



SAFETY DATA SHEET

Prestone Concentrate AF

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

1.1. Product identifier

Product name	Prestone Concentrate AF
Product number	PAFR0301A, PAFR0501A, PAFR0302A, PAFR0701A, PAFR0901A, PAFR0702A, PAFR0004A, PAFR0012A
Internal identification	NQA2105
UFI	UFI: NQT5-90JP-F00N-U0VS
EU REACH registration notes	This is a MIXTURE; no registration information contained in this document. Holts are classed as Downstream User.

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

Identified uses	Antifreeze liquid.
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1.3. Details of the supplier of the safety data sheet

Contact person	Contact email address: info@holtsauto.com
Manufacturer	Holt Lloyd International Ltd Barton Dock Road Stretford Manchester M32 0YQ - England, UK +44 (0) 161 866 4800 FAX +44 (0) 161 866 4854 www.holtsauto.com

1.4. Emergency telephone number

Emergency telephone	UK - 00 44 (0) 161 866 4800 Office hrs = 0900 - 1700 hrs
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Prestone Concentrate AF

National emergency telephone number +43 1 31304 5620; chemikalien@umweltbundesamt.at (Austria)
 +32022649636; info@poisoncentre.be (Belgium)
 +359 2 9154 409; poison_centre@mail.orbitel.bg (Bulgaria)
 +38514686910; toksikologija@hzjz.hr (Croatia)
 +35722405611; cy-chemregistry@dlm.msi.gov.cy (Cyprus)
 +420267082257; biocidy@mzcr.cz (Czech Republic)
 +45 72 54 40 00; mst@mst.dk (Denmark)
 +372 794 3500; clp@terviseamet.ee, info@terviseamet.ee (Estonia)
 +358 5052 000; kirjaamo@tukes.fi (Finland)
 + 33 3 83 85 21 92; bnpc@chru-nancy.fr (France)
 +49-30-18412-0; bfr@bfr.bund.de (Germany)
 +302106479250; +302106479450; devxp.gcsf@aade.gr, environment.gcsf@aade.gr (Greece)
 +36 (1) 476 1135; clp.ca@nnk.gov.hu (Hungary)
 +354 543 22 22; eitur@landspitali.is (Iceland)
 +353 (1) 809 2166 / +353 (1) 809 2566; chemicalsinfo@beaumont.ie (Ireland)
 +390649906140; inscweb@iss.it (Italy)
 +371 67032600; lvgmc@lvgmc.lv (Latvia)
 +370 70662008; aaa@aaa.am.lt (Lithuania)
 +320 22649636; +352 24785551; info@poisoncentre.be; direction-sante@ms.etat.lu (Luxembourg)
 +356 2395 2000; info@mccaa.org.mt (Malta)
 +31 88 75 585 61; productnotificatie@umcutrecht.nl (The Netherlands)
 +4573580500; produktregisteret@miljodir.no / +47 21 07 70 00; folkehelseinstituttet@fhi.no (Norway)
 +48 42 2538 400; biuro@chemikalia.gov.pl (Poland)
 +351 800 250 250; ciav.tox@inem.pt (Portugal)
 +40213183606; infotox@insp.gov.ro (Romania)
 +7 495 621 6885; +7 495 628 1687; rtiac@mail.ru; rtiac2003@yahoo.com (Russia)
 +421 2 5465 2307; ntic@ntic.sk (Slovakia)
 + 386 1 522 1293; gp.ukc@kclj.si (Slovenia)
 +34 917689800; intcf.doc@justicia.es (Spain)
 +46104566750; giftinformation@gic.se (Sweden)
 +44 121 507 4123; allistervale@npis.org, sallybradberry@npis.org (UK)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (SI 2019 No. 720)

Physical hazards	Not Classified
Health hazards	Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT RE 2 - H373
Environmental hazards	Not Classified

2.2. Label elements

Hazard pictograms



Signal word Warning

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Hazard statements	H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.
Precautionary statements	P102 Keep out of reach of children. P101 If medical advice is needed, have product container or label at hand. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell. P302+P352 IF ON SKIN: Wash with plenty of water. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501 Dispose of contents/ container in accordance with national regulations.
UFI	UFI: NQT5-90JP-F00N-U0VS
Contains	ETHANEDIOL

