SAFETY DATA SHEET
Prestone HD Command (Concentrate)

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

1.1. Product identifier

Product name Prestone HD Command (Concentrate)

Product number PAFR0006A, PAFR0007A, PAFR0008A, PAFR0009A

Internal identification NQA2297

UFI UFI: U6C6-G02W-800N-UJS5

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.

1.3. Details of the supplier of the safety data sheet

Supplier
Holt Lloyd Services
52 Rue des 40 Mines, 60000 – Allonne, France
Phone: +33 (0)3 64 99 00 32
info@holtsauto.com

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

Prestone HD Command (Concentrate)

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@dli.mlsi.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.gcsl@aade.gr, environment.gcsl@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)
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+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 (EC 1272/2008)

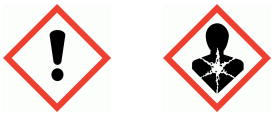
Physical hazards Not Classified

Health hazards Acute Tox. 4 - H302 STOT RE 2 - H373

Environmental hazards Not Classified

2.2. Label elements

Hazard pictograms



Signal word Warning

Hazard statements

H302 Harmful if swallowed.
H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.

Prestone HD Command (Concentrate)

Precautionary statements	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell. P330 Rinse mouth. P501 Dispose of contents/ container in accordance with national regulations.
UFI	UFI: U6C6-G02W-800N-UJS5
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 REACH registration number: 01-2119456816-28-XXXX

Classification
Acute Tox. 4 - H302
STOT RE 2 - H373

2-Ethylhexanoic Acid **1-5%**

CAS number: 149-57-5 EC number: 205-743-6 REACH registration number: 01-2119488942-23-XXXX

Classification
Repr. 2 - H361d

SODIUM HYDROXIDE **<1%**

CAS number: 1310-73-2 EC number: 215-185-5 REACH registration number: 01-2119457892-27-XXXX

Classification
Skin Corr. 1A - H314
Eye Dam. 1 - H318

sodium 4(or 5)-methyl-1H-benzotriazolide **<1%**

CAS number: 64665-57-2 EC number: 265-004-9 REACH registration number: 01-2119980062-42-XXXX

Classification
Acute Tox. 4 - H302
Skin Corr. 1B - H314
Eye Dam. 1 - H318
Repr. 2 - H361d
Aquatic Chronic 2 - H411

Prestone HD Command (Concentrate)

PROPAN-1-OL		**<1%**
CAS number: 71-23-8	EC number: 200-746-9	REACH registration number: 01-2119486761-29-XXXX

Classification
Flam. Liq. 2 - H225
Eye Dam. 1 - H318
STOT SE 3 - H336

Denatonium Benzoate		**<1%**
CAS number: 3734-33-6	EC number: 223-095-2	REACH registration number: 01-2120102843-65-XXXX

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

General information Treat symptomatically.

Inhalation Unlikely route of exposure as the product does not contain volatile substances.

Ingestion Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. 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.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.

Eye contact Rinse immediately with plenty of water. Continue to rinse for at least 10 minutes. Remove any contact lenses and open eyelids wide apart.

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 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 or repeated exposure may cause severe irritation.

Eye contact May be slightly irritating to eyes. Prolonged or repeated exposure may cause severe 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

Prestone HD Command (Concentrate)

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 No specific firefighting precautions known.

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 only in the original container. Keep away from food, drink and animal feeding stuffs. Store in a cool and well-ventilated place.

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

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

Prestone HD Command (Concentrate)

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-benzotriazolide (CAS: 64665-57-2)

DNEL
Workers - Inhalation; Long term systemic effects: 21.2 mg/m³
Workers - Dermal; Long term systemic effects: 0.3 mg/kg/day
General population - Inhalation; Long term systemic effects: 350 µg/m3
General population - Dermal; Long term systemic effects: 0.01 mg/kg/day
General population - Oral; Long term systemic effects: 0.01 mg/kg/day

Prestone HD Command (Concentrate)

