SAFETY DATA SHEET
according to the Hazardous Products Regulations

VIRKON GREENHOUSE

Version	Revision Date:	SDS Number:	Date of last issue: 07/11/2024
2.0	08/07/2025	203000024151	Country / Language: CA / EN

SECTION 1. IDENTIFICATION

Product name : VIRKON GREENHOUSE

Product code : 000000000062652861

Other means of identification : No data available

Manufacturer or supplier's details

Company : LANXESS Canada Co.
Product Safety and Regulatory Affairs
25 Erb Street
Elmira, Canada N3B 2J3

Responsible Department : +1800LANXESS

Emergency telephone : In an emergency, CANUTEC may be called collect at:
613.996.6666 (24 hrs)
*666 cellular (Canada only)

Recommended use of the chemical and restrictions on use

Recommended use : Disinfectants

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Skin irritation : Category 2

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H315 Causes skin irritation.
H318 Causes serious eye damage.

Precautionary Statements :

Prevention:

P264 Wash skin thoroughly after handling.
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.

Other hazards

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
Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide	-	>= 10 - < 30
Butanedioic acid, 2-hydroxy-	6915-15-7	>= 5 - < 10
sulphamidic acid	5329-14-6	>= 1 - < 5
potassium hydrogensulphate (Impurity)	7646-93-7	>= 1 - < 5
dipotassium peroxodisulphate (Impurity)	7727-21-1	>= 1 - < 5
(R)-p-mentha-1,8-diene	5989-27-5	>= 0.1 - < 1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

SECTION 4. FIRST AID MEASURES

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms appear.

In case of skin contact : Wash off with soap and water.
Continue to rinse for at least 20 minutes.
Get medical attention if symptoms occur.
Wash contaminated clothing before reuse.

In case of eye contact : Get medical attention immediately.
In case of contact, flush eyes with plenty of water for at least

30 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated.
Remove contact lenses, if present and easy to do. Continue rinsing.
Chemical burns must be treated promptly by a physician.

If swallowed : Rinse mouth with water.
Do not induce vomiting unless directed to do by medical personnel.
Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed

Symptoms : Eye: Causes irritation with symptoms of reddening, tearing, stinging, and swelling.
Skin: Causes irritation with symptoms of reddening, itching, and swelling.

Effects : Causes skin irritation.
Causes serious eye damage.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
In case of fire, use water spray (fog), foam or dry chemical.

Unsuitable extinguishing media : Do not use water jet.
Carbon dioxide (CO2)

Hazardous combustion products : Sulfur oxides
Metal oxides
Carbon dioxide (CO2)
Carbon monoxide
Nitrogen oxides (NOx)
Halogenated compounds

Further information : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.
No action shall be taken involving any personal risk or without suitable training.

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	No action shall be taken involving any personal risk or without suitable training. Put on appropriate personal protection equipment. Do not touch or walk through spilled material. Evacuate personnel to safe areas. Keep unnecessary and unprotected personnel from entering. Provide adequate ventilation. Avoid breathing dust.
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	:	Move containers from spill area. Keep people away from and upwind of spill/leak. Avoid dust formation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of wastes in an approved waste disposal facility.

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	:	Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Avoid inhalation, ingestion and contact with skin and eyes. Use only with adequate ventilation.
Conditions for safe storage	:	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container closed when not in use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate container to avoid environmental contamination.

Empty containers retain residue and can be dangerous.
Do not reuse container.

Materials to avoid : Keep away from alkalis.

Recommended storage temperature : < 50 °C

Further information on storage stability : Keep in a dry place.

Stable under recommended storage conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
dipotassium peroxodisulphate	7727-21-1	TWA	0.1 mg/m3 (Persulphate)	ACGIH

Engineering measures : If user operations generate dust, fumes, gas, vapor 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

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
The following respirator is recommended if airborne concentrations exceed the appropriate standard/guideline.
NIOSH approved, air-purifying particulate respirator with N-95 filters.

Hand protection

Remarks : The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Eye protection : Safety glasses with side-shields
If inhalation hazards exist, a full-face respirator may be required instead.

Skin and body protection : Wear suitable protective clothing.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Appropriate techniques should be used to remove potentially

contaminated clothing.
Wash contaminated clothing before reusing.
Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	powder
Physical state	:	solid
Color	:	pink
Odor	:	pleasant, sweet
Odor Threshold	:	No data available
pH	:	2.35 - 2.65 Concentration: 1 %
Melting point/ range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	The product is not flammable.
Flammability (liquids)	:	Not applicable
Self-ignition	:	No data available
Burning number	:	No data available
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapor pressure	:	No data available
Relative density	:	1.07
Density	:	1.07 g/cm3 (20 °C)

Bulk density	:	1.07 kg/m3
Solubility(ies)		
Water solubility	:	65 g/l
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	> 50 °C
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The product has been shown not to be oxidizing in a test following Directive 67/548/EEC (Method A17, oxidizing properties).
Surface tension	:	No data available
Dust explosion class	:	No data available
Metal corrosion rate	:	No data available
Particle size	:	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	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Exposure to moisture.
Hazardous decomposition products	:	Oxygen Chlorine Sulfur oxides Hypochlorites

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Based on available data, the classification criteria are not met.

