SAFETY DATA SHEET

VIRUSNIP

Section 1. Identification

Product identifier : VIRUSNIP

Product code : 124000000679

Other means of identification : A-20119 A; AH2235; VIRUCIDAL EXTRA

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

Identified uses : Biocidal product

Uses advised against : None known.

Company Name : Elanco Canada Ltd.
37 McCarville Street,
Charlottetown, PE, C1E 2A7

Telephone number : Not Available

Emergency telephone number : CHEMTREC International: 00 1 703-527-3887 (24 hours)

Email : elanco_sds@elancoah.com

Transportation Emergency telephone number : CANUTEC (24 HR) 1-613-996-6666

Section 2. Hazard identification

Classification of the substance or mixture : COMBUSTIBLE DUSTS - Category 1
ACUTE TOXICITY (oral) - Category 4
SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
May form combustible dust concentrations in air.

Precautionary statements

Prevention : P280 - Wear protective gloves, protective clothing and eye or face protection.
P261 - Avoid breathing dust or mist.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.

Section 2. Hazard identification

Response : P304 + P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.
P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.
P363 - Wash contaminated clothing before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage : P405 - Store locked up.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Prevent dust accumulation.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	Synonyms	% (w/w)	CAS number
Potassium hydrogen peroxymonosulfate	Potassium peroxymonosulfate sulfate; Potassium peroxymonosulfate sulfate (K5H3(SO3(O2))2(SO4)2); Potassium hydrogen peroxymonosulfate; Potassium hydrogen peroxymonosulphate; Pentapotassium bis(peroxymonosulfate)bis(sulfate); KPMS; Potassium peroxysulfate sulfate [K5(HSO5)2(HSO4)(SO4)]; HYDROGENPEROXY SULFATE, POTASSIUM; Potassium peroxymonosulfate sulfate (K5[HSO3(O2)][SO3(O2)](HSO4)2); potassium peroxymonosulfate; pentapotassium bis((hydroperoxysulfonyl)oxidanide) hydrogen sulfate sulfate	≥30 - ≤60	70693-62-8
Sulfamic acid	sulphamic acid; sulfamic acid; Aminosulfonic acid; amidosulfonic acid; sulfamidic acid; Sulfaminic acid; Amidosulfuric acid; Jumbo; Alprojet W; Scale Cleen; AMINO-SULFONIC ACID	≥10 - ≤30	5329-14-6
Sodium dichloroisocyanurate	1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3-dichloro-, sodium salt (1:1); 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3-dichloro-, sodium salt; Sodium dichloroisocyanurate; s-Triazine-2,4,6(1H,3H,5H)-trione, dichloro-, sodium salt; SODIUM DICHLORO-S-TRIAZINETRIONE; 1,3-Dichloro-1,3,5-triazine-2,4,6(1H,3H,5H)-trione, Sodium salt; 1,3,5-Triazine, 2,4,6(1H,3H,5H)-	≥5 - ≤10	2893-78-9

