SECTION 1. IDENTIFICATION

Product name : Virkon™ S

Product code : 000000000057784017

EPA registration number : 39967-137

Manufacturer or supplier's details

Company : LANXESS Corporation
Product Safety & Regulatory Affairs
111 RIDC Park West Drive
Pittsburgh, Pennsylvania 15275-1112

Responsible Department : (800) LANXESS
(412) 809-1000
lanxesshes@lanxess.com

Emergency telephone : CHEMTREC (800) 424-9300 or
(703) 527-3887 (Outside U.S.A) and mention CCN12916.
Lanxess Emergency Phone (866) 673 6350.

Recommended use of the chemical and restrictions on use

Recommended use : Disinfectants
Cleaning agent

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Skin irritation : Category 2

Serious eye damage : Category 1

Other hazards

None known.

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.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS No./Unique ID	Concentration (% w/w)
pentapotassium bis(peroxymonosulphate) bis(sulphate)	70693-62-8*	>= 30 - <= 60
sodium dodecylbenzenesulfonate	25155-30-0*	>= 10 - <= 30
Butanedioic acid, 2-hydroxy-	6915-15-7*	>= 7 - <= 13
sulphamidic acid	5329-14-6*	>= 3 - <= 7
potassium hydrogensulphate	7646-93-7*	>= 1 - <= 5
dipotassium peroxodisulphate	7727-21-1*	>= 1 - <= 5
(R)-p-mentha-1,8-diene	5989-27-5*	>= 0.1 - <= 1

* Indicates that the identifier is a CAS No.
Any concentration shown as a range is to protect confidentiality or is due to batch variation.

SECTION 4. FIRST AID MEASURES

General advice	:	Do not leave the victim unattended. Move out of dangerous area. Keep warm and in a quiet place. Show this safety data sheet to the doctor in attendance.
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 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 : Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.
Water runoff from fire fighting may be corrosive.

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

Halogenated compounds
Phosphorus oxides

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 unnecessary personnel.
Keep unnecessary and unprotected personnel from entering.
Provide adequate ventilation.

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.
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.

SECTION 7. HANDLING AND STORAGE

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 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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

inert or nuisance dust

50 Million particles per cubic foot
Value type (Form of exposure): TWA (total dust)
Basis: OSHA Z-3

15 mg/m3
Value type (Form of exposure): TWA (total dust)
Basis: OSHA Z-3

5 mg/m3
Value type (Form of exposure): TWA (respirable fraction)
Basis: OSHA Z-3

15 Million particles per cubic foot
Value type (Form of exposure): TWA (respirable fraction)
Basis: OSHA Z-3

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 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
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 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	:	yellow
Odor	:	pleasant, sweet
Odor Threshold	:	No data available
pH	:	2.2 - 2.7 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
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	No data available
Solubility(ies)		
Water solubility	:	65 g/l
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Ignition temperature	:	No data available
Decomposition temperature	:	> 122 °F / > 50 °C
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	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	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Exposure to moisture.

Incompatible materials	:	Strong bases Combustible material Acids Oxidizing agents brass Copper Halogenated compounds Cyanides Heavy metal salts
Hazardous decomposition products	:	Oxygen Chlorine Sulfur oxides Hypochlorites

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Skin contact
Ingestion

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. Assessment: Not corrosive to the respiratory tract.
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

sodium dodecylbenzenesulfonate:

Acute oral toxicity	:	LD50 (Rat): 438 mg/kg

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.

sodium dodecylbenzenesulfonate:

Assessment : Irritating to skin.

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.

Product:

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

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):

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

sodium dodecylbenzenesulfonate:

Assessment : Risk of serious damage to eyes.

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.

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

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.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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.

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

sodium dodecylbenzenesulfonate:

Species	:	Rat
NOAEL	:	220 mg/kg
Application Route	:	Oral
Dose	:	220 mg/kg
Remarks	:	Chronic toxicity

Butanedioic acid, 2-hydroxy-:

Remarks : No known significant effects or critical hazards.