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

ETHANEDIOL		60-100%
CAS number: 107-21-1	EC number: 203-473-3	
Classification Acute Tox. 4 - H302 STOT RE 2 - H373		
2-Ethylhexanoic Acid		1-5%
CAS number: 149-57-5	EC number: 205-743-6	
Classification Repr. 2 - H361d		
SODIUM HYDROXIDE		<1%
CAS number: 1310-73-2	EC number: 215-185-5	
Classification Skin Corr. 1A - H314 Eye Dam. 1 - H318		
sodium 4(or 5)-methyl-1H-benzotriazole		<1%
CAS number: 64665-57-2	EC number: 265-004-9	
Classification Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Repr. 2 - H361d Aquatic Chronic 2 - H411		

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PROPAN-1-OL		<1%
CAS number: 71-23-8	EC number: 200-746-9	
Classification Flam. Liq. 2 - H225 Eye Dam. 1 - H318 STOT SE 3 - H336		
Polypropylene Glycol		<1%
CAS number: 25322-69-4	EC number: 500-039-8	
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335		
Denatonium Benzoate		<1%
CAS number: 3734-33-6	EC number: 223-095-2	
Classification Acute Tox. 4 - H302 Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Chronic 3 - H412		

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if any discomfort continues.
Ingestion	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Do not induce vomiting. Never give anything by mouth to an unconscious person. Give plenty of water to drink. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
Eye contact	Remove any contact lenses and open eyelids wide apart. Rinse with water. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	This is unlikely to occur but symptoms similar to those of ingestion may develop.
Ingestion	Harmful if swallowed. May cause liver and/or renal damage.
Skin contact	May be slightly irritating to skin. Prolonged and frequent contact may cause redness and irritation.
Eye contact	May be slightly irritating to eyes. Prolonged contact may cause redness and/or tearing.

4.3. Indication of any immediate medical attention and special treatment needed

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Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapours.

Hazardous combustion products Oxides of carbon. Oxides of nitrogen.

5.3. Advice for firefighters

Protective actions during firefighting Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Use protective equipment appropriate for surrounding materials.

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.

6.2. Environmental precautions

Environmental precautions Avoid release to the environment. Do not discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up 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. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from food, drink and animal feeding stuffs. Store in a 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

ETHANEDIOL

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Long-term exposure limit (8-hour TWA): WEL 20 ppm 52 mg/m³ vapour

Short-term exposure limit (15-minute): WEL 40 ppm 104 mg/m³ vapour

Sk

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

Sk

SODIUM HYDROXIDE

Long-term exposure limit (8-hour TWA): WEL

Short-term exposure limit (15-minute): WEL 2 mg/m³

PROPAN-1-OL

Long-term exposure limit (8-hour TWA): WEL 200 ppm(Sk) 500 mg/m³(Sk)

Short-term exposure limit (15-minute): WEL 250 ppm(Sk) 625 mg/m³(Sk)

WEL = Workplace Exposure Limit.

Sk = Can be absorbed through the skin.

ETHANEDIOL (CAS: 107-21-1)

DNEL

Workers - Inhalation; Long term local effects: 35 mg/m³

Workers - Dermal; Long term systemic effects: 106 mg/kg/day

General population - Inhalation; Long term local effects: 7 mg/m³

General population - Dermal; Long term systemic effects: 53 mg/kg/day

PNEC

Fresh water; 10 mg/l

marine water; 1 mg/l

STP; 199.5 mg/l

Sediment (Freshwater); 37 mg/kg

Sediment (Marinewater); 3.7 mg/kg

Soil; 1.53 mg/kg

2-Ethylhexanoic Acid (CAS: 149-57-5)

DNEL

Workers - Inhalation; Long term systemic effects: 14 mg/m³

Workers - Dermal; Long term systemic effects: 2 mg/kg bw/day

General population - Inhalation; Long term systemic effects: 3.5 mg/m³

General population - Dermal; Long term systemic effects: 1 mg/kg bw/day

General population - Oral; Long term systemic effects: 1 mg/kg bw/day

PNEC

Fresh water; 0.4 mg/l

Intermittent release; 1 mg/l

marine water; 0.04 mg/l

STP; 71.7 mg/l

Sediment (Freshwater); 4.74 mg/kg sediment dry weight

Sediment (Marinewater); 0.74 mg/kg sediment dry weight

Soil; 0.712 mg/kg soil dry weight

SODIUM HYDROXIDE (CAS: 1310-73-2)

