

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

## VIRKON S TABLETS

Version 3.0      Revision Date: 29.01.2021      SDS Number: 103000008500      Date of last issue: 14.06.2018  
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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : VIRKON S TABLETS  
Product code : 57804688

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

Use of the Sub-stance/Mixture : Disinfectants

#### 1.3 Details of the supplier of the safety data sheet

Supplier : Antec International Limited  
Windham Road  
Chilton Industrial Estate  
CO10 2XD Sudbury / Suffolk, United Kingdom  
Telephone : +4922188852288  
E-mail address of person responsible for the SDS : infosds@lanxess.com

#### 1.4 Emergency telephone number

0870 190 6777. National Chemical Emergency Centre

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### SECTION 2: Hazards identification


#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2	H315: Causes skin irritation.
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)

Hazard pictograms	: 
Signal word	: Danger
Hazard statements	: H315 Causes skin irritation.

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H318 Causes serious eye damage.  
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

**Prevention:**  
P264 Wash skin thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**  
P302 + P352 IF ON SKIN: Wash with plenty of water.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.

**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)  
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts  
potassium hydrogensulphate  
dipotassium disulphate

### 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

#### 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	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 30 - < 50

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malic acid	6915-15-7 230-022-8	Eye Irrit. 2; H319	>= 20 - < 30
sulphamidic acid	5329-14-6 226-218-8 016-026-00-0	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Chronic 3; H412	>= 2.5 - < 10
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts	68411-30-3 270-115-0	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 3 - < 10
potassium hydrogensulphate	7646-93-7 231-594-1 016-056-00-4	Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335; Respiratory system	>= 1 - < 3
dipotassium disulphate	7790-62-7 232-216-8	Acute Tox. 3; H331 Skin Corr. 1A; H314 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 : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.
- If inhaled : If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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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.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.

### 4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes skin irritation.  
Causes serious eye damage.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : In case of fire, use water spray (fog), foam or dry chemical.

Unsuitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)  
High volume water jet

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Sulphur oxides  
Metal oxides  
Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide  
Nitrogen oxides (NO<sub>x</sub>)  
Halogenated compounds

### 5.3 Advice for firefighters

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

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.

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tions / working materials must comply with the technological safety standards.

Advice on common storage : Keep away from alkalis.

Further information on storage stability : Keep in a dry place. No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Specific use(s) : No data available

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Engineering measures

If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### Personal protective equipment

Eye protection : Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Hand protection  
Material : Butyl rubber - IIR  
Wearing time : < 60 min

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations

Skin and body protection : Wear suitable protective clothing.

Dust impervious protective suit  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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

Filter type : Recommended Filter type:

ABEK-P2-filter

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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Appearance	:	tablet
Colour	:	pink
Odour	:	odourless
Odour Threshold	:	No data available
pH	:	2.6 - 3.2 Concentration: 10 %
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Solubility(ies) Water solubility	:	65 g/l
Partition coefficient: n- octanol/water	:	No data available
Ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

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Method: Regulation (EC) No. 440/2008, Annex, A.17

### 9.2 Other information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.  
Stable under recommended storage conditions.

Dust may form explosive mixture in air.

### 10.4 Conditions to avoid

Conditions to avoid : Exposure to moisture

### 10.5 Incompatible materials

Materials to avoid : Combustible substances  
Strong bases

### 10.6 Hazardous decomposition products

Hazardous decomposition products : Chlorine  
Sulphur oxides  
Hypochlorites

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Not classified based on available information.

#### Product:

Acute oral toxicity : LD50 (Rat, male and female): 4,123 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 3.7 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

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Remarks: the particle size measurements of the product indicate that it is not respirable and therefore not bioavailable by the inhalation route.

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Remarks: Extrapolation according to Regulation (EC) No. 440/2008

### **Components:**

#### **pentapotassium bis(peroxymonosulphate) bis(sulphate):**

Acute oral toxicity : LD50 (Rat, male and female): 500 mg/kg  
Method: OECD Test Guideline 423

Acute inhalation toxicity : LC0 (Rat, male): > 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: Highest producible concentration.

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Extrapolation according to Regulation (EC) No. 440/2008

#### **malic acid:**

Acute oral toxicity : LD50 (Rat, male and female): 3,500 mg/kg  
Method: OECD Test Guideline 401  
GLP: no

Acute inhalation toxicity : LC0 (Rat, male and female): > 1.306 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Remarks: Highest producible concentration.

