

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

CAROAT®



Version	Revision Date:	SDS Number:	Date of last issue: 18.12.2018
4.1	10.01.2020	600000000017	Date of first issue: 22.03.2016

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

1.1 Product identifier

Trade name : CAROAT®

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

Use of the Sub-
stance/Mixture : Oxidizing agents

1.3 Details of the supplier of the safety data sheet

Company : United Initiators GmbH
Dr.-Gustav-Adolph-Str. 3
82049 Pullach

Telephone : +49 / 89 / 74422 – 0

E-mail address of person
responsible for the SDS : contact@united-in.com

1.4 Emergency telephone number

+49 / 89 / 74422 – 0 (24 h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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)

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- Hazard pictograms :
- Signal word : Danger
- Hazard statements : H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H412 Harmful to aquatic life with long lasting effects.
- Precautionary statements : **Prevention:**
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P262 Do not get in eyes, on skin, or on clothing.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- Response:**
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P315 Get immediate medical advice/ attention.
- 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) (CAS-No. 70693-62-8)
Dipotassium peroxodisulphate (CAS-No. 7727-21-1)

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

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Chemical nature : crystalline
Solid

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- 0001	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412	< 100
Dipotassium peroxodisulphate	7727-21-1 231-781-8 016-061-00-1 01-2119495676-19- 0000	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	< 3

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
Symptoms of poisoning may appear several hours later.
Call a physician immediately.
- Protection of first-aiders : First Aid responders should pay attention to self-protection
and use the recommended protective clothing
- If inhaled : If unconscious, place in recovery position and seek medical
advice.
If symptoms persist, call a physician.
If breathed in, move person into fresh air.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water
for at least 15 minutes while removing contaminated clothing
and shoes.
Wash contaminated clothing before re-use.
If on skin, rinse well with water.
If on clothes, remove clothes.
If symptoms persist, call a physician.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tis-

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sue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Call a physician immediately.
Rinse mouth thoroughly with water.

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 : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Hazardous decomposition products may be formed under fire conditions (see section 10).

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

Specific extinguishing methods : Do not use a solid water stream as it may scatter and spread fire.
Remove undamaged containers from fire area if it is safe to do so.
Use water spray to cool unopened containers.

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Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
Follow safe handling advice and personal protective equipment recommendations.
Treat recovered material as described in the section "Disposal considerations".

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Clear spills immediately.
To clean the floor and all objects contaminated by this material, use plenty of water.
Soak up with inert absorbent material.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Advice on safe handling : Do not swallow.
Do not breathe vapours/dust.

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Avoid contact with skin and eyes.
Provide sufficient air exchange and/or exhaust in work rooms.
Smoking, eating and drinking should be prohibited in the application area.
Wash thoroughly after handling.
For personal protection see section 8.

Advice on protection against fire and explosion : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.

Hygiene measures : Keep away from food and drink. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product.

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. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with the particular national regulations.

Recommended storage temperature : < 30 °C

Further information on storage stability : For quality reasons

No decomposition if stored normally.

7.3 Specific end use(s)

Specific use(s) : For further information, refer to the product technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
magnesium carbonate	546-93-0	TWA (inhalable dust)	10 mg/m ³	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any			

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	<p>kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used</p>				
	<table border="1"> <tr> <td data-bbox="491 1003 671 1064"></td> <td data-bbox="671 1003 911 1064">TWA (Respirable dust)</td> <td data-bbox="911 1003 1251 1064">4 mg/m3</td> <td data-bbox="1251 1003 1450 1064">GB EH40</td> </tr> </table>		TWA (Respirable dust)	4 mg/m3	GB EH40
	TWA (Respirable dust)	4 mg/m3	GB EH40		
Further information	<p>For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used</p>				

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
pentapotassium bis(peroxymonosulphate) bis(sulphate)	Workers	Inhalation	Long-term systemic effects	0.28 mg/m3
	Workers	Inhalation	Acute systemic effects	50 mg/m3
	Workers	Inhalation	Long-term local ef-	0.28 mg/m3

