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

1.1 Product identifier

Trade name	:	perform® sterile concentrate PEROXY
Unique Formula Identifier (UFI)	:	HPF2-5063-700S-JE6Q

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)

Self-heating substances and mixtures, Category 1	H251: Self-heating: may catch fire.
Acute toxicity, Category 4	H302: Harmful if swallowed.
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 :

H251	Self-heating: may catch fire.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P261	Avoid breathing dust.
P273	Avoid release to the environment.
P280	Wear protective gloves/ 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:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate)
sodium (1-hydroxyethylidene)bisphosphonate
sodium dodecyl sulphate
(+)-tartaric acid

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.

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)
trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate)	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
sodium (1-hydroxyethylidene)bisphosphonate	- - - 701-238-4 - - - 01-2119510382-52-XXXX	Acute Tox. 4; H302	>= 1 - < 10
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5 500-241-6 - - -	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Chronic 3;	>= 2.5 - < 3

	- - -	H412 _____ specific concentration limit Eye Dam. 1; H318 > 10 % Eye Irrit. 2; H319 > 1 - < 10 %	
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	>= 2.5 - < 3
(+)-tartaric acid	87-69-4 201-766-0 - - - 01-2119537204-47-XXXX	Eye Dam. 1; H318	>= 1 - < 3
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 : Take off contaminated clothing and shoes immediately.

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.
If symptoms persist, call a physician.

In case of eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Obtain medical attention.

If swallowed	:	Do NOT induce vomiting. Rinse mouth with water. Give small amounts of water to drink. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Risks	:	Harmful if swallowed. 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

Hazardous combustion products	:	Oxygen Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.
Further information	:	Cool closed containers exposed to fire with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Avoid dust formation. Use personal protective equipment.

6.2 Environmental precautions

Environmental precautions	:	Avoid subsoil penetration. Do not flush into surface water or sanitary sewer system.

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 breathing dust.
Provide sufficient air exchange and/or exhaust in work rooms.
Wear personal protective equipment.

Advice on protection against fire and explosion : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures : Keep away from food and drink.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Electrical installations / working materials must comply with the technological safety standards. Do not store at temperatures above 30°C.

Further information on storage conditions : Keep container tightly closed. Keep in a dry place. Recommended storage temperature: 15 - 25°C Keep away from heat. Keep away from direct sunlight.

Advice on common storage : Do not store together with combustible substances.

7.3 Specific end use(s)

Specific use(s) : none

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate)	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
sodium (1-hydroxyethylidene)bisphosphonate	Workers	Skin contact	Long-term systemic effects	34 mg/kg
	Workers	Inhalation	Long-term systemic effects	12 mg/m3
sodium dodecyl sulphate	Workers	Skin contact	Long-term systemic effects	4060 mg/kg
	Workers	Inhalation	Long-term systemic effects	285 mg/m3
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	Workers	Inhalation	Long-term systemic effects	294 mg/m3
(+)-tartaric acid	Workers	Skin contact	Long-term systemic effects	2.9 mg/kg
	Workers	Inhalation	Long-term systemic effects	5.2 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
trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate)	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 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.)
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
sodium (1-hydroxyethyli-dene)bisphosphonate	Fresh water	0.068 mg/l
	Marine water	0.007 mg/l
	Fresh water sediment	136 mg/kg
	Marine sediment	13.6 mg/kg
	Soil	10 mg/kg
	Sewage treatment plant	40 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
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	Fresh water	0.074 mg/l
	Marine water	0.0074 mg/l
	Intermittent use/release	0.015 mg/l
	Sewage treatment plant	1.4 mg/l
	Soil	0.1 mg/kg
	Fresh water sediment	0.604 mg/kg
	Marine sediment	0.0604 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
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

Engineering measures

Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection : Safety glasses with side-shields conforming to EN166

Hand protection

Guideline : 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	:	powder
Colour	:	white
Odour	:	characteristic
Odour Threshold	:	not determined
pH	:	ca. 3.0 (20 °C) Concentration: 20 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	:	does not ignite Method: Flammability (solids) GLP: yes
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	> 150,000 mg/m3
Vapour pressure	:	No data available
Relative density	:	Not applicable
Bulk density	:	1,030 kg/m³
Solubility(ies)		
Water solubility	:	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	:	Not explosive Method: Regulation (EC) No. 440/2008, Annex, A.14 GLP: yes
Oxidizing properties	:	Oxidizing properties (solids) The substance or mixture is not classified as oxidizing.