DNEL

Workers - Inhalation; Long term local effects: 1 mg/m³

General population - Dermal; Long term local effects: 1 mg/m³

sodium 4(or 5)-methyl-1H-benzotriazole (CAS: 64665-57-2)

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DNEL	Workers - Inhalation; Long term systemic effects: 21.2 mg/m ³
	Workers - Dermal; Long term systemic effects: 0.3 mg/kg/day
	General population - Inhalation; Long term systemic effects: 350 µg/m ³
	General population - Dermal; Long term systemic effects: 0.01 mg/kg/day
	General population - Oral; Long term systemic effects: 0.01 mg/kg/day

PNEC	Fresh water; 0.008 mg/l
	marine water; 20 µg/l
	STP; 39.4 mg/l
	Sediment (Freshwater); 0.117 mg/kg
	Sediment (Marinewater); 0.292 mg/kg
	Soil; 18.7 µg/kg

PROPAN-1-OL (CAS: 71-23-8)

DNEL	Workers - Inhalation; Long term systemic effects: 268 mg/m ³
	Workers - Inhalation; Short term systemic effects: 1723 mg/m ³
	Workers - Dermal; Long term systemic effects: 136 mg/kg/day
	General population - Inhalation; Long term systemic effects: 80 mg/m ³
	General population - Dermal; Long term systemic effects: 81 mg/kg/day
	General population - Oral; Long term systemic effects: 61 mg/kg/day

PNEC	Fresh water; 6.83 mg/l
	marine water; 0.683 mg/l
	STP; 96 mg/l
	Sediment (Freshwater); 27.5 mg/kg
	Sediment (Marinewater); 2.75 mg/kg
	Soil; 1.49 mg/kg

Polypropylene Glycol (CAS: 25322-69-4)

DNEL	Workers - Inhalation; Long term local effects: 10 mg/m ³
	Workers - Dermal; Long term systemic effects: 84 mg/kg bw/day
	General population - Inhalation; Long term systemic effects: 10 mg/m ³
	General population - Dermal; Long term systemic effects: 51 mg/kg bw/day
	General population - Oral; Long term systemic effects: 24 mg/kg bw/day

PNEC	Fresh water; 0.1 mg/l
	marine water; 0.01 mg/l
	Intermittent release; 1 mg/l
	STP; 100 mg/l
	Sediment (Freshwater); 0.765 mg/kg sediment dry weight
	Sediment (Marinewater); 0.0765 mg/kg sediment dry weight
	Soil; 0.109 mg/kg soil dry weight

Denatonium Benzoate (CAS: 3734-33-6)

DNEL	Workers - Inhalation; Long term systemic effects: 4.99 mg/m ³
	Workers - Dermal; Long term systemic effects: 1.43 mg/kg/day
	General population - Inhalation; Long term systemic effects: 0.768 mg/m ³
	General population - Dermal; Long term systemic effects: 0.51 mg/kg/day
	General population - Oral; Long term systemic effects: 0.51 mg/kg/day

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PNEC

Fresh water; 0.1 mg/l
 marine water; 10 µg/l
 Sediment (Freshwater); 25 mg/kg
 Sediment (Marinewater); 2.5 mg/kg
 Soil; 4.96 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

No specific ventilation requirements.

Eye/face protection

Wear chemical splash goggles.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, wear gloves that are proven to be impervious to the chemical and resist degradation.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

Wash hands thoroughly after handling.

Respiratory protection

Respiratory protection not required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Colourless to pale yellow.
pH	pH (concentrated solution): 8.5 - 9.0
Flash point	> 100°C Closed cup.
Relative density	~1.114 @ 20°C
Solubility(ies)	Miscible with water.

9.2. Other information

Volatile organic compound	This product contains a maximum VOC content of 97.6 %.
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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 under the prescribed storage conditions.
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10.3. Possibility of hazardous reactions

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

Conditions to avoid	Avoid heat. Avoid freezing.
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10.5. Incompatible materials

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects Information given is based on data of the components and of similar products.

Acute toxicity - oral

Notes (oral LD₅₀) Harmful if swallowed.

ATE oral (mg/kg) 534.71

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Skin corrosion/irritation Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Genotoxicity - in vivo Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Contains an ingredient listed as: Repr. 2

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Prolonged or repeated exposure may cause the following adverse effects: Liver and/or kidney damage.