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			fects	
	Workers	Inhalation	Acute local effects	50 mg/m ³
	Workers	Skin contact	Long-term systemic effects	20 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	80 mg/kg bw/day
	Workers	Skin contact	Acute local effects	0.449 mg/cm ²
Dipotassium peroxodisulphate	Workers	Inhalation	Long-term systemic effects	2.06 mg/m ³
	Workers	Inhalation	Acute systemic effects	590 mg/m ³
	Workers	Inhalation	Long-term local effects	2.06 mg/m ³
	Workers	Skin contact	Long-term systemic effects	18.2 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	400 mg/kg bw/day
	Workers	Skin contact	Long-term local effects	0.102 mg/cm ²
	Workers	Skin contact	Acute local effects	2.248 mg/cm ²
	Consumers	Inhalation	Long-term systemic effects	1.03 mg/m ³
	Consumers	Inhalation	Acute systemic effects	295 mg/m ³
	Consumers	Inhalation	Long-term local effects	1.03 mg/m ³
	Consumers	Inhalation	Acute local effects	295 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	9.1 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	200 mg/kg bw/day
	Consumers	Skin contact	Long-term local effects	0.051 mg/cm ²
	Consumers	Skin contact	Acute local effects	1.124 mg/cm ²
	Consumers	Ingestion	Long-term systemic effects	9.1 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	30 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
pentapotassium bis(peroxymonosulphate) bis(sulphate)	Fresh water	0.022 mg/l
	Marine water	0.00222 mg/l
	Intermittent use/release	0.0109 mg/l
	Sewage treatment plant	108 mg/l
	Fresh water sediment	0.017 mg/kg
	Marine sediment	0.00173 mg/kg
	Soil	0.885 mg/kg

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Dipotassium peroxodisulphate	Fresh water	0.0763 mg/l
	Marine water	0.011 mg/l
	Intermittent use/release	0.763 mg/l
	Sewage treatment plant	3.6 mg/l
	Fresh water sediment	0.275 mg/kg
	Marine sediment	0.0396 mg/kg
	Soil	0.015 mg/kg

8.2 Exposure controls

Engineering measures

Minimize workplace exposure concentrations.

Personal protective equipment

Eye protection : Tightly fitting safety goggles
Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.
Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection

Material : butyl-rubber
Break through time : \geq 480 min
Glove thickness : 0.5 mm

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

Filter type : Filter type P

In the case of dust or aerosol formation use respirator with an approved filter.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : solid

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Colour	:	white
Odour	:	odourless
Odour Threshold	:	No data available
pH	:	2.3 Concentration: 10 g/l
Melting point/range	:	Decomposition: Decomposes below the melting point.
Boiling point/boiling range	:	Not applicable
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	< 0.001 hPa (25 °C)
Density	:	ca. 2.35 g/cm ³ (20 °C)
Bulk density	:	ca. 1,100 kg/m ³
Solubility(ies) Water solubility	:	ca. 300 g/l soluble (20 °C)
Partition coefficient: n-octanol/water	:	Not applicable
Viscosity Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	No oxidising effect.

9.2 Other information

Self-Accelerating decomposition temperature (SADT)	:	> 80 °C Method: UN-Test H.4 SADT-Self Accelerating Decomposition Temperature. Lowest
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temperature at which the tested package size will undergo a self-accelerating decomposition reaction.

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Even small amounts of moisture or impurities can noticeably reduce the self-accelerating decomposition temperature (SADT).
Avoid moisture.

10.4 Conditions to avoid

Conditions to avoid : No data available

10.5 Incompatible materials

Materials to avoid : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents
Avoid impurities (e.g. rust, dust, ash), risk of decomposition.

10.6 Hazardous decomposition products

Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Harmful if swallowed.

Product:

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

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Remarks: Expert judgement

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402

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

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.
Remarks: Based on test data

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.

Product:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Causes burns.

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Remarks : Extremely corrosive and destructive to tissue.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Species : Rabbit
Method : OECD Test Guideline 404
Result : Causes burns.

Dipotassium peroxodisulphate:

Result : Skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Risk of serious damage to eyes.

Remarks : May cause irreversible eye damage.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Species : Rabbit
Method : OECD Test Guideline 405
Result : Risk of serious damage to eyes.

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.

Product:

Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406

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Result : Did not cause sensitisation on laboratory animals.

Exposure routes : Inhalation

Result : Does not cause respiratory sensitisation.

Remarks : Expert judgement

Assessment : Did not cause sensitisation on laboratory animals.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Exposure routes : Skin contact

Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitisation.

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 : May cause sensitisation by inhalation.

Germ cell mutagenicity

Not classified based on available information.

Product:

Genotoxicity in vitro : Method: OECD Test Guideline 473
Result: positive

Method: OECD Test Guideline 476
Result: positive

Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Genotoxicity in vitro : Method: OECD Test Guideline 473
Result: positive

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Method: OECD Test Guideline 476
Result: positive

Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Dipotassium peroxodisulphate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on data from similar materials

Carcinogenicity

Not classified based on available information.

Product:

Remarks : This information is not available.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Remarks : This information is not available.

Dipotassium peroxodisulphate:

Species : Mouse
Application Route : Skin contact
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.

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Product:

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

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.