9.2 Other information

Self-Accelerating decomposition temperature (SADT)	:	65 °C Method: UN-Test H.2 Packaging size (Mass): 50 kg GLP: yes
Self-heating substances	:	Critical temperature: > 60 °C(24 h) Method: UN Manual of Tests and Criteria: Test N.4 GLP: yes Self-heating: may catch fire.
Metal corrosion rate	:	Not applicable
Minimum ignition energy	:	> 1,000 mJ Method: DIN EN ISO 80079-20-2
Particle size	:	0.213 mm Method: ISO 13320
Self-ignition	:	Method: Regulation (EC) No. 440/2008, Annex, A.16 GLP: yes not auto-flammable

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	:	Stable under recommended storage conditions.

10.4 Conditions to avoid

Conditions to avoid	:	Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Flammable materials

10.6 Hazardous decomposition products

Oxygen

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity : Acute toxicity estimate: 857.49 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

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 : LC50 (Rat): > 12.2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

sodium (1-hydroxyethylidene)bisphosphonate:

Acute oral toxicity	:	LD50 (Rat): 940 mg/kg
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg Method: OECD Test Guideline 402

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

Acute oral toxicity	:	LD50 (Rat): > 300 - 2,000 mg/kg
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	LD50: > 5,000 mg/kg Method: literature value

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.

(+)-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

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:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

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

sodium (1-hydroxyethylidene)bisphosphonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Remarks	:	Based on available data, the classification criteria are not met.

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

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

sodium dodecyl sulphate:

Method	:	OECD Test Guideline 404
Result	:	Skin irritation

(+)-tartaric acid:

Remarks	:	May cause skin irritation in susceptible persons.

dipotassium peroxodisulphate:

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

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

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

sodium (1-hydroxyethylidene)bisphosphonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Remarks	:	Based on available data, the classification criteria are not met.

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

Species	:	Rabbit
Method	:	Draize Test
Result	:	Irreversible effects on the eye

sodium dodecyl sulphate:

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

(+)-tartaric acid:

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

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:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

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
Method	:	OECD Test Guideline 429
Result	:	Not a skin sensitizer.
Remarks	:	Based on data from similar materials

sodium (1-hydroxyethylidene)bisphosphonate:

Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Remarks	:	Based on available data, the classification criteria are not met.

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	Did not cause sensitisation on laboratory animals.

sodium dodecyl sulphate:

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

(+)-tartaric acid:

Remarks	:	No data available

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:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

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

sodium (1-hydroxyethylidene)bisphosphonate:

Germ cell mutagenicity- Assessment : Based on available data, the classification criteria are not met.

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
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

(+)-tartaric acid:

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

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:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

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

sodium (1-hydroxyethylidene)bisphosphonate:

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

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

Remarks	:	This information is not available.

sodium dodecyl sulphate:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

(+)-tartaric acid:

Remarks	:	This information is not available.

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:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

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.

sodium (1-hydroxyethylidene)bisphosphonate:

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

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

Effects on fertility : Remarks: Animal testing did not show any effects on fertility.

Effects on foetal development : Remarks: No effects on fertility and early embryonic development were detected.

sodium dodecyl sulphate:

Reproductive toxicity - Assessment : No toxicity to reproduction

(+)-tartaric acid:

Effects on foetal development : Remarks: No data available

Reproductive toxicity - Assessment : No data available

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:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

Remarks : No data available

sodium benzoate:

Remarks : No data available

sodium (1-hydroxyethylidene)bisphosphonate:

Remarks : No data available

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

Remarks : No data available

sodium dodecyl sulphate:

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

(+)-tartaric acid:

Remarks : No data available

dipotassium peroxodisulphate:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Components:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

Remarks : No data available

sodium benzoate:

Remarks : No data available

sodium (1-hydroxyethylidene)bisphosphonate:

Remarks : No data available

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

Remarks : No data available

sodium dodecyl sulphate:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

(+)-tartaric acid:

