

Created: 7 May 2021

SAFETY DATA SHEET

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

1.1 Product identifier

- Product Name: Injector Cleaner

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

- Use of the substance/mixture: Water based descaler, for use with calcium hypochlorite dosing systems
- Use advised against: No information available

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: Total Pool Chemicals Ltd
- Address of Supplier: Unit 1-5 , Pool Bank Business Park
High Street, Tarvin
Chester
UK
CH3 8JH
- Telephone: +44 (0)1829 740290
- Email: sales@totalpool.co.uk

1.4 Emergency telephone number

- +44 (0)1829 740290 (Office Hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Skin Irrit. 2, H315; Eye Irrit. 2, H319; Aquatic Chronic 3, H412
- Additional information: For full text of Hazard- and EU Hazard-statements: see section 16

2.2 Label elements



Signal Word: Warning

Hazard statements

- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

- P102 - Keep out of reach of children.
- P264 - Wash skin thoroughly after handling.
- P273 - Avoid release to the environment.
- 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.
- P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental Hazard information (EU)

Label requirements for the Detergents Regulation (EC 684/2004, 907/2006): Contains amongst other ingredients, phosphonates, cationic surfactants, amphoteric surfactants, disinfectants

Created: 7 May 2021

SECTION 2: Hazards identification (....)

(benzalkonium chloride, 2-bromo-2-nitropropane-1,3-diol)

2.3 Other hazards

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII
- Does not contain any substances with endocrine disrupting properties

SECTION 3: Composition/information on ingredients

3.1 Substances

- Not applicable

3.2 Mixtures

- Contains the following hazardous ingredients or ingredients with a workplace exposure limit:

Chemical Name	Conc.	CAS No.	EC No.	Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]	SCL/ M-Factor/ ATE	REACH Registration Number	WEL/ OEL
Sulphamic acid; sulphamic acid; sulfamic acid	10 - 30%	5329-14-6	226-218-8	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 3, H412	-	01-2119488633-28-XXXX	No
Benzyl-C12-14 -alkyldimethylammonium chlorides	< 1%	68424-85-1	939-350-2	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M factor (Acute) = 10 M factor (Chronic) = 1	01-2119970550-39-XXXX	No
Bronopol (INN); 2-bromo-2- nitropropane-1,3-diol	< 1%	52-51-7	200-143-0	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400	M = 10	-	No
Etidronic acid; (1-hydroxyethane-1, 1-diy)bis(phosphonic acid)	< 1%	2809-21-4	220-552-8	Met. Corr. 1, H290 Acute Tox. 4, H302 Eye Dam. 1, H318	-	01-2119510391-53-XXXX	No
Betaines, C12-14 (even numbered)-alkyldimethyl	< 1%	66455-29-6	931-700-2	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 3, H412	-	01-2119529251-48-XXXX	No

SECTION 4: First aid measures

Rescuers should put on approved personal protective equipment (PPE) before administering first aid

Rescuers should take suitable precautions to avoid becoming casualties themselves

4.1 Description of first aid measures

Contact with eyes

If substance has got into eyes, immediately wash out with plenty of water for several minutes
Irrigate eyes thoroughly whilst lifting eyelids
Remove contact lenses, if present and easy to do. Continue rinsing.
Get medical advice/attention.

Contact with skin

After contact with skin, take off immediately all contaminated clothing, and wash immediately with

Created: 7 May 2021

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

plenty of soap and water
Get medical advice/attention.
Contaminated clothing should be laundered before reuse

Ingestion

Rinse mouth with water (do not swallow)
Give plenty of water to drink
Do NOT induce vomiting.
Get immediate medical advice/attention.