Target organs Kidneys

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Aspiration hazard

Aspiration hazard Not relevant.

Inhalation

This is unlikely to occur but symptoms similar to those of ingestion may develop.

Ingestion

Harmful if swallowed. May cause liver and/or renal damage.

Skin contact

May be slightly irritating to skin. Prolonged and frequent contact may cause redness and irritation.

Eye contact

May be slightly irritating to eyes. Prolonged contact may cause redness and/or tearing.

Toxicological information on ingredients.

ETHANEDIOL

Acute toxicity - oral

Notes (oral LD₅₀) Harmful if swallowed.

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 3500 mg/kg, Dermal, Mouse

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC50 > 2.5 mg/l, Inhalation, Rat

Skin corrosion/irritation

Skin corrosion/irritation Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Negative.

Genotoxicity - in vivo Negative.

Carcinogenicity

Carcinogenicity No evidence of carcinogenicity in animal studies. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Three-generation study - NOAEL > 1000 mg/kg bw/day, Oral, Rat F2 Fertility - NOEL 1000 mg/kg bw/day, Oral, Mouse F1

Reproductive toxicity - development No evidence of reproductive toxicity in animal studies.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

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Specific target organ toxicity - repeated exposure

STOT - repeated exposure Prolonged or repeated exposure may cause the following adverse effects: Liver and/or kidney damage.

Aspiration hazard

Aspiration hazard Not relevant.

Inhalation No specific health hazards known.

Ingestion Harmful if swallowed.

Skin contact May be slightly irritating to skin.

Eye contact May be slightly irritating to eyes.

2-Ethylhexanoic Acid

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 2043 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 2000 mg/kg, Dermal, Rat

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC0 0.11 mg/m³, Inhalation, Rat

Skin corrosion/irritation

Skin corrosion/irritation Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Negative.

Genotoxicity - in vivo Negative.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility Fertility - NOAEL 800 mg/kg bw/day, Oral, Rat F2 Suspected of damaging fertility.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

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STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Not relevant.

SODIUM HYDROXIDE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 500.0

Species Rat

Notes (oral LD₅₀) Not applicable. REACH dossier information.

Acute toxicity - dermal

Notes (dermal LD₅₀) Not applicable. REACH dossier information.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Not applicable. REACH dossier information.

Skin corrosion/irritation

Skin corrosion/irritation Causes severe burns.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Negative.

Genotoxicity - in vivo Negative.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Scientifically unjustified. REACH dossier information.

Reproductive toxicity - development This substance has no evidence of toxicity to reproduction.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Not relevant.

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sodium 4(or 5)-methyl-1H-benzotriazole

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 800.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 735 mg/kg, Oral, Rat Harmful if swallowed.

ATE oral (mg/kg) 800.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 2000 mg/kg, Dermal, Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Skin corrosion/irritation Causes severe burns.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation Not sensitising. REACH dossier information.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Negative.

Genotoxicity - in vivo Negative.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met. REACH dossier information.

Reproductive toxicity - development Repr. 2

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Not relevant.

PROPAN-1-OL

Acute toxicity - oral

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Acute toxicity oral (LD₅₀ mg/kg) 5,400.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 4,032.0

Species Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 33.8

Species Rat

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Denatonium Benzoate

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 749 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 2000 mg/kg, Dermal, Rat

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC50 0.2 mg/l, Inhalation, Rat

Skin corrosion/irritation

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Negative.

Genotoxicity - in vivo Negative.

Carcinogenicity

Carcinogenicity NOAEL 16 mg/kg/day, Oral, Rat No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Reproductive toxicity - fertility Two-generation study - NOAEL 60 mg/kg/day, Oral, Rat P, F1 No evidence of reproductive toxicity in animal studies.

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Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Not relevant.

SECTION 12: Ecological information

Ecotoxicity The product contains a substance which is toxic to aquatic organisms.

Ecological information on ingredients.

sodium 4(or 5)-methyl-1H-benzotriazole

Ecotoxicity Toxic to aquatic life with long lasting effects.

12.1. Toxicity

Ecological information on ingredients.

ETHANEDIOL

Acute aquatic toxicity

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

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

Acute toxicity - aquatic plants IC₅₀, 96 hours: 10940 mg/l, Pseudokirchneriella subcapitata

Acute toxicity - microorganisms EC₂₀, 30 minutes: 1995 mg/l, Activated sludge
Read-across data.

