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

1.1 Product identifier

Trade name	:	UnoDent Unoguard
Unique Formula Identifier (UFI)	:	WS30-F062-600M-XKFX

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

Use of the Substance/Mixture	:	Disinfectants
Recommended restrictions on use	:	Restricted to professional users.

1.3 Details of the supplier of the safety data sheet

Producer	:	Schülke & Mayr GmbH Robert-Koch-Str. 2 22851 Norderstedt Germany Telephone: +49 (0)40/ 52100-0 Telefax: +49 (0)40/ 52100318 mail@schuelke.com www.schuelke.com
Supplier	:	Schülke & Mayr UK Ltd. Cygnet House 1, Jenkin Road Sheffield S9 1AT United Kingdom Telephone: +44 114 254 35 00 Telefax: +44 114 254 35 01 mail.uk@schulke.com
E-mail address of person responsible for the SDS/Contact person	:	Application Specialists +49 (0)40/ 521 00 666 AD@schuelke.com

1.4 Emergency telephone number

Emergency telephone number	:	Carechem 24 International:+44 1235 239670

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Skin corrosion, Sub-category 1B	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Long-term (chronic) aquatic hazard, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms :

Signal word : Danger

Hazard statements :
H314 Causes severe skin burns and eye damage.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P310 Immediately call a POISON CENTER/ doctor.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

pentapotassium bis(peroxymonosulphate) bis(sulphate)
(+)-tartaric acid
sodium dodecyl sulphate
Alcohols, C9-11-iso-, C10-rich, ethoxylated

Additional Labelling

EUH208 Contains dipotassium peroxodisulphate. May produce an allergic reaction.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
The product itself does not burn, but it is oxidising.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mixture with the following substances and non dangerous additives.

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
pentapotassium bis(peroxymonosulphate) bis(sulphate)	70693-62-8 274-778-7 - - - 01-2119485567-22-XXXX	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 30 - < 50
sodium benzoate	532-32-1 208-534-8 - - - 01-2119460683-35-XXXX	Eye Irrit. 2; H319	>= 10 - < 20
(+)-tartaric acid	87-69-4 201-766-0 - - - 01-2119537204-47-XXXX	Eye Dam. 1; H318	>= 10 - < 20
sodium dodecyl sulphate	151-21-3 205-788-1 - - - 01-2119489461-32-XXXX	Flam. Sol. 2; H228 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412	>= 3 - < 10
Alcohols, C9-11-iso-, C10-rich, ethoxylated	78330-20-8 - - - - - - - - - - - -	Acute Tox. 4; H302 Eye Dam. 1; H318	>= 3 - < 10
disodium dihydrogen (1-	7414-83-7	Acute Tox. 4; H302	>= 1 - < 10

hydroxyethylidene)bisphosphonate	231-025-7 - - - - - -		
sodium carbonate	497-19-8 207-838-8 011-005-00-2 01-2119485498-19-XXXX	Eye Irrit. 2; H319	>= 1 - < 10
dipotassium peroxodisulphate	7727-21-1 231-781-8 016-061-00-1 - - -	Ox. Sol. 3; H272 Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system)	>= 0.1 - < 1

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : If symptoms persist, call a physician.

If inhaled : Move the victim to fresh air and keep him calm.
If symptoms persist, call a physician.

In case of skin contact : Wash off immediately with plenty of water.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed : Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Treat symptomatically.

Risks : Causes serious eye damage.
Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Dry powder Foam Water spray jet Carbon dioxide (CO2)
Unsuitable extinguishing media	:	Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	:	The product itself does not burn, but it is oxidising.
Hazardous combustion products	:	Formation of oxygen and mildly acidic benzoic acid vapour. Carbon monoxide Carbon dioxide (CO2) Sulphur compounds

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Avoid dust formation.

6.2 Environmental precautions

Environmental precautions	:	Do not flush into surface water.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Use mechanical handling equipment.

6.4 Reference to other sections

see Section 8 + 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Avoid dust formation.
Advice on protection against fire and explosion	:	The product itself does not burn, but it is slightly oxidizing (active oxygen content ca. 2%). The product has been shown not to be oxidizing in a test following Directive 67/548/EEC (Method A17, Oxidizing properties).