Acute dermal toxicity : LD50 (Rabbit, female): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
GLP: no

#### **sulphamidic acid:**

Acute oral toxicity : LD50 (Rat, female): 2,140 mg/kg  
Method: OECD Test Guideline 401  
GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes  
Assessment: The substance or mixture has no acute dermal

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toxicity

### **Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:**

Acute oral toxicity : LD50 (Rat, male and female): 1,080 mg/kg  
Method: OECD Test Guideline 401  
GLP: no

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: Dosage caused no mortality

### **potassium hydrogensulphate:**

Acute oral toxicity : LD50 (Rat): 2,340 mg/kg

### **dipotassium disulphate:**

Acute oral toxicity : LD50 (Rat, male): 2,140 mg/kg  
Method: OECD Test Guideline 401  
Remarks: Test results on an analogous product

Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.

Assessment: The component/mixture is toxic after short term inhalation.

### **dipotassium peroxodisulphate:**

Acute oral toxicity : LD50 (Rat): 700 mg/kg

Acute inhalation toxicity : LC0 (Rat): > 2.95 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Remarks: Highest producible concentration.

Acute dermal toxicity : LD50 (Rabbit): > 10,000 mg/kg

### **Skin corrosion/irritation**

Causes skin irritation.

### **Product:**

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: Irritating to skin.

### **Components:**

### **pentapotassium bis(peroxymonosulphate) bis(sulphate):**

Species: Rabbit

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Method: OECD Test Guideline 404  
Result: Causes burns.

**malic acid:**

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

**sulphamidic acid:**

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: Irritating to skin.

**Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:**

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: Irritating to skin.  
GLP: no

**potassium hydrogensulphate:**

Assessment: Causes burns.

**dipotassium disulphate:**

Assessment: Causes severe burns.

**dipotassium peroxodisulphate:**

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: Irritating to skin.

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Components:**

**pentapotassium bis(peroxymonosulphate) bis(sulphate):**

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

**malic acid:**

Species: Rabbit  
Method: OECD Test Guideline 405  
Result: Irritating to eyes.

**sulphamidic acid:**

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Species: Rabbit  
Method: OECD Test Guideline 405  
Result: Irritating to eyes.

### **Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:**

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

### **dipotassium disulphate:**

Assessment: Risk of serious damage to eyes.

### **dipotassium peroxodisulphate:**

Result: Irritating to eyes.

### **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  
Result: Did not cause sensitisation on laboratory animals.

Exposure routes: Inhalation  
Species: Mammal - species unspecified  
Method: Expert judgement  
Result: Does not cause respiratory sensitisation.

### **Components:**

#### **pentapotassium bis(peroxymonosulphate) bis(sulphate):**

Exposure routes: Skin contact  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: Does not cause skin sensitisation.

#### **malic acid:**

Exposure routes: Skin contact  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: Did not cause sensitisation on laboratory animals.  
GLP: yes

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### **sulphamidic acid:**

Result: Did not cause sensitisation on laboratory animals.

### **Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:**

Test Type: Maximisation Test

Exposure routes: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Did not cause sensitisation on laboratory animals.

GLP: yes

### **dipotassium peroxodisulphate:**

Exposure routes: Inhalation

Species: Mammal - species unspecified

Result: May cause sensitisation by inhalation.

Exposure routes: Skin contact

Species: Mouse

Method: OECD Test Guideline 429

Result: May cause sensitisation by skin contact.

### **Germ cell mutagenicity**

Not classified based on available information.

### **Components:**

#### **pentapotassium bis(peroxymonosulphate) bis(sulphate):**

Genotoxicity in vitro : Test system: Mammalian-Animal  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: positive  
GLP: yes

Test system: Bacteria  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: yes

Test system: Mammalian-Human  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: positive  
GLP: yes

Genotoxicity in vivo : Species: Mammalian-Animal  
Application Route: Oral  
Method: OECD Test Guideline 474  
Result: negative

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### malic acid:

Genotoxicity in vitro : Remarks: Not mutagenic in a standard battery of genetic toxicological tests.

### sulphamidic acid:

Genotoxicity in vitro : Test system: Mammalian-Human  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 487  
Result: negative  
GLP: yes

Test system: Mammalian-Animal  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Test system: Bacteria  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

### Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

Genotoxicity in vitro : Test Type: Ames test  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: yes

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Metabolic activation: without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
GLP: yes

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Metabolic activation: with metabolic activation  
Method: OECD Test Guideline 473  
Result: positive  
GLP: yes

Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
GLP: yes

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Genotoxicity in vivo : Test Type: Cytogenetic assay  
Species: Mouse (male)  
Cell type: Bone marrow  
Application Route: Oral  
Result: negative  
GLP: no

Test Type: dominant lethal test  
Species: Mouse (male)  
Application Route: Oral  
Result: negative  
GLP: no

### **dipotassium peroxodisulphate:**

Genotoxicity in vitro : Remarks: Not mutagenic in a standard battery of genetic toxicological tests.