Chronic aquatic toxicity

Chronic toxicity - fish early life stage LC₅₀, 28 days: > 1500 mg/l, Menidia peninsulae (Tidewater silverside)

Chronic toxicity - aquatic invertebrates EC₅₀, 21 days: > 100 mg/l, Daphnia magna

2-Ethylhexanoic Acid

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: > 100 mg/l, Oryzias latipes (Red killifish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 85.4 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 485.1 mg/l, Pseudokirchneriella subcapitata

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates EC₁₀, LC₁₀, NOEC, 21 days: 19.9 mg/l, Daphnia magna

SODIUM HYDROXIDE

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Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 33-189 hours: 96 mg/l, Fish LC ₅₀ , 45.5 hours: 96 mg/l, Oncorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	LC ₅₀ , 48 hours: 30 - < 1000 mg/l, Daphnia magna
Acute toxicity - aquatic plants	Scientifically unjustified.
Acute toxicity - microorganisms	EC ₁₀ , 2 minutes: 161 mg/l, Tetrahymena Thermophila EC ₅₀ , 15 minutes: 22 mg/l, Photobacterium phosphoreum luminescence inhibition study

Chronic aquatic toxicity

Chronic toxicity - fish early life stage	Not available.
Short term toxicity - embryo and sac fry stages	Not available.
Chronic toxicity - aquatic invertebrates	Not applicable.

sodium 4(or 5)-methyl-1H-benzotriazole

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hours: 180 mg/l, Brachydanio rerio (Zebra Fish) LC ₅₀ , 96 hours: 55 mg/l, Cyprinodon variegatus (Sheepshead minnow)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 8.58 mg/l, Daphnia galeata LC ₅₀ , 48 hours: 55 mg/l, Acartia tonsa
Acute toxicity - aquatic plants	ErC ₅₀ , 72 hours: 75 mg/l, Pseudokirchneriella subcapitata EC ₁₀ , 72 hours: 1.18 - 2.86 mg/l, Desmodesmus subspicatus EC ₅₀ , 72 hours: 52 mg/l, Skeletonema costatum EC ₁₀ , 72 hours: 36 mg/l, Skeletonema costatum EC ₉₀ , 72 hours: 83 mg/l, Skeletonema costatum NOEC, 72 hours: 30 mg/l, Skeletonema costatum EC ₁₀ , 7 days: 2.11 mg/l, Lemna minor
Acute toxicity - microorganisms	EC ₅₀ , 3 hours: 1060 mg/l, Activated sludge EC ₁₀ , NOEC, 3 hours: 394 mg/l, Activated sludge

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates	EC ₅₀ , 21 days: > 37.6 mg/l, Daphnia magna NOEC, 21 days: 18.4 mg/l, Daphnia magna EC ₁₀ , 21 days: 0.4 - 0.97 mg/l, Daphnia galeata
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PROPAN-1-OL

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hours: 4555 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 3644 mg/l, Daphnia magna NOEC, 21 days: > 100 mg/l, Daphnia magna

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Acute toxicity - aquatic plants

IC₅₀, 72 hours: > 1000 mg/l, Algae

Denatonium Benzoate

Acute aquatic toxicity

Acute toxicity - fish

LC₅₀, 96 hours: > 100 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: > 500 mg/l, Daphnia magna

Acute toxicity - aquatic plants

EC₅₀, 72 hours: 281.556 mg/l, Chlorella vulgaris

Acute toxicity - microorganisms

EC₅₀, 15 minutes: 511.58 mg/l, Vibrio fischeri

12.2. Persistence and degradability

Ecological information on ingredients.

ETHANEDIOL

Persistence and degradability

10 days 90-100% Rapidly degradable

SODIUM HYDROXIDE

Persistence and degradability

No data available.

Stability (hydrolysis)

Scientifically unjustified.
REACH dossier information.

sodium 4(or 5)-methyl-1H-benzotriazole

Persistence and degradability

Not readily biodegradable.

Phototransformation

Air - Half-life : 3.9 days

Stability (hydrolysis)

pH4, pH7, pH9 - Degradation 0: 5 days @ 50 +/- 0.5°C

Biodegradation

Soil - Half-life : 180 days

PROPAN-1-OL

Persistence and degradability

The substance is readily biodegradable. 83%; 28 days

Denatonium Benzoate

Persistence and degradability

Not readily biodegradable.

