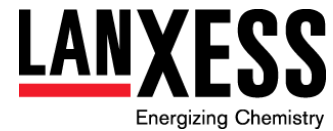


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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : VIRKON H
Product code : 62162572

Manufacturer or supplier's details

Supplier : LANXESS Pty Ltd
2d Factory Street Granville, NSW 2142, Australia
Telephone : +61288687211
E-mail address of person responsible for the SDS : infosds@lanxess.com
Emergency telephone number : IXOM Emergency Response Service (ERS)
Phone 1800 033 111 • 24 hours • Toll-free • Australia wide

Recommended use of the chemical and restrictions on use


Recommended use : Disinfectants

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion/irritation : Category 2
Serious eye damage/eye irritation : Category 1
Short-term (acute) aquatic hazard : Category 2
Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H315 Causes skin irritation.
H318 Causes serious eye damage.
H401 Toxic to aquatic life.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.

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

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and 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 or doctor/ physician.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.

Disposal:

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

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
pentapotassium bis(peroxymonosulphate) bis(sulphate)	70693-62-8	>= 30 -< 60
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts	68411-30-3	>= 10 -< 25
malic acid	6915-15-7	< 10
sulphamidic acid	5329-14-6	>= 2.5 -< 10
potassium hydrogensulphate	7646-93-7	>= 1 -< 3
dipotassium disulphate	7790-62-7	>= 1 -< 3
sodium toluenesulphonate	12068-03-0	< 10
dipotassium peroxodisulphate	7727-21-1	>= 0.25 -< 1
dipentene	138-86-3	>= 0.025 -< 0.25

SECTION 4. 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.

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.

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- 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.
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.
- Most important symptoms and effects, both acute and delayed : None known.
- Notes to physician : Treat symptomatically.
-

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Unsuitable extinguishing media : Carbon dioxide (CO₂)
High volume water jet
- 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 (CO₂)
Carbon monoxide
Nitrogen oxides (NO_x)
Halogenated compounds
- Specific extinguishing methods : 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.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
-

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
-

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- 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.
- Methods and materials for containment and cleaning up : Neutralize with chalk, alkali solution or ammonia.
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Avoid dust formation.
Provide appropriate exhaust ventilation at places where dust is formed.
- Advice on safe handling : Protect from moisture.

Avoid formation of respirable particles.
Do not breathe vapours/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Dispose of rinse water in accordance with local and national regulations.
- Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.
- Conditions for safe storage : Protect from moisture.
Combustible substances
Strong bases

Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Electrical installations / working materials must comply with the technological safety standards.
- Materials to avoid : Do not store near acids.
- Recommended storage temperature : < 50 °C
- Further information on storage stability : Keep in a dry place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
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dipotassium peroxodisulphate	7727-21-1	Peak limit	0.1 mg/m3	AU OEL
Further information: Sensitiser				
		TWA	0.1 mg/m3 (Persulphate)	ACGIH

Engineering measures : This information is not available.

Personal protective equipment

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

Filter type : Recommended Filter type:
ABEK-P2-filter

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

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

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : powder
Colour : pink
Odour : pleasant, sweet
Odour Threshold : No data available
pH : 2.35 - 2.65
Concentration: 1 %
Melting point/freezing point : No data available
Boiling point/boiling range : No data available
Flash point : No data available
Evaporation rate : No data available

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Flammability (solid, gas) : No data available

Upper explosion limit / Upper flammability 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 : 1.07 g/cm³ (20 °C)

Solubility(ies)
Water solubility : 65 g/l

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

Ignition temperature : No data available

Decomposition temperature : > 50 °C

Viscosity : No data available

Explosive properties : No data available

Oxidizing properties : The substance or mixture is not classified as oxidizing.
Method: Regulation (EC) No. 440/2008, Annex, A.17

Molecular weight : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : Stable under normal conditions.

Possibility of 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.

Conditions to avoid : Exposure to moisture

Incompatible materials : Incompatible with acids.
Combustible material
Oxidizing agents
Strong bases
brass
Cyanides

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Copper
Halogenated compounds
Metal salt.

Hazardous decomposition products : Oxygen
Chlorine
Sulphur oxides
Hypochlorites

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

- Acute oral toxicity : LD50 (Rat, male and female): 4,123 mg/kg
Method: OECD Test Guideline 401
GLP: yes
- Acute inhalation toxicity : LC50 (Rat): 3.7 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: 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): > 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

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

- Acute oral toxicity : LD50 (Rat, male and female): 1,080 mg/kg
-

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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

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 toxicity

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.

sodium toluenesulphonate:

Acute oral toxicity : LD50 (Rat): 6,500 mg/kg

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

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

dipentene:

Acute oral toxicity : LD50 (Rat): 5,300 mg/kg

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation

Product:

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

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

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

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

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

malic acid:

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

sulphamidic acid:

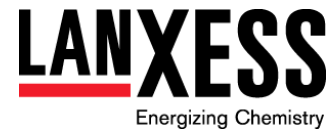
Species: Rabbit
Method: OECD Test Guideline 404
Result: Irritating to skin.

potassium hydrogensulphate:

Assessment: Causes burns.

