SECTION 1. IDENTIFICATION

Product name : VIRKON™ S
Product code : 000000000057804863
EPA registration number : 39967-137

Manufacturer or supplier's details
Company : LANXESS Corporation
          Product Safety & Regulatory Affairs
          111 RIDC Park West Drive
          15275-1112 Pittsburgh, United States of America

Responsible Department : +1800LANXESS
Emergency telephone number : Chemtrec (800) 424-9300
                              International (703) 527-3887
                              Lanxess Emergency Phone (800) 410-3063

Recommended use of the chemical and restrictions on use
Recommended use : Disinfectants
                  Cleaning agent

SECTION 2. HAZARDS IDENTIFICATION

Skin irritation : Category 2
Serious eye damage : Category 1

GHS label elements
Hazard pictograms :

Signal word : Danger
Hazard statements : Causes skin irritation.
                   Causes serious eye damage.
Precautionary statements : Prevention:
                          Wash skin thoroughly after handling.
                          Wear protective gloves/ eye protection/ face protection.
Response:
IF ON SKIN: Wash with plenty of soap and water.
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.
If skin irritation occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pentapotassium bis(peroxymonosulphate) bis(sulphate)</td>
<td>70693-62-8</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>malic acid</td>
<td>6915-15-7</td>
<td>&gt;= 20 - &lt; 30</td>
</tr>
<tr>
<td>sulphamidic acid</td>
<td>5329-14-6</td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
<tr>
<td>sodium dodecybenzenesulphonate</td>
<td>25155-30-0</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>potassium hydrogensulphate</td>
<td>7646-93-7</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>dipotassium peroxodisulphate</td>
<td>7727-21-1</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>

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

SECTION 4. FIRST AID MEASURES

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

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

In case of eye contact : Get medical attention immediately.
In case of contact, flush eyes with plenty of water for at least 30 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated.
Remove contact lenses, if present and easy to do. Continue rinsing.
Chemical burns must be treated promptly by a physician.

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

**Most important symptoms and effects, both acute and delayed**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye: Causes irritation with symptoms of reddening, tearing, stinging, and swelling. Skin: Causes irritation with symptoms of reddening, itching, and swelling.</td>
<td>Causes skin irritation. Causes serious eye damage.</td>
</tr>
</tbody>
</table>

**SECTION 5. FIREFIGHTING MEASURES**

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable extinguishing media</td>
<td>Do not use water jet. Carbon dioxide (CO2)</td>
</tr>
<tr>
<td>Specific hazards during firefighting</td>
<td>Toxic and irritating gases/fumes may be given off during burning or thermal decomposition. Water runoff from fire fighting may be corrosive.</td>
</tr>
<tr>
<td>Hazardous combustion products</td>
<td>Carbon dioxide (CO2) Carbon monoxide Sulphur oxides Metal oxides Nitrogen oxides (NOx) Halogenated compounds Phosphorus oxides Sulphur oxides Metal oxides Carbon dioxide (CO2) Carbon monoxide Nitrogen oxides (NOx) Halogenated compounds</td>
</tr>
<tr>
<td>Further information</td>
<td>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.</td>
</tr>
<tr>
<td>Special protective equipment for firefighters</td>
<td>Wear self-contained breathing apparatus for firefighting if necessary.</td>
</tr>
</tbody>
</table>
SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
No action shall be taken involving any personal risk or without suitable training.
Put on appropriate personal protection equipment.
Do not touch or walk through spilled material.
Evacuate personnel to safe areas.
Keep unnecessary and unprotected personnel from entering.
Provide adequate ventilation.
Avoid breathing dust.

Environmental precautions:
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up:
Move containers from spill area.
Keep people away from and upwind of spill/leak.
Avoid dust formation.
Do not dry sweep.
Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container.
Dispose of wastes in an approved waste disposal facility.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion:
Avoid dust formation.
Provide appropriate exhaust ventilation at places where dust is formed.

Advice on safe handling:
Remove contaminated clothing and protective equipment before entering eating areas.
Workers should wash hands and face before eating, drinking and smoking.
Put on appropriate personal protection equipment.
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
Avoid inhalation, ingestion and contact with skin and eyes.
Use only with adequate ventilation.

Conditions for safe storage:
Store in accordance with local regulations.
Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink.
Keep container closed when not in use.
Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
Do not store in unlabeled containers.
Use appropriate container to avoid environmental contamina-
SECTIONS 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>dipotassium peroxodisulphate</td>
<td>7727-21-1</td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

**Engineering measures**: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Personal protective equipment**

**Respiratory protection**: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Hand protection**
- **Material**: Butyl rubber - IIR
- **Wearing time**: < 60 min

**Remarks**: The suitability for a specific workplace should be discussed with the producers of the protective gloves. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations.