Inhalation

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed**Contact with eyes**

Causes redness and irritation
In cases of severe exposure, effects may vary from irritation through to possible chemical burns on the conjunctiva

Contact with skin

Causes redness and irritation
In cases of severe exposure, effects may vary from irritation through to possible corrosive effects to the mucous membranes and skin

Ingestion

May cause irritation of the throat
May cause nausea/vomiting

Inhalation

May irritate the mucous membranes
May cause coughing and tightness of chest
In cases of severe exposure, inflammation and oedema of the larynx/bronchi may develop

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically
- Eyewash bottles should be available

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

- Suitable extinguishing media: In case of fire use water spray or fog, alcohol resistant foam, dry chemical or carbon dioxide
- Unsuitable extinguishing media: No information available

5.2 Special hazards arising from the substance or mixture

- Gives off irritating or toxic fumes (or gases) in a fire.
- Decomposition products may include oxides of nitrogen, sulphur and carbon
- Decomposition products may include ammonia

5.3 Advice for firefighters

- Keep container(s) exposed to fire cool, by spraying with water
- Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.

Created: 7 May 2021

SECTION 5: Firefighting measures (....)

- Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.

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

- No action shall be taken involving any personal risk or without suitable training
- Only trained and authorised personnel should carry out emergency response
- Personal precautions for non-emergency personnel: Do not touch or walk through spilt material; Do not breathe spray/mists; Avoid contact with skin and eyes; Wear protective clothing as per section 8; Wash thoroughly after handling.
- Personal precautions for emergency responders: Evacuate the area and keep personnel upwind; Wear self-contained breathing apparatus (SCBA); Wear chemical protection suit

6.2 Environmental precautions

- Avoid release to the environment.
- Do not allow to enter public sewers and watercourses
- If contamination of drainage systems or water courses is unavoidable, immediately inform appropriate authorities

6.3 Methods and material for containment and cleaning up

- Contain the spillage using bunding
- Cover drains to prevent the product from entering the environment.
- Absorb spillage in inert material and shovel up
- Place in appropriate container
- Seal containers and label them
- Remove contaminated material to safe location for subsequent disposal
- Seek expert advice for removal and disposal of all contaminated materials and wastes
- Flush spill area with copious amounts of water

6.4 Reference to other sections

- See section(s): 7, 8 & 13

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

- Use only in well ventilated areas
- Avoid formation of spray/mist/aerosols
- Avoid contact with skin and eyes
- Avoid breathing vapours or spray
- Wear protective clothing as per section 8
- Do not eat, drink or smoke when using this product.
- Use good personal hygiene practices
- Wash thoroughly after handling.
- Contaminated clothing should be laundered before reuse
- Ensure eyewash stations and safety showers are nearby

7.2 Conditions for safe storage, including any incompatibilities

- Keep in a cool, dry, well ventilated place
- Keep in an area equipped with impermeable flooring.
- Keep container tightly closed.
- Keep away from food, drink and animal feedingstuffs
- Incompatible with reducing agents
- Incompatible with alkalis (strong bases)

7.3 Specific end use(s)

Created: 7 May 2021

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

- Cleaning agent
-

SECTION 8: Exposure controls/personal protection
8.1 Control parameters

- If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace exposure - Measurement of exposure by inhalation to chemical agents - Strategy for testing compliance with occupational exposure limit values). European Standard EN 14042 (Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents). European Standard EN 482 (Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Sulphamidic acid

DNEL (inhalational) 70.5 mg/m³ Industry, Long Term, Systemic Effects
 DNEL (dermal) 10 mg/kg (bw/day) Industry, Long Term, Systemic Effects
 DNEL (inhalational) 17.4 mg/m³ Consumer, Long Term, Systemic Effects
 DNEL (dermal) 5 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 DNEL (oral) 5 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 PNEC aqua (freshwater) 1.8 mg/L
 PNEC aqua (intermittent releases, freshwater) 480 µg/L
 PNEC aqua (marine water) 180 µg/L
 PNEC (STP) 20 mg/L
 PNEC sediment (freshwater) 8.36 mg/kg
 PNEC sediment (marine water) 840 µg/kg
 PNEC terrestrial (soil) 5 mg/kg