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/m³
Workers - Inhalation; Short term systemic effects: 1723 mg/m³
Workers - Dermal; Long term systemic effects: 136 mg/kg/day
General population - Inhalation; Long term systemic effects: 80 mg/m³
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/m³
Workers - Dermal; Long term systemic effects: 84 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 10 mg/m³
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/m³
Workers - Dermal; Long term systemic effects: 1.43 mg/kg/day
General population - Inhalation; Long term systemic effects: 0.768 mg/m³
General population - Dermal; Long term systemic effects: 0.51 mg/kg/day
General population - Oral; Long term systemic effects: 0.51 mg/kg/day

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

Prestone HD Command (Concentrate)

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, gloves should comply with European Standard EN374.
Other skin and body protection	Wear appropriate clothing to prevent reasonably probable 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	Yellow.
Odour	Characteristic. Mild.
pH	pH (concentrated solution): 8 - 9
Relative density	~ 1.12 @ 20°C
Solubility(ies)	Miscible with water.

9.2. Other information

Volatile organic compound	This product contains a maximum VOC content of 95 %.

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stability	Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Not applicable. Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid	Avoid heat. Avoid freezing.

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

Prestone HD Command (Concentrate)

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 LD_{50}) Harmful if swallowed.

ATE oral (mg/kg) 535.65

Acute toxicity - dermal

Notes (dermal LD_{50}) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC_{50}) 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.

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.

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 or repeated exposure may cause severe irritation.

Prestone HD Command (Concentrate)

Eye contact May be slightly irritating to eyes. Prolonged or repeated exposure may cause severe irritation.

Toxicological information on ingredients.

ETHANEDIOL

Acute toxicity - oral

Notes (oral LD_{50}) Harmful if swallowed.

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Notes (dermal LD_{50}) LD_{50} > 3500 mg/kg, Dermal, Mouse

Acute toxicity - inhalation

Notes (inhalation LC_{50}) 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.

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.

Prestone HD Command (Concentrate)

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 LD_{50})	LD_{50} 2043 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} > 2000 mg/kg, Dermal, Rat

Acute toxicity - inhalation

Notes (inhalation LC_{50})	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

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

Aspiration hazard

Aspiration hazard	Not relevant.

SODIUM HYDROXIDE

Acute toxicity - oral

Prestone HD Command (Concentrate)

Acute toxicity oral (LD_{50} mg/kg)	500.0
Species	Rat
Notes (oral LD_{50})	Not applicable. REACH dossier information.

Acute toxicity - dermal

Notes (dermal LD_{50})	Not applicable. REACH dossier information.

Acute toxicity - inhalation

Notes (inhalation LC_{50})	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.

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

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	800.0
Species	Rat

Prestone HD Command (Concentrate)

Notes (oral LD_{50})	LD_{50} 735 mg/kg, Oral, Rat Harmful if swallowed.
ATE oral (mg/kg)	800.0
Acute toxicity - dermal	
Notes (dermal LD_{50})	LD_{50} > 2000 mg/kg, Dermal, Rabbit
Acute toxicity - inhalation	
Notes (inhalation LC_{50})	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	
Acute toxicity oral (LD_{50} mg/kg)	5,400.0
Species	Rat
Acute toxicity - dermal	

Prestone HD Command (Concentrate)

Acute toxicity dermal (LD_{50} mg/kg)	4,032.0
Species	Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} 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 LD_{50})	LD_{50} 749 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD_{50})	LD_{50} > 2000 mg/kg, Dermal, Rat

Acute toxicity - inhalation

Notes (inhalation LC_{50})	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.

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.

Prestone HD Command (Concentrate)

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-benzotriazolide

Ecotoxicity Toxic to aquatic life with long lasting effects.

12.1. Toxicity

Ecological information on ingredients.

ETHANEDIOL

Acute aquatic toxicity

Acute toxicity - fish LC_{50}, 96 hours: 72860 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC_{50}, 48 hours: > 100 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC_{50}, 96 hours: 10940 mg/l, Pseudokirchneriella subcapitata

Acute toxicity - microorganisms EC_{20}, 30 minutes: 1995 mg/l, Activated sludge
Read-across data.