Hygiene measures : Keep away from food and drink.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store at room temperature in the original container.

Further information on storage conditions : Keep container tightly closed. Store in a dry place. Do not store at temperatures above 30°C. Recommended storage temperature: 15 - 25°C

Advice on common storage : No materials to be especially mentioned.

7.3 Specific end use(s)

Specific use(s) : none

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health effects	Value
pentapotassium bis(peroxymonosulphate) bis(sulphate)	Workers	Inhalation	Long-term local effects	0.112 mg/m3
	Workers	Skin contact	Acute systemic effects	4 mg/kg bw/day
sodium benzoate	Workers	Inhalation	Long-term systemic effects	3 mg/m3
	Workers	Inhalation	Long-term local effects	0.1 mg/m3
	Workers	Dermal	Long-term systemic effects	62.5 mg/kg
(+)-tartaric acid	Workers	Skin contact	Long-term systemic effects	2.9 mg/kg
	Workers	Inhalation	Long-term systemic effects	5.2 mg/m3
sodium dodecyl sulphate	Workers	Skin contact	Long-term systemic effects	4060 mg/kg
	Workers	Inhalation	Long-term systemic effects	285 mg/m3
sodium sulphate	Workers	Inhalation	Long-term systemic effects	20 mg/m3
	Workers	Inhalation	Long-term local effects	20 mg/m3
sodium carbonate	Workers	Inhalation	Long-term local effects	10 mg/m3
dipotassium peroxodisulphate	Workers	Inhalation	Long-term local effects	0.824 mg/m3
	Workers	Skin contact	Long-term systemic effects	10.3 mg/kg bw/day

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
pentapotassium bis(peroxymonosulphate) bis(sulphate)	Fresh water	0.0222 mg/l
	Marine water	0.00222 mg/l
	Fresh water sediment	0.07992 mg/kg dry weight (d.w.)
	Marine sediment	0.007992 mg/kg dry weight (d.w.)
	Soil	0.002996 mg/kg dry weight (d.w.)
	Sewage treatment plant	1 mg/l
sodium benzoate	Fresh water	0.13 mg/l
	Intermittent use/release	0.305 mg/l
	Marine water	0.013 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	1.76 mg/kg
	Marine sediment	0.176 mg/kg
	Soil	0.276 mg/kg
(+)-tartaric acid	Fresh water	0.3125 mg/l
	Marine water	0.3125 mg/l
	Fresh water sediment	1.141 mg/kg
	Marine sediment	1.141 mg/kg
	Sewage treatment plant	10 mg/l
sodium dodecyl sulphate	Fresh water	0.137 mg/l
	Marine water	0.0137 mg/l
	Fresh water sediment	4.82 mg/kg
	Marine sediment	0.482 mg/kg
	Soil	0.882 mg/kg
	Intermittent use/release	0.055 mg/l
	Sewage treatment plant	135 mg/l
sodium sulphate	Fresh water	11.09 mg/l
	Marine water	1.109 mg/l
	Sewage treatment plant	800 mg/l
	Fresh water sediment	40 mg/kg dry weight (d.w.)
	Marine sediment	4.02 mg/kg dry weight (d.w.)
	Soil	1.54 mg/kg dry weight (d.w.)
dipotassium peroxodisulphate	Fresh water	0.518 mg/l
	Marine water	0.052 mg/l
	Fresh water sediment	2.03 mg/kg dry weight (d.w.)
	Marine sediment	0.203 mg/kg dry weight (d.w.)
	Soil	0.1 mg/kg dry weight (d.w.)
	Sewage treatment plant	3.6 mg/l
	Intermittent use/release	0.736 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection	:	Safety glasses with side-shields conforming to EN166
Hand protection		
Directive	:	The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
Remarks	:	Prolonged contact: Nitrile rubber gloves e.g. Camatril (>480 Min., layer thickness: 0,40 mm) or butyl rubber gloves e.g. Butoject (>480 Min., layer thickness: 0,70 mm) made by KCL or gloves from other manufacturers offering the same protection.
Skin and body protection	:	Work uniform or laboratory coat.
Respiratory protection	:	Breathing apparatus only if aerosol or dust is formed. Half mask with a particle filter P2 (EN 143)
Protective measures	:	Avoid contact with skin and eyes.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	solid, granular
Colour	:	white
Odour	:	odourized
Odour Threshold	:	not determined
pH	:	ca. 4 (20 °C) Concentration: 5 g/l in water
Melting point/freezing point	:	No data available
Decomposition temperature		No data available
Boiling point/boiling range	:	Not applicable
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Will not burn
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	Not applicable