Product:

Acute oral toxicity	:	LD50 (Rat): 4,123 mg/kg Method: OECD Test Guideline 401
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, male and female): 2,200 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

Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide:

Acute oral toxicity	:	LD50 (Rat, male and female): 2,240 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

Remarks: Test results on an analogous substance/product.

Butanedioic acid, 2-hydroxy-:

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 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

(R)-p-mentha-1,8-diene:

Acute oral toxicity : LD50 (Rat): 4,400 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
Method : OECD Test Guideline 404
Result : Causes burns.

Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation
GLP : No

Butanedioic acid, 2-hydroxy-:

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.

dipotassium peroxodisulphate:

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

(R)-p-mentha-1,8-diene:

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

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Species : Rabbit
Result : Risk of serious damage to eyes.

Method : OECD Test Guideline 405

Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide:

Species : Rabbit
Result : Irreversible effects on the eye
Method : OECD Test Guideline 405
GLP : No

Butanedioic acid, 2-hydroxy-:

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 peroxodisulphate:

Result : Irritating to eyes.

(R)-p-mentha-1,8-diene:

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

Respiratory or skin sensitization

Skin sensitization

Based on available data, the classification criteria are not met.

Respiratory sensitization

Based on available data, the classification criteria are not met.

Product:

Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Did not cause sensitization on laboratory animals.

Routes of exposure : Inhalation
Species : Mammal - species unspecified
Method : Expert judgment
Result : Does not cause respiratory sensitization.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitization.

Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide:

Test Type	:	Buehler Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Did not cause sensitization on laboratory animals.
GLP	:	Yes
Remarks	:	Test results on an analogous substance/product.

Butanedioic acid, 2-hydroxy-:

Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Did not cause sensitization on laboratory animals.
GLP	:	Yes

sulphamidic acid:

Result	:	Did not cause sensitization on laboratory animals.

dipotassium peroxodisulphate:

Routes of exposure	:	Inhalation
Species	:	Mammal - species unspecified
Result	:	May cause sensitization by inhalation.
Routes of exposure	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	May cause sensitization by skin contact.

(R)-p-mentha-1,8-diene:

Routes of exposure	:	Dermal
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	May cause sensitization by skin contact.

Germ cell mutagenicity

Not classified due to lack of data.

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

Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide:

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

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: Yes
Remarks: Test results on an analogous substance/product.

Butanedioic acid, 2-hydroxy-:

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

dipotassium peroxodisulphate:

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

Carcinogenicity

Not classified due to lack of data.

Components:

Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide:

Species	:	Rat, male and female
Application Route	:	Dermal
Exposure time	:	2 Years
Method	:	OECD Test Guideline 453
Result	:	negative
GLP	:	Yes
Remarks	:	Test results on an analogous substance/product.

Species	:	Mouse, male and female
Application Route	:	Dermal
Exposure time	:	2 Years
Method	:	OECD Test Guideline 453
Result	:	negative
GLP	:	Yes
Remarks	:	Test results on an analogous substance/product.

Reproductive toxicity

Not classified due to lack of data.

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

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

Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide:

Effects on fertility : Test Type: Three-generation study
Species: Rat, male and female

Application Route: Oral
Dose: 0 - 14 - 70 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
Early Embryonic Development: NOAEL: 350 mg/kg body weight
Result: No effects on fertility and early embryonic development were detected.
GLP: No
Remarks: Test results on an analogous substance/product.

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat, female
Application Route: Oral
Dose: 0,2 - 2 - 300 - 600 milligram per kilogram
General Toxicity Maternal: NOAEL: 300 mg/kg body weight
Teratogenicity: NOAEL: 300 mg/kg body weight
Developmental Toxicity: NOAEL: 300 mg/kg body weight
Embryo-fetal toxicity.: NOAEL: 600 mg/kg body weight
GLP: No
Remarks: Test results on an analogous substance/product.

Butanedioic acid, 2-hydroxy-:

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

STOT-single exposure

Not classified due to lack of data.

Components:

potassium hydrogensulphate:

Assessment : May cause respiratory irritation.

dipotassium peroxodisulphate:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

Not classified due to lack of data.

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

Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide:

Species	:	Rat, male and female
NOAEL	:	85 mg/kg
LOAEL	:	145 mg/kg
Application Route	:	Oral
Exposure time	:	270 d
Dose	:	85-145-430 mg/kg bw/d
Remarks	:	Chronic toxicity Test results on an analogous substance/product.

Species	:	Mouse, male and female
NOAEL	:	440 mg/kg
LOAEL	:	1,300 mg/kg
Application Route	:	Skin contact
Exposure time	:	90 d
Dose	:	17-50-140-440-1300 mg/kg bw/d
Method	:	OECD Test Guideline 411
GLP	:	Yes
Remarks	:	Subchronic toxicity Test results on an analogous substance/product.

Butanedioic acid, 2-hydroxy-:

Remarks	:	No known significant effects or critical hazards.

Aspiration toxicity

Not classified due to lack of data.