Section 3. Composition/information on ingredients

	trione, 1,3-dichloro-, sodium salt; 1,3,5-Triazine-2,4,6-(1H,3H,5H) trione, 1,3-dichloro, sodium salt; DICHLOROISOCYANURIC ACID, SODIUM SALT; DICHLORO-1,3,5-TRIAZINETRIONE, SODIUM SALT; 1,3-Dichloro-1,3,5-triazine-2,4,6(1H,3H,5H)trione, sodium salt		
Benzenesulfonic acid, linear alkyl, sodium salt	Benzenesulfonic acid, C10-13-alkyl derivatives, sodium salts; (C10-13) Alkylbenzenesulfonic acid, sodium salt; Benzenesulphonic acid, C10-13-alkyl derivs., sodium salts; Benzenesulfonic acid, linear alkyl-, sodium salt; Benzenesulfonic acid, C10-13 Alkylderivs., Sodium salts; C10-13 ALKYLBENZENESULFONIC ACID, SODIUM SALT; Linear alkylbenzene sodium sulfonate; Linear alkylbenzene sulfonic acid sodium salt; Sodium alkylbenzene sulfonate; LAS; BENZENESULFONIC ACID, LINEAR ALKYL, SODIUM SALT	≥5 - ≤10	68411-30-3
trisodium 7-[[4-chloro-6-[(3-sulphonatophenyl)amino] -1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[(4-methoxy-2-sulphonatophenyl)azo] naphthalene-2-sulphonate	2-Naphthalenesulfonic acid, 7-[[4-chloro-6-[(3-sulfophenyl)amino] -1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[2-(4-methoxy-2-sulfophenyl)diazenyl] -, sodium salt (1:3); 2-Naphthalenesulfonic acid, 7-[[4-chloro-6-[(3-sulfophenyl)amino] -1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[(4-methoxy-2-sulfophenyl)azo]-, trisodium salt; C.I. Reactive Red 43; 7-[[4-Chloro-6-[(3-sulfophenyl)amino; trisodium 7-[[4-chloro-6-[(3-sulfonatophenyl)amino] -1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[(4-methoxy-2-sulfonatophenyl)azo] naphthalene-2-sulfonate; 7-[[4-Chloro-6-[(3-sulfophenyl)amino] -1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[(4-methoxy-2-sulfophenyl)azo] -2-naphthalenesulfonic acid, trisodium salt	≥0.1 - ≤1	64181-81-3

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Section 4. First-aid measures

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical powder.

Unsuitable extinguishing media : Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.

Specific hazards arising from the chemical : May form explosible dust-air mixture if dispersed.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
phosphorus oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

Small spill : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store between the following temperatures: 2 to 40°C (35.6 to 104°F). Store in accordance with local regulations. Store in a segregated and approved area. 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. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and 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 containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
None.	

Biological exposure indices

None known.

Section 8. Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. 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. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Solid. [Powder.]

Color : Pink

Odor : Lemon-like.

Odor threshold : Not available.

pH : 2.1 [Conc. (% w/w): 1%]

Melting point/freezing point : 63°C (145.4°F)

Boiling point, initial boiling point, and boiling range : 216°C (420.8°F)

Section 9. Physical and chemical properties and safety characteristics

Flash point : Closed cup: 150°C (302°F)

Evaporation rate : Not available.

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Not applicable.

Vapor pressure : 0.00000001 kPa (0.000000075 mm Hg)

Relative vapor density : Not applicable.

Relative density : 1.853

Density : 1.85 g/cm³

Solubility(ies) : Not available.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not applicable.

Decomposition temperature : Not available.

Viscosity : Not applicable.

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not 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 stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Potassium hydrogen peroxymonosulfate	LC50 Inhalation Dusts and mists	Rat	>5000 mg/m³	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	500 mg/kg	-
Sulfamic acid	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	3160 mg/kg	-
Sodium dichloroisocyanurate	LC50 Inhalation Dusts and mists	Rat	0.27 to 1.17 mg/l	4 hours
	LD50 Oral	Rat	1420 mg/kg	-
Benzenesulfonic acid, linear alkyl, sodium salt	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	404 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Sulfamic acid	Eyes - Irritant	Rabbit	-	-	-
	Eyes - Moderate irritant	Rabbit	-	20 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 250 ug	-
	Skin - Irritant	Rabbit	-	-	-
	Skin - Mild irritant	Human	-	120 hours 4 % I	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 mg	-
Sodium dichloroisocyanurate	Eyes - Mild irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 10 mg	-
	Eyes - Severe irritant	Rabbit	-	0.1 g	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Severe irritant	Rabbit	-	500 mg	-
Benzenesulfonic acid, linear alkyl, sodium salt	Skin - Moderate irritant	Rabbit	-	0.5 Ml	-

Sensitization

Not available.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Sulfamic acid	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal	Negative

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Sodium dichloroisocyanurate	Category 3	-	Respiratory tract irritation

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Potassium hydrogen peroxymonosulfate	Chronic NOAEL Oral	Rat	1000 mg/kg	14 days

General : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
VIRUSNIP	833.4	N/A	N/A	N/A	N/A
Potassium hydrogen peroxymonosulfate	500	2500	N/A	N/A	N/A
Sulfamic acid	3160	2500	N/A	N/A	N/A
Sodium dichloroisocyanurate	1420	N/A	N/A	N/A	0.27
Benzenesulfonic acid, linear alkyl, sodium salt	404	2500	N/A	N/A	N/A
trisodium 7-[[4-chloro-6-[(3-sulphonatophenyl)amino]-1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[(4-methoxy-2-sulphonatophenyl)azo]naphthalene-2-sulphonate	2500	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Potassium hydrogen peroxymonosulfate	Acute EC50 >1 mg/l	Algae	72 hours
	Acute EC50 3.5 mg/l	Daphnia	48 hours
	Acute LC50 1.09 mg/l	Fish - Cyprinodon variegatus	96 hours
	Chronic NOEC 0.5 mg/l Fresh water	Algae	72 hours
	Chronic NOEC 0.267 mg/l	Crustaceans - Crangon crangon (shrimp)	28 days
	Chronic NOEC 1.8 mg/l	Daphnia	24 hours
	Chronic NOEC 0.222 mg/l	Fish - Cyprinodon veriegatus	-
Sulfamic acid	Acute EC50 71.6 mg/l	Daphnia	48 hours
	Acute LC50 14200 µg/l Fresh water	Fish - Pimephales promelas	96 hours
Sodium dichloroisocyanurate	Acute EC50 6.24 mg/l Fresh water	Algae - Scenedesmus acutus var. acutus	3 days
	Acute EC50 0.11 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 0.217 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
Benzenesulfonic acid, linear alkyl, sodium salt	Acute EC50 2.9 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 1.67 mg/l	Fish	96 hours
	Chronic EC50 29 mg/l	Algae - Pseudokirchnerella subcapitata	96 hours
	Chronic NOEC 0.5 mg/l	Algae - Pseudokirchnerella subcapitata	96 hours
	Chronic NOEC 0.5 mg/l	Crustaceans - Ceriodaphnia dubia	7 days
	Chronic NOEC 0.63 mg/l	Fish - Pimephales promelas	196 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Potassium hydrogen peroxymonosulfate	<0.3	-	low
Sulfamic acid	0.101	-	low
Benzenesulfonic acid, linear alkyl, sodium salt	3.32	-	low

Mobility in soil

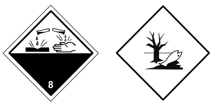
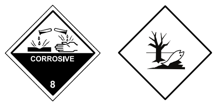
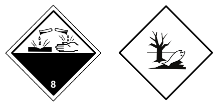
Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	TDG Classification	DOT Classification	IMDG	IATA
UN number	UN3260	UN3260	UN3260	UN3260
UN proper shipping name	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S (PENTAPOTASSIUM BIS (PEROXYMONOSULPHATE) BIS(SULPHATE))	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S (PENTAPOTASSIUM BIS (PEROXYMONOSULPHATE) BIS(SULPHATE))	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S (PENTAPOTASSIUM BIS (PEROXYMONOSULPHATE) BIS(SULPHATE))	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S (PENTAPOTASSIUM BIS (PEROXYMONOSULPHATE) BIS(SULPHATE))
Transport hazard class(es)	8 	8 	8 	8 
Packing group	III	III	III	III
Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark).
The marine pollutant mark is not required when transported by road or rail.

DOT Classification : This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.
Reportable quantity 20000 lbs / 9080 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : The following components are listed: phosphorus (total)

CEPA Toxic substances : None of the components are listed.

Inventory list

Canada : Not determined.

Section 16. Other information

History

Date of issue/Date of revision : 6/29/2023

Date of previous issue : No previous validation

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Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HPR = Hazardous Products Regulations
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Procedure used to derive the classification

Classification	Justification
COMBUSTIBLE DUSTS - Category 1	On basis of test data
ACUTE TOXICITY (oral) - Category 4	Calculation method
SKIN CORROSION - Category 1	Calculation method
SERIOUS EYE DAMAGE - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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For additional information contact:
Elanco Animal Health
0011+1-877-352-6261
0011+1-800-428-4441