Benzyl-C12-14-alkyldimethylammonium chlorides

DNEL (inhalational) 3.06 mg/m³ Industry, Long Term, Systemic Effects
 DNEL (dermal) 3.1 mg/kg (bw/day) Industry, Long Term, Systemic Effects
 DNEL (inhalational) 1.64 mg/m³ Consumer, Long Term, Systemic Effects
 DNEL (dermal) 3.4 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 DNEL (oral) 3.4 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 PNEC aqua (freshwater) 120 - 900 ng/L
 PNEC aqua (intermittent releases, freshwater) 160 ng/L
 PNEC aqua (marine water) 12 - 960 ng/L
 PNEC aqua (intermittent releases, marine water) 16 ng/L
 PNEC (STP) 160 - 400 µg/L
 PNEC sediment (freshwater) 12.27 - 31.9 mg/kg
 PNEC sediment (marine water) 3.19 - 13.09 mg/kg
 PNEC terrestrial (soil) 6.38 - 7 mg/kg

Bronopol (INN)

DNEL (inhalational) 3.5 mg/m³ Industry, Long Term, Systemic Effects
 DNEL (inhalational) 10.5 mg/m³ Industry, Acute/Short Term, Systemic Effects
 DNEL (inhalational) 2.5 mg/m³ Industry, Long Term, Local Effects
 DNEL (inhalational) 2.5 mg/m³ Industry, Acute/Short Term, Local Effects
 DNEL (dermal) 2 mg/kg (bw/day) Industry, Long Term, Systemic Effects
 DNEL (dermal) 6 mg/kg (bw/day) Industry, Acute/Short Term, Systemic Effects
 DNEL (dermal) 8 µg/cm² Industry, Long Term, Local Effects
 DNEL (dermal) 8 µg/cm² Industry, Acute/Short Term, Local Effects
 DNEL (inhalational) 600 µg/m³ Consumer, Long Term, Systemic Effects
 DNEL (inhalational) 1.8 mg/m³ Consumer, Acute/Short Term, Systemic Effects
 DNEL (inhalational) 600 µg/m³ Consumer, Long Term, Local Effects
 DNEL (inhalational) 600 µg/m³ Consumer, Acute/Short Term, Local Effects
 DNEL (dermal) 700 µg/kg (bw/day) Consumer, Long Term, Systemic Effects
 DNEL (dermal) 2.1 mg/kg (bw/day) Consumer, Acute/Short Term, Systemic Effects

Created: 7 May 2021

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

DNEL (dermal) 4 µg/cm² Consumer, Long Term, Local Effects
 DNEL (dermal) 4 µg/cm² Consumer, Acute/Short Term, Local Effects
 DNEL (oral) 180 µg/kg (bw/day) Consumer, Long Term, Systemic Effects
 DNEL (oral) 500 µg/kg (bw/day) Consumer, Acute/Short Term, Systemic Effects
 PNEC aqua (freshwater) 10 µg/L
 PNEC aqua (intermittent releases, freshwater) 2.5 µg/L
 PNEC aqua (marine water) 800 ng/L
 PNEC (STP) 430 µg/L
 PNEC sediment (freshwater) 41 µg/kg
 PNEC sediment (marine water) 3.28 µg/kg
 PNEC terrestrial (soil) 500 µg/kg

Etidronic acid

DNEL (inhalational) 12 mg/m³ Industry, Long Term, Systemic Effects
 DNEL (dermal) 34 mg/kg (bw/day) Industry, Long Term, Systemic Effects
 DNEL (inhalational) 2.95 mg/m³ Consumer, Long Term, Systemic Effects
 DNEL (dermal) 17 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 DNEL (oral) 1.7 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 DNEL (oral) 1.7 mg/kg (bw/day) Consumer, Acute/Short Term, Systemic Effects
 PNEC aqua (freshwater) 68 µg/L
 PNEC aqua (marine water) 6.8 µg/L
 PNEC (STP) 40 mg/L
 PNEC sediment (freshwater) 136 mg/kg
 PNEC sediment (marine water) 13.6 mg/kg
 PNEC terrestrial (soil) 10 mg/kg
 PNEC secondary poisoning (food) 3.7 mg/kg