Remarks : No data available

Repeated dose toxicity

Components:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

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

sodium (1-hydroxyethylidene)bisphosphonate:

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

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

Species	:	Rat
NOAEL	:	50 mg/kg
Application Route	:	Oral
Exposure time	:	2 yr
Target Organs	:	Heart, Liver, Kidney

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 data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

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

sodium (1-hydroxyethylidene)bisphosphonate:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 195 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 527 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	Remarks: No data available
Toxicity to fish (Chronic toxicity)	:	LC50: 60 mg/l Exposure time: 14 d Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 204

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 2.5 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1.5 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): 2.5 mg/l Exposure time: 72 h EC10 (Desmodesmus subspicatus (green algae)): 1.33 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOEC: 1.73 mg/l Method: QSAR
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.218 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

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)

(+)-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

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 : Remarks: No data available

Components:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

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

sodium benzoate:

Biodegradability : Test Type: aerobic
Concentration: 50 mg/l
Result: Readily biodegradable.
Biodegradation: 94 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

sodium (1-hydroxyethylidene)bisphosphonate:

Biodegradability : Result: Not readily biodegradable.

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

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

sodium dodecyl sulphate:

Biodegradability : Result: Readily biodegradable.

(+)-tartaric acid:

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

dipotassium peroxodisulphate:

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

12.3 Bioaccumulative potential

Components:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

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

sodium (1-hydroxyethylidene)bisphosphonate:

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

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

Bioaccumulation : Remarks: None reasonably foreseeable.

Partition coefficient: n-octanol/water : Remarks: Not applicable

sodium dodecyl sulphate:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

(+)-tartaric acid:

Bioaccumulation : Remarks: No bioaccumulation is to be expected (log Pow <= 4).

Partition coefficient: n-octanol/water : log Pow: -1.91 (20 °C)

dipotassium peroxodisulphate:

Bioaccumulation : Remarks: Not applicable

Partition coefficient: n-octanol/water : Remarks: No data available

12.4 Mobility in soil

Components:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

Mobility : Remarks: No data available

sodium benzoate:

Mobility : Remarks: No data available

sodium (1-hydroxyethylidene)bisphosphonate:

Mobility : Remarks: No data available

Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched:

Mobility : Remarks: No data available

sodium dodecyl sulphate:

Mobility : Remarks: No data available

(+)-tartaric acid:

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 : This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f) at levels of 0.1% or higher.

Components:

trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate):

Additional ecological information : No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not dispose of with domestic refuse.
Dispose of as hazardous waste in compliance with local and national regulations.

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 3192

IMDG : UN 3192

IATA : UN 3192

14.2 UN proper shipping name

ADR : SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S.

(trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate))

IMDG : SELF-HEATING SOLID, CORROSIVE, INORGANIC, N.O.S. (trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate))

IATA : Self-heating solid, corrosive, inorganic, n.o.s. (trihydrogen pentapotassium di(peroxomonosulfate) di(sulfate))

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADR	:	4.2	8
IMDG	:	4.2	8
IATA	:	4.2	8

14.4 Packing group

ADR

Packing group	:	II
Classification Code	:	SC4
Hazard Identification Number	:	48
Labels	:	4.2 (8)
Tunnel restriction code	:	(D/E)

IMDG

Packing group	:	II
Labels	:	4.2 (8)
EmS Code	:	F-A, S-J

IATA (Cargo)

Packing instruction (cargo aircraft)	:	470
Packing group	:	II
Labels	:	Substance liable to spontaneous combustion, Corrosive

IATA (Passenger)

Packing instruction (passenger aircraft)	:	466
Packing group	:	II
Labels	:	Substance liable to spontaneous combustion, 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 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 Britain)	:	Not applicable
Regulation (EU) No 2024/590 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 and livestock rearing emissions (integrated pollution prevention and control) Not applicable
according to Detergents Regulation EC 648/2004	:	< 5%: Phosphonates, Anionic surfactants, Non-ionic surfactants

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	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. sodium (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	:	Not in compliance with the inventory
IECSC	:	Not 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 Harmonised 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 Organisation; ISHL

- Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; 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 - Organisation 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:**
Self-heat. 1	H251	Based on product data or assessment
Acute Tox. 4	H302	Calculation method
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.