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dipotassium disulphate:

Assessment: Causes severe burns.

sodium toluenesulphonate:

Species: Rabbit

Result: Irritating to skin.

dipotassium peroxodisulphate:

Species: Rabbit

Method: OECD Test Guideline 404

Result: Irritating to skin.

dipentene:

Assessment: Irritating to skin.

Serious eye damage/eye irritation

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Species: Rabbit

Result: Risk of serious damage to eyes.

Method: OECD Test Guideline 405

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

Species: Rabbit

Result: Irreversible effects on the eye

Method: OECD Test Guideline 405

GLP: yes

malic acid:

Species: Rabbit

Result: Irritating to eyes.

Method: OECD Test Guideline 405

sulphamidic acid:

Species: Rabbit

Result: Irritating to eyes.

Method: OECD Test Guideline 405

dipotassium disulphate:

Assessment: Risk of serious damage to eyes.

sodium toluenesulphonate:

Species: Rabbit

Result: Irritating to eyes.

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dipotassium peroxodisulphate:

Result: Irritating to eyes.

dipentene:

Species: Rabbit

Result: Irritating to eyes.

Respiratory or skin sensitisation

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.

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

malic acid:

Exposure routes: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Did not cause sensitisation on laboratory animals.

GLP: yes

sulphamidic acid:

Result: Did not cause sensitisation on laboratory animals.

sodium toluenesulphonate:

Exposure routes: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Did not cause sensitisation on laboratory animals.

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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.

dipentene:

Test Type: Maximisation Test
Exposure routes: Dermal
Species: Guinea pig
Result: May cause sensitisation by skin contact.

Chronic toxicity

Germ cell mutagenicity

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

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

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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

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

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

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sodium toluenesulphonate:

Genotoxicity in vitro : Remarks: No mutagenic effect.

dipotassium peroxodisulphate:

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

Reproductive toxicity

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

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

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

malic acid:

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

STOT - single exposure

Components:

potassium hydrogensulphate:

Assessment: May cause respiratory irritation.

dipotassium peroxodisulphate:

Assessment: May cause respiratory irritation.

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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

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
Remarks: Subchronic toxicity

malic acid:

Remarks: No known significant effects or critical hazards.

sodium toluenesulphonate:

Species: Rat
NOAEL: 114 mg/kg
Application Route: Oral
Exposure time: 91 d
Method: OECD Test Guideline 408
Remarks: Subchronic toxicity

Further information

Product:

Remarks: No data available

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

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
- NOEC (*Pseudokirchneriella subcapitata* (microalgae)): 0.5 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes
Remarks: Fresh water

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

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

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

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

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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
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 fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): \geq 60 mg/l
Exposure time: 34 d
Method: OECD Test Guideline 210

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

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

dipotassium disulphate:

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

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- 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 (*Pimephales promelas* (fathead minnow)): > 595 mg/l
Exposure time: 7 Days
Remarks: Fresh water
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (*Ceriodaphnia dubia* (Water flea)): 790 mg/l
Exposure time: 7 Days
Remarks: Fresh water

sodium toluenesulphonate:

- Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): > 490 mg/l
Exposure time: 96 h
Remarks: Fresh water
- Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): > 318 mg/l
Exposure time: 48 h
Remarks: Fresh water
- Toxicity to algae : EC50 (*Desmodesmus subspicatus* (green algae)): 245 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Fresh water
- NOEC (*Desmodesmus subspicatus* (green algae)): 18 mg/l
Exposure time: 72 h
Remarks: Fresh water

dipotassium peroxodisulphate:

- 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

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Ecotoxicology Assessment

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

dipentene:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0.702 mg/l
Exposure time: 96 h
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.421 mg/l
Exposure time: 48 h
Remarks: Fresh water

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic toxicity) :

1

Persistence and degradability

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

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

malic acid:

Biodegradability : 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.

dipotassium disulphate:

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

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sodium toluenesulphonate:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 - 2 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

dipotassium peroxodisulphate:

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

dipentene:

Biodegradability : Result: Not rapidly biodegradable

Bioaccumulative potential

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

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

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

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

malic acid:

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

sulphamidic acid:

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

Mobility in soil

No data available

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.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water

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courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

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

SECTION 14. TRANSPORT INFORMATION

National Regulations

ADG

Not regulated as a dangerous good

International Regulations

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Hazard statements : Not dangerous cargo.
Risk of serious damage to eyes.
Irritating to skin.
Keep dry.
Keep separated from foodstuffs.

SECTION 15. REGULATORY INFORMATION

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

Standard for the Uniform Scheduling of Medicines and Poisons : Schedule 6

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

Prohibition/Licensing Requirements : There is no applicable prohibition or notification/licensing requirements, including for carcinogens under Commonwealth, State or Territory legislation.

Other international regulations

No data available

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SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

Revision Date	:	18.05.2020
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
AU OEL	:	Australia. Workplace Exposure Standards for Airborne Contaminants.
ACGIH / TWA	:	8-hour, time-weighted average
AU OEL / Peak limit	:	Exposure standard - peak

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.