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

**Skin and body protection**: Wear suitable protective clothing.

**Hygiene measures**: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
- Appropriate techniques should be used to remove potentially contaminated clothing.
- Wash contaminated clothing before reusing.
- Ensure that eyewash stations and safety showers are close to the workstation location.
**SAFETY DATA SHEET**

**VIRKON™ S**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>tablet</td>
</tr>
<tr>
<td>Colour</td>
<td>yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>Odour Threshold</td>
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</tr>
<tr>
<td>pH</td>
<td>2.5 - 3</td>
</tr>
<tr>
<td>Melting point/range</td>
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<tr>
<td>Boiling point/boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
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<tr>
<td>Self-ignition</td>
<td>No data available</td>
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<tr>
<td>Burning number</td>
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<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 0.0001 hPa (68 °F / 20 °C)</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>1.35 g/cm³ (68 °F / 20 °C)</td>
</tr>
<tr>
<td>Water solubility</td>
<td>65 g/l</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Print Date: 08/20/2021
EXPLOSIVE PROPERTIES

No data available

OXIDIZING PROPERTIES

No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

No decomposition if stored and applied as directed.

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

Incompatible with strong bases and oxidizing agents.

- Halogenated compounds
- Combustible substances
- Brass
- Copper
- Cyanides
- Metal salt.

Hazardous decomposition products

- Chlorine
- Sulphur oxides

SECTION 11. TOXICOLOGICAL INFORMATION

The most important known symptoms and effects are described in Section 2 and/or Section 4.

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity

LD50 (Rat, male and female): 4,123 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity

LC0 (Rat, male and female): > 3.7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: the particle size measurements of the product indicate that it is not respirable and therefore not bioavailable by the inhalation route.
Acute dermal toxicity: LD50 (Rat, male and female): 2,200 mg/kg
Remarks: Extrapolation according to Regulation (EC) No. 440/2008

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):
Acute oral toxicity: LD50 (Rat, male and female): 500 mg/kg
Method: OECD Test Guideline 423

Acute inhalation toxicity: LC0 (Rat, male): > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Highest producible concentration.

Acute dermal toxicity: LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Extrapolation according to Regulation (EC) No. 440/2008

malic acid:
Acute oral toxicity: LD50 (Rat, male and female): 3,500 mg/kg
Method: OECD Test Guideline 401
GLP: no

Acute inhalation toxicity: LC0 (Rat, male and female): > 1.306 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Remarks: Highest producible concentration.

Acute dermal toxicity: LD50 (Rabbit, female): > 5,000 mg/kg
Method: OECD Test Guideline 401
GLP: no

sulphamidic acid:
Acute oral toxicity: LD50 (Rat, female): 2,140 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute dermal toxicity: LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity
sodium dodecylbenzenesulfonate:
Acute oral toxicity : LD50 (Rat): 438 mg/kg

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

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.

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

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

sodium dodecylbenzenesulfonate:
Assessment : Irritating to skin.

potassium hydrogensulphate:
Assessment : Causes burns.

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

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

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

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

sodium dodecylbenzenesulfonate:
Assessment : Risk of serious damage to eyes.

dipotassium peroxodisulphate:
Result : Irritating to eyes.

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.
Product:
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Did not cause sensitisation on laboratory animals.

Exposure routes: Inhalation
Species: Mammal - species unspecified
Method: Expert judgement
Result: Does not cause respiratory sensitisation.

Components:
pentapotassium bis(peroxymonosulphate) bis(sulphate):
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

malic acid:
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Did not cause sensitisation on laboratory animals.
GLP: yes

sulphamidic acid:
Result: Did not cause sensitisation on laboratory animals.

dipotassium peroxodisulphate:
Exposure routes: Inhalation
Species: Mammal - species unspecified
Result: May cause sensitisation by inhalation.
Exposure routes: Skin contact
Species: Mouse
Method: OECD Test Guideline 429
Result: May cause sensitisation by skin contact.

Germ cell mutagenicity
Not classified based on available information.

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
Genotoxicity in vivo: Species: Mammalian-Animal
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

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

sulphamidic acid:
Genotoxicity in vitro: Test system: Mammalian-Human
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 487
Result: negative
GLP: yes

Test system: Mammalian-Animal
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Test system: Bacteria
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

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

Carcinogenicity
Not classified based on available information.
IARC: No component 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 component 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 based on available information.