Relative density	:	0.775 Reference substance: Water
Bulk density	:	700 - 850 kg/m³
Solubility(ies)		
Water solubility	:	ca. 200 g/l (20 °C)
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	Not applicable
Explosive properties	:	No data available
Oxidizing properties	:	The product has been shown not to be oxidizing in a test following Directive 67/548/EEC (Method A17, Oxidizing properties).

9.2 Other information

Metal corrosion rate	:	Not applicable
Particle size	:	not determined

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Slightly exothermic autodecomposition (> 130°C) if strongly heated

10.4 Conditions to avoid

Conditions to avoid	:	Protect from frost, heat and sunlight.

10.5 Incompatible materials

Materials to avoid	:	Do not mix with other products.

10.6 Hazardous decomposition products

Oxygen

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	LD50 (Rat): 2,430 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Acute oral toxicity	:	LD50 (Rat): 500 mg/kg Method: OECD Test Guideline 423
Acute inhalation toxicity	:	LC0 (Rat): > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Expert judgement
Acute dermal toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 402

sodium benzoate:

Acute oral toxicity	:	LD50 (Rat, male and female): 2,100 mg/kg
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg

(+)-tartaric acid:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 423
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402

sodium dodecyl sulphate:

Acute oral toxicity	:	LD50 (Rat): > 500 - < 2,000 mg/kg Method: OECD Test Guideline 401

Acute inhalation toxicity	:	Method: Expert judgement and weight of evidence determination. Assessment: The component/mixture is moderately toxic after short term inhalation.
Acute dermal toxicity	:	LD50: > 2,000 mg/kg Method: Expert judgement and weight of evidence determination.

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Acute oral toxicity	:	LD50 (Rat): 500 - 2,000 mg/kg Method: literature value Remarks: Harmful if swallowed.
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Acute oral toxicity	:	LD50 (Rat): 1,500 - 2,000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

sodium carbonate:

Acute oral toxicity	:	LD50 (Rat, male and female): 2,800 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): 2.3 mg/l Exposure time: 2 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg

dipotassium peroxodisulphate:

Acute oral toxicity	:	LD50 (Rat, male): 742 mg/kg Method: OECD Test Guideline 401 Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity	:	LC50 (Rat): > 5.1 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Expert judgement

Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity Remarks: Expert judgement

Skin corrosion/irritation

Causes severe burns.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Corrosive after 3 minutes to 1 hour of exposure
Remarks	:	Extremely corrosive and destructive to tissue.

sodium benzoate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

(+)-tartaric acid:

Remarks	:	May cause skin irritation in susceptible persons.

sodium dodecyl sulphate:

Method	:	OECD Test Guideline 404
Result	:	Skin irritation

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Species	:	Rabbit
Method	:	literature value
Result	:	No skin irritation

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

sodium carbonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

dipotassium peroxodisulphate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irreversible effects on the eye

sodium benzoate:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irritation to eyes, reversing within 21 days

(+)-tartaric acid:

Method	:	OECD Test Guideline 437
Result	:	Irreversible effects on the eye

sodium dodecyl sulphate:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irreversible effects on the eye

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irreversible effects on the eye

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	No eye irritation

sodium carbonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Eye irritation

dipotassium peroxodisulphate:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Test Type	:	Maximisation Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Did not cause sensitisation on laboratory animals.
Remarks	:	Based on available data, the classification criteria are not met.

sodium benzoate:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Result	:	Not a skin sensitizer.
Remarks	:	Based on data from similar materials

(+)-tartaric acid:

Remarks	:	No data available

sodium dodecyl sulphate:

Species	:	Guinea pig
Remarks	:	Did not cause sensitisation on laboratory animals.

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Remarks	:	No data available

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.

sodium carbonate:

Result	:	Not a skin sensitizer.

dipotassium peroxodisulphate:

Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	May cause sensitisation by skin contact.