Betaines, C12-14 (even numbered)-alkyldimethyl

DNEL (inhalational) 822 µg/m³ Industry, Long Term, Systemic Effects
 DNEL (inhalational) 3.53 mg/m³ Industry, Long Term, Local Effects
 DNEL (dermal) 233 µg/kg (bw/day) Industry, Long Term, Systemic Effects
 DNEL (dermal) 60 µg/cm² Industry, Long Term, Local Effects
 DNEL (inhalational) 145 µg/m³ Consumer, Long Term, Systemic Effects
 DNEL (inhalational) 870 µg/m³ Consumer, Long Term, Local Effects
 DNEL (dermal) 83.3 µg/kg (bw/day) Consumer, Long Term, Systemic Effects
 DNEL (dermal) 30 µg/cm² Consumer, Long Term, Local Effects
 DNEL (oral) 83.3 µg/kg (bw/day) Consumer, Long Term, Systemic Effects
 PNEC aqua (freshwater) 7.6 µg/L
 PNEC aqua (intermittent releases, freshwater) 17 µg/L
 PNEC aqua (marine water) 760 ng/L
 PNEC (STP) 2.7 mg/L
 PNEC sediment (freshwater) 27.9 µg/kg
 PNEC sediment (marine water) 2.79 µg/kg
 PNEC terrestrial (soil) 10 mg/kg

8.2 Exposure controls

- Selection and use of personal protective equipment should be based on a risk assessment of exposure potential
- Engineering controls
 - Ensure adequate ventilation
 - Engineering controls are not required for normal handling
- Respiratory protection
 - No respiratory protection is needed during normal handling
 - Respiratory protection may be required If the substance is heated or if aerosol generation is likely
 - See European standard EN 529 for further guidance on the selection, use, care and maintenance of respiratory protective devices
- Eye/face protection
 - Wear goggles giving complete eye protection approved to standard EN 166.
 - If risk of splashing, wear face-shield approved to standard EN 166 1B39N

Created: 7 May 2021

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

- Skin protection
 - Wear suitable clothing providing resistance to acids
 - Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
 - The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.
 - Nitrile rubber are recommended
 - Glove material: Nitrile rubber
 - Thickness: 0.11 mm
 - Breakthrough time: > 480 min
 - Reference: ECHA
- Thermal hazards
 - Not applicable
- Hygiene measures
 - Do not eat, drink or smoke when using this product.
 - Use good personal hygiene practices
 - Wash thoroughly after handling.
 - Contaminated work clothing should not be allowed out of the workplace.
 - Contaminated clothing should be laundered before reuse
 - Ensure eyewash stations and safety showers are nearby
- Environmental exposure controls
 - Do not empty into drains
 - Do not allow to penetrate the ground/soil.



SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Physical state: Liquid
- Colour: Green
- Odour: No information available
- Melting point/freezing point: 0 °C
- Boiling point or initial boiling point and boiling range: 100 °C
- Flammability: Not flammable; Does not support combustion
- Lower and upper explosion limit: Not applicable
- Flash point: Not applicable
- Auto-ignition temperature: No information available
- Decomposition temperature: Not applicable
- pH: 1.0 (note - the extreme pH has already been taken into account for classification and is due to the sulphamic acid)
- Kinematic viscosity: Not applicable
- Solubility: Completely soluble in water
- Partition coefficient n-octanol/water (log value): No information available
- Vapour pressure: No information available
- Density and/or relative density: 1.080
- Relative vapour density: No information available
- Particle characteristics: Not applicable

9.2 Other information

Created: 7 May 2021

SECTION 9: Physical and chemical properties (....)

