

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0 Revision Date: 07/16/2025 SDS Number: 203000010131 Date of last issue: 12/18/2024
Country / Language: CA / EN

SECTION 1. IDENTIFICATION

Product name : VIRKON™
Product code : 00000000062132325
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
DIN: 02125021

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.

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version
4.0

Revision Date:
07/16/2025

SDS Number:
203000010131

Date of last issue: 12/18/2024
Country / Language: CA / EN

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
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts	68411-30-3	>= 10 - < 30
Butanedioic acid, 2-hydroxy- sulphamic acid	6915-15-7	>= 5 - < 10
potassium hydrogensulphate (Impurity)	5329-14-6	>= 1 - < 5
sodium toluenesulphonate	7646-93-7	>= 1 - < 5
dipotassium peroxodisulphate (Impurity)	12068-03-0	>= 1 - < 5
(R)-p-mentha-1,8-diene	7727-21-1	>= 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 occur.

In case of skin contact : Wash off with soap and water.
Remove contaminated clothing and shoes.
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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

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: Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage. 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)

Specific hazards during fire fighting : Water runoff from fire fighting may be corrosive. May release toxic, irritating and/or corrosive gases.

Hazardous combustion products : Sulfur oxides
Metal oxides
Carbon monoxide
Carbon dioxide (CO₂)
Nitrogen oxides (NO_x)
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.

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

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 unnecessary personnel.
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.
Vacuum or sweep up material and place in a designated, labeled waste container.
Avoid dust formation.
Dispose of wastes in an approved waste disposal facility.
Do not allow spilled material or wash water to enter sewers, surface waters, or groundwater systems.
Contaminated absorbent material may pose the same hazard as the spilled product.
Do not allow into the sewerage system, surface waters or groundwater or into the soil.

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink.
Keep containers sealed until ready for 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. No decomposition if stored and applied as directed.

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/m ³ (Persulphate)	ACGIH

Engineering measures	: If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
----------------------	--

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. NIOSH approved, air-purifying organic vapor respirator.
------------------------	---

Hand protection	
Material	: Butyl rubber - IIR
Wearing time	: < 60 min
Remarks	: Permeation resistant gloves.
Eye protection	: Tightly fitting safety goggles If inhalation hazards exist, a full-face respirator may be required instead.
Skin and body protection	: Wear suitable protective clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear work clothing including long pants and long-sleeve

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0 Revision Date: 07/16/2025 SDS Number: 203000010131 Date of last issue: 12/18/2024
Country / Language: CA / EN

shirts.

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 : No data available

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Self-ignition : No data available

Burning number : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapor pressure : No data available

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0 Revision Date: 07/16/2025 SDS Number: 203000010131 Date of last issue: 12/18/2024
Country / Language: CA / EN

Relative vapor density : No data available

Relative density : No data available

Density : 1.07 g/cm³ (20 °C)

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 : No data available

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

Surface tension : 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 : The product is chemically stable.

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

brass
Cyanides
Copper
Halogenated compounds
Metal salt.

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, 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.

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

440/2008

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

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

sodium toluenesulphonate:

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

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

dipotassium peroxodisulphate:

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version	Revision Date:	SDS Number:	Date of last issue: 12/18/2024
4.0	07/16/2025	203000010131	Country / Language: CA / EN

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.

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

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

Butanedioic acid, 2-hydroxy-:

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

sulphamic acid:

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

potassium hydrogensulphate:

Assessment : Causes burns.

sodium toluenesulphonate:

Species : Rabbit

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

Result : Irritating to skin.

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

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

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

Butanedioic acid, 2-hydroxy-:

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

sulphamic acid:

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

sodium toluenesulphonate:

Species : Rabbit
Result : Irritating to eyes.

dipotassium peroxodisulphate:

Result : Irritating to eyes.

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

Species : Rabbit

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

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(peroxyomonosulphate) bis(sulphate):

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

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

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

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

sulphamic acid:

Result	:	Did not cause sensitization on laboratory animals.
--------	---	--

sodium toluenesulphonate:

Routes of exposure	:	Skin contact
--------------------	---	--------------

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

Species : Guinea pig
Method : OECD Test Guideline 406
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

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

Genotoxicity in vitro : Test Type: Ames test

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

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

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

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

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

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.

Carcinogenicity

Not classified due to lack of data.

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.

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 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 substance/product.

Effects on fetal 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 substance/product.

Butanedioic acid, 2-hydroxy-:

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0 Revision Date: 07/16/2025 SDS Number: 203000010131 Date of last issue: 12/18/2024
Country / Language: CA / EN

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

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

Butanedioic acid, 2-hydroxy-:

Remarks : No known significant effects or critical hazards.

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0 Revision Date: 07/16/2025 SDS Number: 203000010131 Date of last issue: 12/18/2024
Country / Language: CA / EN

sodium toluenesulphonate:

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

Aspiration toxicity

Not classified due to lack of data.

Further information

Product:

Remarks : No data available

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/aquatic plants : 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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

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

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/aquatic plants : 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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0 Revision Date: 07/16/2025 SDS Number: 203000010131 Date of last issue: 12/18/2024
Country / Language: CA / EN

ic toxicity) Analytical monitoring: Yes
Method: OECD Test Guideline 211
GLP: No
Remarks: Fresh water

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

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

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

Ecotoxicology Assessment

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

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.
------------------	--

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
------------------	---

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0 Revision Date: 07/16/2025 SDS Number: 203000010131 Date of last issue: 12/18/2024
Country / Language: CA / EN

Butanedioic acid, 2-hydroxy-:

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

sulphamic acid:

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

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.

(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

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

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

Butanedioic acid, 2-hydroxy-:

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

sulphamic acid:

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0 Revision Date: 07/16/2025 SDS Number: 203000010131 Date of last issue: 12/18/2024
Country / Language: CA / EN

(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

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 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

VIRKON™

Version 4.0 Revision Date: 07/16/2025 SDS Number: 203000010131 Date of last issue: 12/18/2024
Country / Language: CA / EN

Keep dry.
Keep away from acids and oxidizing agents
Keep away from foodstuffs, acids and alkalis

SECTION 15. REGULATORY INFORMATION

DSL : All components of this product are on the Canadian DSL

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

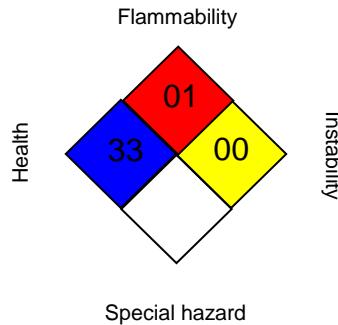
Reaction product of Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. and Benzenesulfonic acid, 4-methyl- and sodium hydroxide

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



VIRKON™

Version 4.0	Revision Date: 07/16/2025	SDS Number: 203000010131	Date of last issue: 12/18/2024 Country / Language: CA / EN
----------------	------------------------------	-----------------------------	---

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 : 07/16/2025
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