Exposure routes	:	inhalation (dust/mist/fume)
Result	:	Respiratory sensitization

Germ cell mutagenicity

Not classified based on available information.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Genotoxicity in vitro	:	Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: Not mutagenic in Ames Test
Genotoxicity in vivo	:	Test Type: In vivo micronucleus test Species: Mouse (male and female) Application Route: Ingestion Method: OECD Test Guideline 474 Result: negative

sodium benzoate:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	:	Species: Rat (male) Cell type: Bone marrow Application Route: Oral Method: OECD Test Guideline 475 Result: negative

(+)-tartaric acid:

Genotoxicity in vitro	:	Test Type: Microbial mutagenesis assay (Ames test) Result: negative

sodium dodecyl sulphate:

Genotoxicity in vitro	:	Test Type: Microbial mutagenesis assay (Ames test) Method: OECD Test Guideline 471 Result: Non mutagenic
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse Method: OECD Test Guideline 474 Result: negative

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Genotoxicity in vitro	:	Remarks: No data available

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Genotoxicity in vitro	:	Remarks: No data available

sodium carbonate:

Genotoxicity in vitro	:	Test Type: Microbial mutagenesis assay (Ames test) Metabolic activation: with and without metabolic activation Result: negative

		Remarks: Based on data from similar materials
Germ cell mutagenicity- Assessment	:	Contains no ingredient listed as a mutagen

dipotassium peroxodisulphate:

Genotoxicity in vitro	:	Test Type: Microbial mutagenesis assay (Ames test) Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse Application Route: Intraperitoneal injection Result: negative Remarks: Based on data from similar materials

Carcinogenicity

Not classified based on available information.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Carcinogenicity - Assessment	:	Based on available data, the classification criteria are not met.

sodium benzoate:

Species	:	Rat, male and female
Application Route	:	Oral
NOAEL	:	> 1,000
Result	:	negative

(+)-tartaric acid:

Remarks	:	This information is not available.

sodium dodecyl sulphate:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Remarks	:	This information is not available.

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Remarks	:	This information is not available.

sodium carbonate:

Carcinogenicity - Assessment	:	No evidence of carcinogenicity in animal studies.

dipotassium peroxodisulphate:

Species	:	Mouse
Application Route	:	Dermal exposure
Exposure time	:	52 weeks

Method	:	OECD Test Guideline 451
Result	:	negative
Remarks	:	Based on data from similar materials

Reproductive toxicity

Not classified based on available information.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat General Toxicity Maternal: NOAEL: 250 mg/kg body weight Teratogenicity: NOAEL: >= 750 mg/kg body weight Method: OECD Test Guideline 414 Test Type: Embryo-foetal development Species: Rat General Toxicity Maternal: LOAEL: 750 mg/kg body weight Teratogenicity: LOAEL: > 750 mg/kg body weight Method: OECD Test Guideline 414
Reproductive toxicity - Assessment	:	Based on available data, the classification criteria are not met.

sodium benzoate:

Effects on fertility	:	General Toxicity - Parent: NOAEL: 500 mg/kg bw/day Remarks: Not classified due to data which are conclusive although insufficient for classification.
Effects on foetal development	:	General Toxicity Maternal: NOAEL: > 175 mg/kg bw/day Teratogenicity: NOAEL: > 175 mg/kg bw/day Developmental Toxicity: NOAEL: > 175 mg/kg bw/day Method: OECD Test Guideline 414 Result: No effects on fertility and early embryonic development were detected.

(+)-tartaric acid:

Effects on foetal development	:	Remarks: No data available
Reproductive toxicity - Assessment	:	No data available

sodium dodecyl sulphate:

Reproductive toxicity - Assessment	:	No toxicity to reproduction

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Effects on fertility	:	Remarks: No data available
Effects on foetal development	:	Remarks: No data available

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Reproductive toxicity - Assessment	:	No data available

sodium carbonate:

Effects on foetal development	:	Species: Rat Application Route: Oral General Toxicity Maternal: NOAEL: >= 245 mg/kg bw/day Teratogenicity: NOAEL: >= 245 mg/kg body weight Result: No effects on fertility and early embryonic development were detected.
Reproductive toxicity - Assessment	:	Contains no ingredient listed as toxic to reproduction

dipotassium peroxodisulphate:

Effects on fertility	:	Species: Rat Application Route: Ingestion Method: OECD Test Guideline 421 Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Species: Rat Application Route: Ingestion Method: OECD Test Guideline 421 Result: negative Remarks: Based on data from similar materials

STOT - single exposure

Not classified based on available information.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Remarks	:	No data available

sodium benzoate:

Remarks	:	No data available

(+)-tartaric acid:

Remarks	:	No data available

sodium dodecyl sulphate:

Assessment	:	May cause respiratory irritation.
Remarks	:	Expert judgement and weight of evidence determination.