- No information available
-

SECTION 10: Stability and reactivity

10.1 Reactivity

- No information available

10.2 Chemical stability

- Considered stable under normal conditions

10.3 Possibility of hazardous reactions

- Hazardous polymerisation will not occur under normal conditions of storage and use

10.4 Conditions to avoid

- Keep away from heat and sources of ignition

10.5 Incompatible materials

- Incompatible with alkalis (strong bases)
- Incompatible with reducing agents

10.6 Hazardous decomposition products

- Decomposition products may include oxides of nitrogen, sulphur and carbon
 - Decomposition products may include ammonia
-

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

- Acute Toxicity

Based on available data, the classification criteria are not met

Substances

Chemical Name	LD ₅₀ (oral, rat)	LC ₅₀ (inhalation, rat)	LD ₅₀ (dermal, rabbit)
Sulphamic acid	3 160 mg/kg	No data available	2 000 mg/kg (rat)
Benzyl-C12-14 -alkyldimethylammonium chlorides	344 - 795 mg/kg	(4 h) 220 - 280 mg/m ³	3 000 - 3 412.5 mg/kg
Bronopol (INN)	193 - 211 mg/kg	(4 h) 120 - 1 140 mg/m ³	2 000 mg/kg (rat)
Etidronic acid	1 878 mg/kg	No data available	5 000 mg/kg
Betaines, C12-14 (even numbered)-alkyldimethyl	2 640 - 8 800 mg/kg (mouse)	No data available	620 - 2 000 mg/kg (rat)

- Skin corrosion/irritation

Causes skin irritation.

Classification based on weight of evidence approach from publicly available studies

Substances

Chemical Name	Irritation/corrosion
Sulphamic acid	Adverse effect observed (irritating)

- Serious eye damage/irritation

Causes serious eye irritation.

Classification based on weight of evidence approach from publicly available studies

Created: 7 May 2021

SECTION 11: Toxicological information (....)

Substances

Chemical Name	Irritation/corrosion
Sulphamic acid	Adverse effect observed (irritating)

- Respiratory or skin sensitisation
Based on available data, the classification criteria are not met
- Germ cell mutagenicity
No evidence of mutagenic effects
- Carcinogenicity
No evidence of carcinogenic effects
- Reproductive toxicity
No evidence of reproductive effects

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Sulphamic acid	200 mg/kg bw/day (Effect on developmental toxicity)	No data available	No data available
Benzyl-C12-14 -alkyldimethylammonium chlorides	30.5 mg/kg bw/day (Effect on fertility) 100 mg/kg bw/day (Effect on developmental toxicity)	No data available	No data available
Bronopol (INN)	150 mg/kg bw/day (Effect on fertility) 10 mg/kg bw/day (Effect on developmental toxicity, rabbit)		
Etidronic acid	112 mg/kg bw/day (Effect on fertility) 112 mg/kg bw/day (Effect on developmental toxicity)	No data available	No data available
Betaines, C12-14 (even numbered)-alkyldimethyl	150 mg/kg bw/day (Effect on fertility) 1 000 mg/kg bw/day (Effect on developmental toxicity)	No data available	No data available

- Specific target organ toxicity (STOT) - single exposure
Based on available data, the classification criteria are not met
- Specific target organ toxicity (STOT) - repeated exposure
Based on available data, the classification criteria are not met

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Sulphamic acid	1 000 mg/kg bw/day	No data available	No data available
Benzyl-C12-14 -alkyldimethylammonium chlorides	62 - 77 mg/kg bw/day	No data available	20 mg/kg bw/day
Bronopol (INN)	7 mg/kg bw/day	No data available	5 mg/kg bw/day (rabbit)
Etidronic acid	34 mg/kg bw/day	No data available	No data available
Betaines, C12-14 (even numbered)-alkyldimethyl	10 - 500 mg/kg bw/day	No data available	No data available

- Aspiration hazard
Based on available data, the classification criteria are not met
- Contact with eyes
Causes redness and irritation
In cases of severe exposure, effects may vary from irritation through to possible chemical burns on the conjunctiva
- Contact with skin
Causes redness and irritation
In cases of severe exposure, effects may vary from irritation through to possible corrosive effects to the mucous membranes and skin
- Ingestion
May cause irritation of the throat

Created: 7 May 2021

SECTION 11: Toxicological information (....)