Further information

Product:

Remarks	:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

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/aquatic plants : 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

Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 5.5 mg/l
Exposure time: 96 h
Analytical monitoring: Yes
Method: OECD Test Guideline 203
GLP: Yes
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 8.8 mg/l
Exposure time: 48 h
Analytical monitoring: Yes
Method: OECD Test Guideline 202
GLP: Yes
Remarks: Fresh water

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 72 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: Yes
Method: OECD Test Guideline 201
GLP: Yes
Remarks: Fresh water

EC10 (Desmodesmus subspicatus (green algae)): 8.4 mg/l
End point: Growth rate
Exposure time: 72 h
Analytical monitoring: Yes
Method: OECD Test Guideline 201

GLP: Yes
Remarks: Fresh water

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): > 0.1 - 1 mg/l
Exposure time: 72 d
Analytical monitoring: Yes
GLP: Yes
Remarks: Fresh water
Test results on an analogous substance/product.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 0.1 - 1 mg/l
Exposure time: 21 d
Analytical monitoring: Yes
Method: OECD Test Guideline 211
GLP: Yes
Remarks: Fresh water
Test results on an analogous substance/product.

Toxicity to microorganisms : EC10 (Pseudomonas putida): 56 mg/l
End point: Growth rate
Exposure time: 16 h
Analytical monitoring: No
Method: DIN 38 412 Part 8
GLP: Yes

Butanedioic acid, 2-hydroxy-:

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/aquatic plants : 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/aquatic plants : 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)): >= 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 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/aquatic plants : EC50 (Pseudokirchneriella subcapitata (microalgae)): 83.7 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Ecotoxicology Assessment

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

(R)-p-mentha-1,8-diene:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0.72 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.307 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Fresh water

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.32 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Fresh water

EC10 (Pseudokirchneriella subcapitata (green algae)): 0.174 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Fresh water

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.059 mg/l
Exposure time: 8 d
Method: OECD Test Guideline 212
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.08 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Fresh water

Persistence and degradability

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Biodegradability : Result: Expert judgement: not chronically bioavailable in the aquatic environment
Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide:

Biodegradability : Result: rapidly biodegradable
Biodegradation: 94 %
Exposure time: 28 d
Method: Regulation (EC) No. 440/2008, Annex, C.4-A

Butanedioic acid, 2-hydroxy-:

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 peroxodisulphate:

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

(R)-p-mentha-1,8-diene:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 80 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Bioaccumulative potential

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

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

Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide:

Bioaccumulation : Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

Partition coefficient: n-octanol/water : log Pow: 0.7 (20 °C)
pH: 6
Method: OECD Test Guideline 117

Butanedioic acid, 2-hydroxy-:

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

sulphamidic acid:

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

(R)-p-mentha-1,8-diene:

Partition coefficient: n-octanol/water : log Pow: 4.38
Method: OECD Test Guideline 117

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The generation of waste should be avoided or minimized wherever possible.
This material and its container must be disposed of in a safe way.
Empty containers retain product residue; observe all precautions for product.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Waste disposal should be in accordance with existing federal, state, provincial and/or local environmental controls.

SECTION 14. TRANSPORT INFORMATION

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.

Domestic regulation

TDG
Not regulated as a dangerous good

Hazard and Handling Notes
Not dangerous cargo
Irritating to skin.
Risk of serious damage to eyes
Keep dry.
Keep away from acids and oxidizing agents
Keep away from foodstuffs, acids and alkalis

SECTION 15. REGULATORY INFORMATION

DSL : This product is excluded from the Canadian DSL regulation and is subject to the Pest Management Regulatory Agency(PMRA) regulation.

TSCA : Not listed on TSCA Inventory, for R&D Use Only, Section 5 (h)(3) limitations apply.

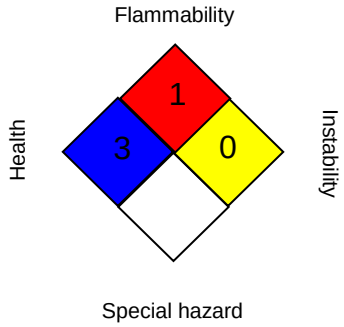
Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide

Canadian lists

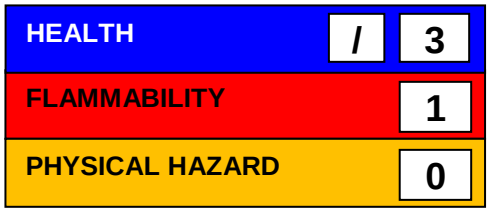
No substances are subject to a Significant New Activity Notification.

Further information

NFPA:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

LANXESS' method of hazard communication is comprised of Product Labels and Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS as a customer service.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH / TWA : 8-hour, time-weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardization; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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 Organization 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; MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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, Authorization and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date	:	08/07/2025
Date format	:	mm/dd/yyyy

The data contained in this Safety Data Sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. 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 to be a guidance for processing and does not contain any 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. It is the responsibility of the recipient of the product to ensure that any proprietary rights and existing laws and legislation are observed.

Relevant changes from the previous version are marked on the left side of the Safety Data Sheet with a black double bar in appropriate places.

CA / EN