Chronic aquatic toxicity

Chronic toxicity - fish early life stage LC_{50}, 28 days: > 1500 mg/l, Menidia peninsulae (Tidewater silverside)

Chronic toxicity - aquatic invertebrates EC_{50}, 21 days: > 100 mg/l, Daphnia magna

2-Ethylhexanoic Acid

Acute aquatic toxicity

Acute toxicity - fish LC_{50}, 96 hours: > 100 mg/l, Oryzias latipes (Red killifish)

Acute toxicity - aquatic invertebrates EC_{50}, 48 hours: 85.4 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC_{50}, 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

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)

Prestone HD Command (Concentrate)

Acute toxicity - aquatic invertebrates	LC_{50}, 48 hours: 30 - < 1000 mg/l, Daphnia magna
Acute toxicity - aquatic plants	Scientifically unjustified.
Acute toxicity - microorganisms	EC10, 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-benzotriazolide

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	ErC50, 72 hours: 75 mg/l, Pseudokirchneriella subcapitata EC10, 72 hours: 1.18 - 2.86 mg/l, Desmodesmus subspicatus EC_{50}, 72 hours: 52 mg/l, Skeletonema costatum EC10, 72 hours: 36 mg/l, Skeletonema costatum EC90, 72 hours: 83 mg/l, Skeletonema costatum NOEC, 72 hours: 30 mg/l, Skeletonema costatum EC10, 7 days: 2.11 mg/l, Lemna minor
Acute toxicity - microorganisms	EC_{50}, 3 hours: 1060 mg/l, Activated sludge EC10, 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 EC10, 21 days: 0.4 - 0.97 mg/l, Daphnia galeata

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
Acute toxicity - aquatic plants	IC_{50}, 72 hours: > 1000 mg/l, Algae

Denatonium Benzoate

Acute aquatic toxicity

Prestone HD Command (Concentrate)

Acute toxicity - fish	LC_{50}, 96 hours: > 100 mg/l, Brachydanio rerio (Zebra Fish)
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: > 500 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, 72 hours: 281.556 mg/l, Chlorella vulgaris
Acute toxicity - microorganisms	EC_{50}, 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-benzotriazolide

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

Ecological information on ingredients.

ETHANEDIOL

Partition coefficient	log Pow: -1.36 QSAR data.

Prestone HD Command (Concentrate)

SODIUM HYDROXIDE

Bioaccumulative potential No potential for bioaccumulation.

Partition coefficient No information required. REACH dossier information.

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

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-benzotriazolide

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 EU criteria.

2-Ethylhexanoic Acid

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

SODIUM HYDROXIDE

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

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

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

Denatonium Benzoate

Prestone HD Command (Concentrate)

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

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).

EU legislation 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).
Commission Regulation (EU) No 453/2010 of 20 May 2010.
Commission Regulation (EU) No 2015/830 of 28 May 2015.

Prestone HD Command (Concentrate)

Authorisations (Annex XIV Regulation 1907/2006)	No specific authorisations are known for this product.
Restrictions (Annex XVII Regulation 1907/2006)	No specific restrictions on use are known for this product.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE: Acute Toxicity Estimate.
BOD: Biochemical Oxygen Demand.
CAS: Chemical Abstracts Service.
DNEL: Derived No Effect Level.
EC_{50}: 50% of maximal Effective Concentration.
GHS: Globally Harmonized System.
IARC: International Agency for Research on Cancer.
IATA: International Air Transport Association.
ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
LC_{50}: Lethal Concentration to 50 % of a test population.
LD_{50}: Lethal Dose to 50% of a test population (Median Lethal Dose).
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
NOEC: No Observed Effect Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
PNEC: Predicted No Effect Concentration.
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
SVHC: Substances of Very High Concern.
UVCB - Unknown or variable composition, complex reaction products or Biological materials.
vPvB: Very Persistent and Very Bioaccumulative.

Classification procedures according to Regulation (EC) 1272/2008	Acute Tox. 4 - H302: Calculation method. STOT RE 2 - H373: Calculation method.
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Prestone HD Command (Concentrate)

Hazard statements in full

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.