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Remarks	:	No data available

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Remarks	:	No data available

sodium carbonate:

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

dipotassium peroxodisulphate:

Assessment	:	May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Remarks	:	No data available

sodium benzoate:

Remarks	:	No data available

(+)-tartaric acid:

Remarks	:	No data available

sodium dodecyl sulphate:

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Remarks	:	No data available

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Remarks	:	No data available

sodium carbonate:

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Species	:	Rat
LOAEL	:	600 mg/kg
Application Route	:	Oral
Exposure time	:	90-day
Method	:	OECD Test Guideline 408

sodium benzoate:

Species	:	Rat, male and female
NOAEL	:	1,000 mg/kg
Application Route	:	Oral

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Species	:	Rat
NOAEL	:	24 mg/kg
Exposure time	:	2 yr

dipotassium peroxodisulphate:

Species	:	Rat
NOAEL	:	1,000 mg/kg
LOAEL	:	3,000 mg/kg
Application Route	:	Ingestion
Exposure time	:	90-day
Method	:	OECD Test Guideline 408

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : No human information is available.

Components:

sodium carbonate:

Remarks : Dust contact with the eyes can lead to mechanical irritation.

SECTION 12: Ecological information

12.1 Toxicity

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 53 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3.5 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (microalgae)): > 1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 0.5

mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Ecotoxicology Assessment

Chronic aquatic toxicity	:	Harmful to aquatic life with long lasting effects.

sodium benzoate:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOEC: 10 mg/l Exposure time: 144 d Species: Danio rerio (zebra fish)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 51 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

(+)-tartaric acid:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia (water flea)): 93.3 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 3.125 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

sodium dodecyl sulphate:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 29 mg/l Exposure time: 96 h Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Ceriodaphnia dubia (water flea)): 5.55 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h NOEC (Desmodesmus subspicatus (green algae)): 30 mg/l Exposure time: 72 h
Toxicity to fish (Chronic toxicity)	:	NOEC: > 1 - 10 mg/l Species: Pimephales promelas (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.88 mg/l Exposure time: 7 d Species: Ceriodaphnia dubia (water flea)

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Toxicity to fish	:	(Leuciscus idus (Golden orfe)): > 100 mg/l Exposure time: 96 h Method: DIN 38412
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia (water flea)): > 100 mg/l Exposure time: 48 h Method: DIN 38412
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 96 h Method: DIN 38412

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 250 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 500 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	Remarks: No data available
Toxicity to fish (Chronic toxicity)	:	NOEC: 6.8 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout)

sodium carbonate:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 300 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna): 200 - 227 mg/l Exposure time: 48 h Test Type: semi-static test

Toxicity to algae/aquatic plants	:	Remarks: No data available

dipotassium peroxodisulphate:

Toxicity to fish	:	LC50 (Fish): 107.6 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 120 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	(algae): 320 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials (algae): 32 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	(Pseudomonas putida): 36 mg/l Exposure time: 18 h Remarks: Based on data from similar materials

12.2 Persistence and degradability

Product:

Biodegradability	:	Result: Readily biodegradable. Method: OECD 301D / EEC 84/449 C6

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Biodegradability	:	Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

sodium benzoate:

Biodegradability	:	Test Type: aerobic Result: Readily biodegradable. Biodegradation: 90 % Exposure time: 28 d Method: OECD Test Guideline 301B

(+)-tartaric acid:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 85 % Exposure time: 28 d Method: OECD Test Guideline 306

sodium dodecyl sulphate:

Biodegradability	:	Result: Readily biodegradable.