### **Carcinogenicity**

Not classified based on available information.

### **Reproductive toxicity**

Not classified based on available information.

### **Components:**

#### **pentapotassium bis(peroxymonosulphate) bis(sulphate):**

Effects on foetal development : Remarks: No teratogenic or foetotoxic effects were found at all dose levels tested.

#### **malic acid:**

Effects on foetal development : Remarks: No known significant effects or critical hazards.

#### **Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:**

Effects on fertility : Test Type: Three-generation study  
Species: Rat, male and female  
Application Route: Oral  
Dose: 0 - 14 - 70 - 350 milligram per kilogram  
General Toxicity - Parent: NOAEL: 350 mg/kg body weight  
General Toxicity F1: NOAEL: 350 mg/kg body weight  
General Toxicity F2: NOAEL: 350 mg/kg body weight  
Fertility: NOAEL: 350 mg/kg body weight  
Result: Animal testing did not show any effects on fertility.  
GLP: no  
Remarks: Test results on an analogous product

Effects on foetal development : Species: Rat, female  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 300 mg/kg body weight  
Teratogenicity: NOAEL: 300 mg/kg body weight

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Result: No teratogenic effects  
GLP: no  
Remarks: Test results on an analogous product

### **STOT - single exposure**

Not classified based on available information.

#### **Components:**

##### **potassium hydrogensulphate:**

Assessment: May cause respiratory irritation.

##### **dipotassium peroxodisulphate:**

Assessment: May cause respiratory irritation.

### **STOT - repeated exposure**

Not classified based on available information.

#### **Repeated dose toxicity**

#### **Components:**

##### **pentapotassium bis(peroxymonosulphate) bis(sulphate):**

Species: Rat, male and female  
LOAEL: > 1,000 mg/kg  
Application Route: Oral  
Exposure time: 28 d  
Number of exposures: 7 days/week  
Method: OECD Test Guideline 407  
Remarks: Subacute toxicity

Species: Rat, male and female  
LOAEL: 600 mg/kg  
Application Route: Oral  
Exposure time: 90 d  
Number of exposures: 7 days/week  
Method: OECD Test Guideline 408  
Remarks: Subchronic toxicity

##### **malic acid:**

Remarks: No known significant effects or critical hazards.

##### **Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:**

Species: Rat, male and female  
NOAEL: 85 mg/kg  
LOAEL: 145 mg/kg  
Application Route: Oral  
Exposure time: 36 w  
Number of exposures: daily  
GLP: no



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Remarks: Subchronic toxicity

### **Aspiration toxicity**

Not classified based on available information.

### **Further information**

#### **Product:**

Remarks: No data available

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

#### **Product:**

- Toxicity to fish : LC50 (Salmo salar (Atlantic salmon)): 24.6 mg/l  
Exposure time: 96 h  
Method: Regulation (EC) No. 440/2008, Annex, C.1  
Remarks: Fresh water
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 6.5 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: Fresh water
- Toxicity to algae : NOEC (Desmodesmus subspicatus (green algae)): 6.25 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Fresh water

#### **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  
GLP: yes  
Remarks: Fresh water
- 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  
GLP: yes  
Remarks: Fresh water
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (microalgae)): > 1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
GLP: yes  
Remarks: Fresh water
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NOEC (Pseudokirchneriella subcapitata (microalgae)): 0.5 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
GLP: yes  
Remarks: Fresh water

### malic acid:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
GLP: yes  
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 240 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
GLP: yes  
Remarks: Fresh water

Toxicity to algae : EC50 (algae): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
GLP: yes  
Remarks: Fresh water

NOEC (algae): 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
GLP: yes  
Remarks: Fresh water

### sulphamidic acid:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 70.3 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
GLP: no  
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 71.6 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
GLP: yes  
Remarks: Fresh water

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 48 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
GLP: yes

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Remarks: Fresh water

NOEC (Desmodesmus subspicatus (green algae)): 18 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
GLP: yes  
Remarks: Fresh water

Toxicity to microorganisms : EC50 : > 200 mg/l  
End point: Respiration inhibition  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
GLP: yes  
Remarks: Fresh water

Toxicity to fish (Chronic toxicity) : NOEC: >= 60 mg/l  
Exposure time: 34 d  
Species: Danio rerio (zebra fish)  
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 19 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