Stability (hydrolysis)

pH4, pH7, pH9 - Degradation 10%: ~ 5 days @ 50°C
pH 5, pH7, pH9 - Degradation 10%: ~ 5 days @ 25°C
pH 5 -10 - Half-life : ~ 1 year @ 25-50°C

12.3. Bioaccumulative potential

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Ecological information on ingredients.

ETHANEDIOL

Partition coefficient log Pow: -1.36 QSAR data.

SODIUM HYDROXIDE

Bioaccumulative potential No potential for bioaccumulation.

Partition coefficient No information required. REACH dossier information.

sodium 4(or 5)-methyl-1H-benzotriazole

Bioaccumulative potential BCF: 2.422 L/kg, QSAR Bioaccumulation is unlikely. REACH dossier information.

Partition coefficient log Pow: 1.087

PROPAN-1-OL

Partition coefficient log Pow: 0.25

12.4. Mobility in soil

Mobility The product is miscible with water and may spread in water systems.

Ecological information on ingredients.

sodium 4(or 5)-methyl-1H-benzotriazole

Adsorption/desorption coefficient - Koc: 110 @ 20°C

Denatonium Benzoate

Adsorption/desorption coefficient Soil - Koc: 2466.04 @ 20°C

12.5. Results of PBT and vPvB assessment

Ecological information on ingredients.

ETHANEDIOL

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

2-Ethylhexanoic Acid

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

SODIUM HYDROXIDE

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

sodium 4(or 5)-methyl-1H-benzotriazole

Prestone Concentrate AF

Results of PBT and vPvB assessment

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

Denatonium Benzoate

Results of PBT and vPvB assessment

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

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

SECTION 14: Transport information

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

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.

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

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

SECTION 15: Regulatory information

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

National regulations The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

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SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	<p>ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.</p> <p>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.</p> <p>ATE: Acute Toxicity Estimate.</p> <p>BCF: Bioconcentration Factor.</p> <p>BOD: Biochemical Oxygen Demand.</p> <p>CAS: Chemical Abstracts Service.</p> <p>DNEL: Derived No Effect Level.</p> <p>EC₅₀: 50% of maximal Effective Concentration.</p> <p>GHS: Globally Harmonized System.</p> <p>IARC: International Agency for Research on Cancer.</p> <p>IATA: International Air Transport Association.</p> <p>ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.</p> <p>IMDG: International Maritime Dangerous Goods.</p> <p>LC50: Lethal Concentration to 50 % of a test population.</p> <p>LD50: Lethal Dose to 50% of a test population (Median Lethal Dose).</p> <p>NOAEC: No Observed Adverse Effect Concentration.</p> <p>NOAEL: No Observed Adverse Effect Level.</p> <p>NOEC: No Observed Effect Concentration.</p> <p>PBT: Persistent, Bioaccumulative and Toxic substance.</p> <p>PNEC: Predicted No Effect Concentration.</p> <p>REACH: The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 No. 1577.</p> <p>RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.</p> <p>SVHC: Substances of Very High Concern.</p> <p>UVCB - Unknown or variable composition, complex reaction products or Biological materials.</p> <p>vPvB: Very Persistent and Very Bioaccumulative.</p>
Classification procedures according to SI 2019 No. 720	<p>Acute Tox. 4 - H302: Calculation method. Skin Irrit. 2 - H315: Calculation method. Eye Irrit. 2 - H319: Calculation method. STOT RE 2 - H373: Calculation method.</p>
Revision date	18/03/2022
Revision	7
Supersedes date	06/01/2022
SDS number	14460
Hazard statements in full	<p>H225 Highly flammable liquid and vapour.</p> <p>H302 Harmful if swallowed.</p> <p>H314 Causes severe skin burns and eye damage.</p> <p>H315 Causes skin irritation.</p> <p>H318 Causes serious eye damage.</p> <p>H319 Causes serious eye irritation.</p> <p>H332 Harmful if inhaled.</p> <p>H335 May cause respiratory irritation.</p> <p>H336 May cause drowsiness or dizziness.</p> <p>H361d Suspected of damaging the unborn child.</p> <p>H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.</p> <p>H411 Toxic to aquatic life with long lasting effects.</p> <p>H412 Harmful to aquatic life with long lasting effects.</p>

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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.