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: > 60 % Exposure time: 28 d Method: OECD Test Guideline 301B

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Biodegradability	:	Biodegradation: 50 % Method: OECD Test Guideline 302B

sodium carbonate:

Biodegradability	:	Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

dipotassium peroxodisulphate:

Biodegradability	:	Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Bioaccumulation	:	Remarks: No data available

sodium benzoate:

Bioaccumulation	:	Remarks: No bioaccumulation is to be expected (log Pow <= 4).
Partition coefficient: n-octanol/water	:	log Pow: 1.88

(+)-tartaric acid:

Bioaccumulation	:	Remarks: No bioaccumulation is to be expected (log Pow <= 4).
Partition coefficient: n-octanol/water	:	log Pow: -1.91 (20 °C)

sodium dodecyl sulphate:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely.

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Bioaccumulation	:	Remarks: None reasonably foreseeable.
Partition coefficient: n-octanol/water	:	Remarks: Not applicable

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Partition coefficient: n-octanol/water	:	log Pow: < -3.5 (20 °C)

sodium carbonate:

Bioaccumulation	:	Remarks: Does not bioaccumulate.

dipotassium peroxodisulphate:

Bioaccumulation	:	Remarks: Not applicable
Partition coefficient: n-octanol/water	:	Remarks: No data available

12.4 Mobility in soil

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Mobility	:	Remarks: No data available

sodium benzoate:

Mobility	:	Remarks: No data available

(+)-tartaric acid:

Mobility	:	Remarks: No data available

sodium dodecyl sulphate:

Mobility	:	Remarks: No data available

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Mobility	:	Remarks: Adsorbs on soil.

disodium dihydrogen (1-hydroxyethylidene)bisphosphonate:

Mobility	:	Remarks: No data available

sodium carbonate:

Mobility	:	Remarks: No data available

dipotassium peroxodisulphate:

Mobility	:	Remarks: No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment	:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product:

Endocrine disrupting potential	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Additional ecological information	:	No data is available on the product itself.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Additional ecological information	:	No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Can be incinerated or landfilled together with household waste in compliance with the regulations, and after consultation with the waste disposal services.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

ADR	:	UN 3260
IMDG	:	UN 3260
IATA	:	UN 3260

14.2 UN proper shipping name

ADR	:	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (pentapotassium bis(peroxymonosulphate) bis(sulphate))
IMDG	:	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (pentapotassium bis(peroxymonosulphate) bis(sulphate))
IATA	:	Corrosive solid, acidic, inorganic, n.o.s. (pentapotassium bis(peroxymonosulphate) bis(sulphate))

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADR	:	8	
IMDG	:	8	

IATA : 8

14.4 Packing group

ADR

Packing group	:	III
Classification Code	:	C2
Hazard Identification Number	:	80
Labels	:	8
Tunnel restriction code	:	(E)

IMDG

Packing group	:	III
Labels	:	8
EmS Code	:	F-A, S-B

IATA (Cargo)

Packing instruction (cargo aircraft)	:	864
Packing instruction (LQ)	:	Y845
Packing group	:	III
Labels	:	Corrosive

IATA (Passenger)

Packing instruction (passenger aircraft)	:	860
Packing instruction (LQ)	:	Y845
Packing group	:	III
Labels	:	Corrosive

14.5 Environmental hazards

ADR

Environmentally hazardous : no

IMDG

Marine pollutant : no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	:	Not applicable
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Brit-	:	Not applicable

ain)

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable

Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 4.58 %
according to Detergents Regulation EC 648/2004	:	5 - < 15%: Anionic surfactants < 5%: Phosphonates, Non-ionic surfactants, Soap Other constituents: Perfumes

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

The components of this product are reported in the following inventories:

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL. disodium dihydrogen (1-hydroxyethylidene)bisphosphonate
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this mixture.

SECTION 16: Other information

Full text of H-Statements

H228	:	Flammable solid.

H272	:	May intensify fire; oxidizer.
H302	:	Harmful if swallowed.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H332	:	Harmful if inhaled.
H334	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	:	May cause respiratory irritation.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Sol.	:	Flammable solids
Ox. Sol.	:	Oxidizing solids
Resp. Sens.	:	Respiratory sensitisation
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT SE	:	Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI -

Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Skin Corr. 1B	H314	Calculation method
Eye Dam. 1	H318	Calculation method
Aquatic Chronic 3	H412	Calculation method

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.