### **Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2.88 mg/l  
Exposure time: 96 h  
Analytical monitoring: yes  
Method: OECD Test Guideline 203  
GLP: no  
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.9 mg/l  
Exposure time: 48 h  
Analytical monitoring: yes  
Method: OECD Test Guideline 202  
GLP: yes  
Remarks: Fresh water

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 235 mg/l  
Exposure time: 72 h  
Analytical monitoring: no  
Method: OECD Test Guideline 201  
GLP: no  
Remarks: Fresh water

EC10 (Pseudokirchneriella subcapitata (green algae)): 13.1 mg/l  
Exposure time: 72 h

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Analytical monitoring: no  
Method: OECD Test Guideline 201  
GLP: no  
Remarks: Fresh water

Toxicity to fish (Chronic toxicity) : NOEC: 0.23 mg/l  
Exposure time: 72 d  
Species: Oncorhynchus mykiss (rainbow trout)  
Analytical monitoring: yes  
Method: OECD Test Guideline 210  
GLP: no  
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1.18 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Analytical monitoring: yes  
Method: OECD Test Guideline 211  
GLP: no  
Remarks: Fresh water

### **dipotassium disulphate:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 680 mg/l  
Exposure time: 96 h  
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 720 mg/l  
Exposure time: 48 h  
Remarks: Fresh water

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (microalgae)): 1,492 mg/l  
Exposure time: 96 h  
Remarks: Fresh water

EC10 (Pseudokirchneriella subcapitata (microalgae)): 656 mg/l  
Exposure time: 96 h  
Remarks: Fresh water

Toxicity to fish (Chronic toxicity) : NOEC: > 595 mg/l  
Exposure time: 7 Days  
Species: Pimephales promelas (fathead minnow)  
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 790 mg/l  
Exposure time: 7 Days  
Species: Ceriodaphnia dubia (Water flea)  
Remarks: Fresh water

### **dipotassium peroxodisulphate:**

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Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 76.3 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 120 mg/l  
Exposure time: 48 h

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (microalgae)): 83.7 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

### Ecotoxicology Assessment

Long-term (chronic) aquatic hazard : This product has no known ecotoxicological effects.

## 12.2 Persistence and degradability

### Components:

#### **pentapotassium bis(peroxymonosulphate) bis(sulphate):**

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

#### **malic acid:**

Biodegradability : Test Type: aerobic  
Result: Readily biodegradable.  
Biodegradation: 67.5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B  
GLP: yes

#### **sulphamidic acid:**

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

#### **Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 83 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B  
GLP: yes

#### **dipotassium disulphate:**

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

#### **dipotassium peroxodisulphate:**

Biodegradability : Result: The methods for determining the biological degradability

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ity are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

#### Components:

##### **pentapotassium bis(peroxymonosulphate) bis(sulphate):**

Partition coefficient: n-octanol/water : log Pow: < 0.3  
Method: OECD Test Guideline 117

##### **malic acid:**

Partition coefficient: n-octanol/water : log Pow: -1.26

##### **sulphamidic acid:**

Partition coefficient: n-octanol/water : log Pow: -4.34

##### **Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:**

Partition coefficient: n-octanol/water : log Pow: 1.4 (23 °C)  
Method: OECD Test Guideline 123

### 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:

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.

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## 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.

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Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

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### SECTION 14: Transport information

#### 14.1 UN number

Not regulated as a dangerous good

#### 14.2 UN proper shipping name

Not regulated as a dangerous good

#### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

#### 14.4 Packing group

Not regulated as a dangerous good

#### 14.5 Environmental hazards

Not regulated as a dangerous good

#### 14.6 Special precautions for user

Hazard statements : Not dangerous cargo.  
Keep dry.  
Risk of serious damage to eyes.  
Keep away from foodstuffs, acids and alkalis.

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

Not applicable for product as supplied.

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### SECTION 15: Regulatory information

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

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

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 (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

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II Council Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors : Neither banned nor restricted

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

### 15.2 Chemical safety assessment

Not applicable

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## 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.  
H331 : Toxic 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  
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

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals



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### Further information

#### Classification of the mixture:

Skin Irrit. 2	H315
Eye Dam. 1	H318
Aquatic Chronic 3	H412

#### Classification procedure:

Based on product data or assessment
Calculation method
Calculation method

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet and its Annex [if required according to Regulation (EC) 1907/2006 (REACH)] is to describe the products in terms of their safety requirements. The given details do not imply any guarantee concerning the composition, properties or performance.