2.02 mg/l
- Intermittent release; 13.7 mg/l
- Soil; 5.4 mg/kg
- STP; 10 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation.

Eye/face protection

The following protection should be worn: Chemical splash goggles or face shield. EN 166 recommended

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. It is recommended that gloves are made of the following material: Butyl rubber. It is recommended that gloves are made of the following material: Neoprene. It is recommended that gloves are made of the following material: Nitrile rubber. It should be noted that liquid may penetrate the gloves. Frequent changes are recommended. It is recommended that gloves are made of the following material: Polyvinyl alcohol (PVA). The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Other skin and body protection

Provide eyewash station and safety shower. Wear suitable protective clothing as protection against splashing or contamination.

Hygiene measures

Wash hands at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Wash contaminated clothing before reuse.

Antifreeze

Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn. It is recommended to use respiratory equipment with combination filter, type A2/P2.
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 properties

Appearance	Liquid.
Colour	May be colourless or dyed in various colours depending on customer requirements
Odour	Odourless.
Melting point	-12°C
Initial boiling point and range	165°C @ 760 mm Hg
Flash point	111°C CC (Closed cup).
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 3.2
Vapour pressure	0.05 kPa @ °C
Vapour density	2.14
Relative density	1.13 @ @ 20°C
Solubility(ies)	Miscible with water. Miscible with the following materials: acetone Alcohols.
Partition coefficient	log Pow: -1.93
Auto-ignition temperature	400°C
Viscosity	21 cP @ 20°C

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Will not polymerise.
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10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition. Avoid contact with strong oxidising agents.
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10.5. Incompatible materials

Materials to avoid	Strong oxides. Strong alkalis. Strong acids.
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10.6. Hazardous decomposition products

Antifreeze

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects Information given is applicable to the major ingredient.

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 7,712.0

Species Rat

ATE oral (mg/kg) 528.32

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 3,500.0

Species Mouse

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 2.5

Species Rat

Notes (inhalation LC₅₀) 6 hrs

Skin corrosion/irritation

Animal data Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Not irritating.

Skin sensitisation

Skin sensitisation Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation:: Negative. Not mutagenic

Carcinogenicity

Carcinogenicity Not available.

Reproductive toxicity

Reproductive toxicity - fertility Fertility: - >1000 mg/kg, Oral, Rat Not expected to be a reproductive toxicant

Reproductive toxicity - development Not available.

Specific target organ toxicity - single exposure

STOT - single exposure Not available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 200 mg/kg, Oral, Rat

Ingestion Harmful if swallowed.

SECTION 12: Ecological Information

Antifreeze

Ecotoxicity The product is not expected to be hazardous to the environment. Information given is applicable to the major ingredient.

12.1. Toxicity

Acute toxicity - fish LC50, 96 hours, 96 hours: 72860 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours, 48 hours: > 100 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 96 hours, 96 hours: > 6500 mg/l, Selenastrum capricornutum

Acute toxicity - microorganisms EC20, >: > 1995 mg/l, Activated sludge
30 Mins

Chronic toxicity - fish early life stage NOEC, : 15380 mg/l, Pimephales promelas (Fat-head Minnow)
7 days

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable

Stability (hydrolysis) Hydrolysis is not expected / probable

12.3. Bioaccumulative potential

Bioaccumulative potential Bioconcentration potential is low.

Partition coefficient log Pow: -1.93

12.4. Mobility in soil

Mobility This material has low volatility and is water soluble hence the potential for mobility is high.

Adsorption/desorption coefficient Soil - Koc: 1 @ °C

Henry's law constant 0.1327 atm m³/mol @ °C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is suitable for incineration. Waste is classified as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Waste class Waste Code: 07 01 04

SECTION 14: Transport information

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

Antifreeze

14.1. UN number

No information required.

14.2. UN proper shipping name

No information required.

14.3. Transport hazard class(es)

No information required.

14.4. Packing group

No information required.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

No information required.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Substance Name: Ethylene Glycol
	Pollution Category: Y
	Ship Type: 3

SECTION 15: Regulatory information

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

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No. 2677) (as amended).
EU legislation	Dangerous Substances Directive 67/548/EEC. Regulation (EC) No 1907/2006 of the European Parliament and of 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 of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Dangerous Preparations Directive 1999/45/EC.
Water hazard classification	WGK 1

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

Revision comments	Minor changes made
Issued by	HCS Group Technical Team
Revision date	05/11/2015
Revision	2
Supersedes date	10/09/2015

Antifreeze

SDS number	21437
SDS status	Approved.
Risk phrases in full	R22 Harmful if swallowed. R36 Irritating to eyes. R60 May impair fertility. R61 May cause harm to the unborn child.
Hazard statements in full	H302 Harmful if swallowed. H319 Causes serious eye irritation. H360FD May damage fertility. May damage the unborn child. H373 May cause damage to organs through prolonged or repeated exposure if swallowed. H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.

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.