Product:

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

Components:

Dipotassium peroxodisulphate:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Product:

Species : Rat, male and female
LOAEL : > 1,000 mg/kg
Application Route : Oral
Exposure time : 28 d
Method : OECD Test Guideline 407
Remarks : Subacute toxicity

Species : Rat, male and female
LOAEL : 600 mg/kg
Application Route : Oral
Exposure time : 90 d
Method : OECD Test Guideline 408
Remarks : Subchronic toxicity

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Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Species : Rat, male and female
LOAEL : > 1,000 mg/kg
Application Route : Oral
Exposure time : 28 d
Method : OECD Test Guideline 407
Remarks : Subacute toxicity

Species : Rat, male and female
LOAEL : 600 mg/kg
Application Route : Oral
Exposure time : 90 d
Method : OECD Test Guideline 408
Remarks : Subchronic toxicity

Dipotassium peroxodisulphate:

Species : Rat
NOAEL : 1,000 mg/kg
LOAEL : 3,000 mg/kg
Application Route : Ingestion
Exposure time : 90 d
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

Product:

Toxicity to fish : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.5 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 3.5 mg/l
aquatic invertebrates : Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1

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

Toxicity to fish (Chronic toxicity) : NOEC: 0.5 mg/l
Exposure time: 37 d

Toxicity to microorganisms : EC50 (Bacteria): 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Ecotoxicology Assessment

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

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 : EC50 (Pseudokirchneriella subcapitata (green algae)): > 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.

Dipotassium peroxodisulphate:

Toxicity to fish : LC50 (Scophthalmus maximus (turbot)): 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

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Toxicity to algae : EC50 (Phaeodactylum): 320 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOEC (Phaeodactylum): 32 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC10 (Pseudomonas putida): 36 mg/l
Exposure time: 18 h
Remarks: Based on data from similar materials

12.2 Persistence and degradability

Product:

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

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

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

12.3 Bioaccumulative potential

Components:

Dipotassium peroxodisulphate:

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

12.4 Mobility in soil

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:

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Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.
Harmful to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Dispose of wastes in an approved waste disposal facility.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Dispose of in accordance with local regulations.

SECTION 14: Transport information

14.1 UN number

ADN : UN 3260
ADR : UN 3260
RID : UN 3260
IMDG : UN 3260
IATA : UN 3260

14.2 UN proper shipping name

ADN : CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
(Potassium Monopersulfate)
ADR : CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
(Potassium Monopersulfate)
RID : CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
(Potassium Monopersulfate)
IMDG : CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
(Potassium Monopersulfate)
IATA : Corrosive solid, acidic, inorganic, n.o.s.
(Potassium Monopersulfate)

14.3 Transport hazard class(es)

ADN : 8

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ADR	:	8
RID	:	8
IMDG	:	8
IATA	:	8

14.4 Packing group

ADN

Packing group	:	II
Classification Code	:	C2
Hazard Identification Number	:	80
Labels	:	8

ADR

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

RID

Packing group	:	II
Classification Code	:	C2
Hazard Identification Number	:	80
Labels	:	8

IMDG

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

IATA (Cargo)

Packing instruction (cargo aircraft)	:	863
Packing instruction (LQ)	:	Y844
Packing group	:	II
Labels	:	Corrosive

IATA (Passenger)

Packing instruction (passenger aircraft)	:	859
Packing instruction (LQ)	:	Y844
Packing group	:	II
Labels	:	Corrosive

14.5 Environmental hazards

ADN

Environmentally hazardous	:	no
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ADR

Environmentally hazardous	:	no
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RID

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Not applicable

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

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DSL (CA)	:	All components of this product are on the Canadian DSL
AICS (AU)	:	On the inventory, or in compliance with the inventory
ENCS (JP)	:	On the inventory, or in compliance with the inventory
ISHL (JP)	:	On the inventory, or in compliance with the inventory
KECI (KR)	:	On the inventory, or in compliance with the inventory
PICCS (PH)	:	On the inventory, or in compliance with the inventory
IECSC (CN)	:	On the inventory, or in compliance with the inventory
TCSI (TW)	:	On the inventory, or in compliance with the inventory
TSCA (US)	:	On TSCA Inventory

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.
For further information see eSDS.

SECTION 16: Other information

Full text of H-Statements

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.
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
Ox. Sol.	:	Oxidizing solids
Resp. Sens.	:	Respiratory sensitisation
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation

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STOT SE : Specific target organ toxicity - single exposure
GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; 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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information : This safety datasheet only contains information relating to safety and does not replace any product information or product specification.
These safety instructions also apply to empty packaging which may still contain product residues.

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

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Classification of the mixture:

Acute Tox. 4	H302
Skin Corr. 1B	H314
Eye Dam. 1	H318
Aquatic Chronic 3	H412

Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment

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.

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