**Components:**

**pentapotassium bis(peroxymonosulphate) bis(sulphate):**

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

**malic acid:**

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

**STOT - single exposure**

Not classified based on available information.

**Components:**

**potassium hydrogen sulphate:**

Assessment: May cause respiratory irritation.

**dipotassium peroxodisulphate:**

Assessment: May cause respiratory irritation.

**STOT - repeated exposure**

Not classified based on available information.

**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

**malic acid:**
Remarks: No known significant effects or critical hazards.

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

Aspiration toxicity
Not classified based on available information.

Further information

**Product:**
Remarks: No data available

---

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Components:**

**pentapotassium bis(peroxymonosulphate) bis(sulphate):**
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 53 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 3.5 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes
Remarks: Fresh water

Toxicity to algae/aquatic plants: EC50 (Pseudokirchneriella subcapitata (microalgae)): > 1 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes
Remarks: Fresh water

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

**malic acid:**
Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 240 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes
Remarks: Fresh water

Toxicity to algae/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

Remarks: Fresh water
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

**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

**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.
Persistence and degradability

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):
Biodegradability : Result: The methods for determining the biological degradability are not applicable to inorganic substances.

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

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

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

Bioaccumulative potential

Components:

pentapotassium bis(peroxymonosulphate) bis(sulphate):
Partition coefficient: n-octanol/water : log Pow: < 0.3
Method: OECD Test Guideline 117

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

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

sodium dodecylbenzenesulfonate:
Bioaccumulation : Bioconcentration factor (BCF): 220
Partition coefficient: n-octanol/water : log Pow: 0.45
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.

National Regulations

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 : 21,166.71 lb
Marine pollutant : no
When in individual containers of less than the Product RQ, this material ships as non-regulated.

Hazard and Handling Notes. : Risk of serious damage to eyes, Irritating to skin., Keep dry., Keep away from foodstuffs, acids and alkalis

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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
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<tr>
<td>sodium dodecylbenzenesulfonate</td>
<td>25155-30-0</td>
<td>1000</td>
<td>21166</td>
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</table>

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 >= 3 - < 5
- dipotassium peroxodisulphate 7727-21-1 >= 1 - < 5

Massachusetts Right To Know
- sodium dodecylbenzenesulfonate 25155-30-0

Pennsylvania Right To Know
- pentapotassium bis(peroxymonosulphate) 70693-62-8 >= 30 - < 50
- bis(sulphate) 6915-15-7 >= 20 - < 30
- malic acid 144-55-8 > 1
- sodium hydrogencarbonate (Solution) 5329-14-6 >= 5 - < 10

Print Date: 08/20/2021
Polyphosphoric acids, sodium salts  68915-31-1  > 1
sodium dodecylbenzenesulfonate  25155-30-0  >= 3 - < 5
dipotassium peroxodisulphate  7727-21-1  >= 1 - < 5

**Pennsylvania Right To Know**
- pentapotassium bis(peroxymonosulphate)  70693-62-8
- bis(sulphate)
- malic acid  6915-15-7
- sodium hydrogen carbonate (Solution)  144-55-8
- sulphamidic acid  5329-14-6
- Polyphosphoric acids, sodium salts  68915-31-1
- sodium dodecylbenzenesulfonate  25155-30-0
- potassium hydrogen sulphate  7646-93-7
- dipotassium peroxidisulphate  7727-21-1
- sodium sulphate (Anhydrous)  7757-82-6

**California Prop. 65**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**TSCA inventory**
- 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. Corrosive statement does not refer to 1% in-use solution. FIFRA Registered Composition:
  - Active Ingredients:
    - Potassium peroxymonosulfate (CAS# 10058-23-8) 21.41%
    - Sodium chloride (CAS# 7647-14-5) 1.5%
    - Other Ingredients 77.09%
    - Total: 100%"
SECTION 16. OTHER INFORMATION

Further information

<table>
<thead>
<tr>
<th>Further Information</th>
<th>HMIS® IV:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NFPA 704:</strong></td>
<td></td>
</tr>
<tr>
<td>Health</td>
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<td>3</td>
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<td>Flammability</td>
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<td>Instability</td>
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<tr>
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<tr>
<td>Special hazard</td>
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</tbody>
</table>

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)
ACGIH / TWA : 8-hour, time-weighted average

AICS - Australian Inventory of Chemical Substances; 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 Standardisation; 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 - Industrial Safety and Health Law (Japan); ISO - International Organisation 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, Bioaccumu-
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.