May cause nausea/vomiting

- Inhalation
 - May irritate the mucous membranes
 - May cause coughing and tightness of chest
 - In cases of severe exposure, inflammation and oedema of the larynx/bronchi may develop

11.2 Information on other hazards

- Does not contain any substances with endocrine disrupting properties

SECTION 12: Ecological information

12.1 Toxicity

- Harmful to aquatic life with long lasting effects.
- Classification based on calculation and concentration thresholds

Substances

Chemical Name	LC ₅₀ (fish)	EC ₅₀ (aquatic invertebrates)	EC ₅₀ (aquatic algae)
Sulphamidic acid	(4 days) 70.3 mg/L	(48 h) 71.6 mg/L	(72 h) 33.8 - 48 mg/L
Benzyl-C12-14 -alkyldimethylammonium chlorides	280 - 1 700 µg/L	(48 h) 16 µg/L	(72 h) 14 - 260 µg/L
Bronopol (INN)	(3.2 months) 35.7 mg/L	(48 h) 1.4 mg/L	(72 h) 250 - 370 µg/L
Etidronic acid	(4 days) 195 - 2 180 mg/L	(48 h) 527 - 1 770 mg/L	No data available
Betaines, C12-14 (even numbered)-alkyldimethyl	(4 days) 4.44 - 14.8 mg/L	(48 h) 7.76 mg/L	(72 h) 1.7 mg/L

12.2 Persistence and degradability

- The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents.

Substances

Chemical Name	Biodegradation
Sulphamidic acid	Inorganic. Under test conditions no biodegradation observed (100%)
Benzyl-C12-14 -alkyldimethylammonium chlorides	Readily biodegradable in freshwater (100%)
Bronopol (INN)	Readily biodegradable in water (100%)
Etidronic acid	Under test conditions no biodegradation observed (100%) Half-life in freshwater 10 days @ 12 °C Half-life in freshwater sediment 10 days @ 12 °C Half-life in soil 10 days @ 12 °C
Betaines, C12-14 (even numbered)-alkyldimethyl	Readily biodegradable (100%)

12.3 Bioaccumulative potential

- Low bioaccumulation potential

Substances

Chemical Name	Bioconcentration Factor (BCF)	Log Kow
Sulphamidic acid	Bioaccumulation is not expected	0 @ 20 °C
Benzyl-C12-14 -alkyldimethylammonium chlorides	67.62 L/kg	(Log Pow) -0.21 - 2.75
Bronopol (INN)	3.162 (calculated)	(Log Pow) -0.34 - 0.22 @ 24 °C and pH 5 - 9
Etidronic acid	No data available	(Log Pow) -3.5

Created: 7 May 2021

SECTION 12: Ecological information (....)

Betaines, C12-14 (even numbered)-alkyldimethyl	Significant bioaccumulation is not expected	(Log Pow) -0.4
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12.4 Mobility in soil

- Soluble in water
- May adsorb onto soils and sediments

Substances

Chemical Name	Adsorption/desorption
Sulphamic acid	The substance is inorganic and soluble in water. Thus, adsorption to organic matter is not expected.
Benzyl-C12-14 -alkyldimethylammonium chlorides	Koc 2 658 608
Bronopol (INN)	Koc 5 (dimensionless)
Etidronic acid	Koc 16 610 L/kg
Betaines, C12-14 (even numbered)-alkyldimethyl	Koc 0.7

12.5 Results of PBT and vPvB assessment

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

12.6 Endocrine disrupting properties

- No information available

12.7 Other adverse effects

- May cause adverse effects in the aquatic environment due to low pH

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Disposal should be in accordance with local, state or national legislation
- Do not discharge into drains or the environment, dispose to an authorised waste collection point
- This material and its container must be disposed of as hazardous waste
- Do not reuse empty containers without commercial cleaning or reconditioning