Aspiration toxicity

Not classified due to lack of data.

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

sodium dodecylbenzenesulfonate:

Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus kisutch (coho salmon)): 3.1 mg/l Exposure time: 3 Days

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 4 mg/l Exposure time: 7 Days

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.

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

sodium dodecylbenzenesulfonate:

Bioaccumulation : Bioconcentration factor (BCF): 220

Partition coefficient: n-octanol/water : log Pow: 0.45

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

RCRA - Resource Conservation and Recovery Authorization Act : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

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

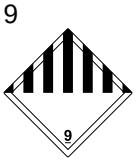
IATA-DGR
Not regulated as a dangerous good

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

49 CFR

UN/ID/NA number	:	UN 3077
Proper shipping name	:	Environmentally hazardous substance, solid, n.o.s. (SODIUM DODECYLBENZENESULFONATE)
Class	:	9
Packing group	:	III
Labels	:	9
	:	
ERG Code	:	171
RQ	:	7,192.43 lb
Marine pollutant	:	no

Hazard and Handling Notes
Risk of serious damage to eyes
Keep dry.
Keep separated from foodstuffs
When in individual containers of less than the Product RQ, this material ships as non-regulated.

Special precautions for user
The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ	Calculated product RQ

		(lbs)	(lbs)
sodium dodecylbenzenesulfonate	25155-30-0	1000	7192

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

sodium dodecylbenzenesulfonate	25155-30-0

Pennsylvania Right To Know

pentapotassium bis(peroxymonosulphate) bis(sulphate)	70693-62-8
Polyphosphoric acids, sodium salts	68915-31-1
sodium dodecylbenzenesulfonate	25155-30-0
Butanedioic acid, 2-hydroxy-	6915-15-7
sulphamidic acid	5329-14-6
potassium hydrogensulphate	7646-93-7
dipotassium peroxodisulphate	7727-21-1
sodium sulphate	7757-82-6

California Prop. 65

WARNING: This product can expose you to chemicals including 7-methyl-3-methyleneocta-1,6-diene, which is/are known to the State of California to cause cancer, and Ferrate(4-), hexakis(cyano-κC)-, sodium (1:4), (OC-6-11)-, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

TSCA inventory

TSCA : This product is regulated under the United States Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

FIFRA information

EPA registration number : 39967-137

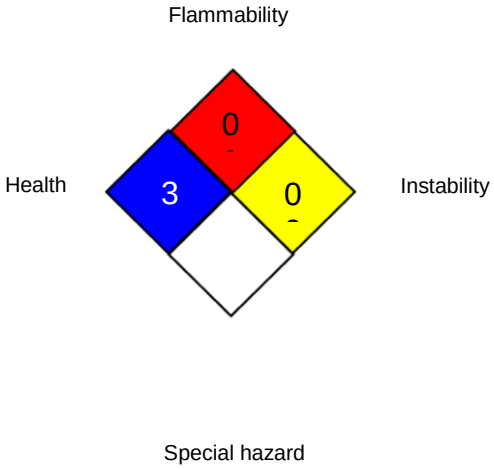
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal Word	:	DANGER
Hazard Statements	:	Powder is corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed or absorbed through skin.

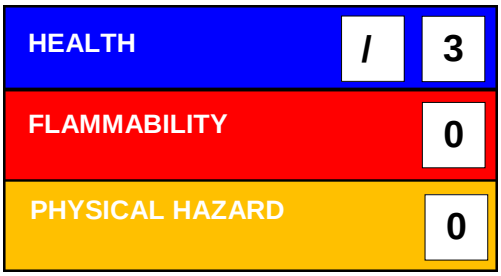
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



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.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA	:	8-hour, time-weighted average
OSHA Z-3 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardization; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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 - Indus-

trial 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; 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

Revision Date : 09/24/2025

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.

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