13.2 Classification

- The waste must be identified according to the List of Wastes (2000/532/EC)
- Hazardous Property Code(s): HP 4 Irritant; HP 14 Ecotoxic

SECTION 14: Transport information

Not classified as hazardous for transport

14.1 UN number or ID number

- UN No.: Not applicable

14.2 UN proper shipping name

- Proper Shipping Name: Not applicable

14.3 Transport hazard class(es)

- Hazard Class: Not applicable

14.4 Packing group

Created: 7 May 2021

SECTION 14: Transport information (....)

- Packing Group: Not applicable
- 14.5 Environmental hazards
- Not applicable
- 14.6 Special precautions for user
- Not applicable
- 14.7 Maritime transport in bulk according to IMO instruments
- Not applicable
- 14.8 Road/Rail (ADR/RID)
- Proper Shipping Name: Not applicable
 - ADR UN No.: Not applicable
 - ADR Hazard Class: Not applicable
 - ADR Packing Group: Not applicable
 - Tunnel Code: Not applicable
- 14.9 Sea (IMDG)
- Proper Shipping Name: Not applicable
 - IMDG UN No.: Not applicable
 - IMDG Hazard Class: Not applicable
 - IMDG Pack Group.: Not applicable
- 14.10 Air (ICAO/IATA)
- Proper Shipping Name: Not applicable
 - ICAO UN No.: Not applicable
 - ICAO Hazard Class: Not applicable
 - ICAO Packing Group: Not applicable

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- This safety data sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 (as amended by Regulation (EU) 2020/878) and UK REACH
 - The GB Classification, Labelling and Packaging Regulation (GB CLP) applies in Great Britain
 - Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe
 - Label requirements for the Detergents Regulation (EC 684/2004, 907/2006): Contains amongst other ingredients, phosphonates, cationic surfactants, amphoteric surfactants, disinfectants (benzalkonium chloride, 2-bromo-2-nitropropane-1,3-diol)
- 15.2 Chemical safety assessment
- No information available

SECTION 16: Other information

The statements made herein are based on our best present experience and are intended to describe product safety requirements. They should not therefore be considered as a warranty of specific properties.

Sources of data: Information from published literature and supplier safety data sheets

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

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SECTION 16: Other information (....)

- Skin Irrit. 2, H315: Classification based on weight of evidence approach from publicly available studies
- Eye Irrit. 2, H319: Classification based on weight of evidence approach from publicly available studies
- Aquatic Chronic 3, H412: Classification based on calculation and concentration thresholds

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

- H290: May be corrosive to metals
- H302: Harmful if swallowed
- H312: Harmful in contact with skin.
- H314: Causes severe skin burns and eye damage
- H315: Causes skin irritation.
- H318: Causes serious eye damage
- H319: Causes serious eye irritation.
- H332: Harmful if inhaled
- H335: May cause respiratory irritation
- H400: Very toxic to aquatic life
- H411: Toxic to aquatic life with long lasting effects
- H412: Harmful to aquatic life with long lasting effects

Acronyms

- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstracts Service
- DNEL: Derived No-Effect Level
- EC: European Community
- EC₅₀: Effective Concentration, 50%
- GHS: Globally Harmonised System
- LC₅₀: Lethal Concentration, 50%
- LD₅₀: Lethal Dose, 50%
- NOAEC: No observed adverse effect concentration
- NOAEL: No observed adverse effect level
- OEL: Occupational Exposure Limit
- PBT: Persistent, Bioaccumulative and Toxic
- PNEC: Predicted No-Effect Concentration
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- SCL: Specific Concentration Limit
- vPvB: very Persistent and very Bioaccumulative
- WEL: Workplace Exposure Limit

--- end of safety datasheet ---
