

# SAFETY DATA SHEET

North American Version

## PAK® 27 ALGAECIDE

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1. Identification of the substance or mixture

Product name : PAK® 27 ALGAECIDE  
Molecular Weight : 314,06 g/mol

#### 1.2. Use of the Substance/Mixture

Recommended use : - It is a violation of federal law to use this product in a manner inconsistent with its labeling.  
- Pesticide  
- For further information, please contact: Supplier

#### 1.3. Company/Undertaking Identification

Address : SOLVAY CHEMICALS, INC.  
3333 RICHMOND AVENUE  
HOUSTON TX 77098-3099  
United States

#### 1.4. Emergency and contact telephone numbers

Emergency telephone number : 1 (800) 424-9300 CHEMTREC® (USA & Canada)  
01-800-00-214-00 (MEX. REPUBLIC)

Contact telephone number : US: +1-800-765-8292 (Product information)  
(product information): US: +1-713-525-6500 (Product information)

### 2. HAZARDS IDENTIFICATION

#### 2.1. Emergency Overview:

NFPA : H= 2 F= 0 I= 1 S= OX  
HMIS : H= 2 F= 0 R= 1 PPE = Supplied by User; dependent on local conditions

#### General Information

Appearance : powder  
Colour : white  
Odour : odourless

#### Main effects

- Oxidising
- Contact with combustible material may cause fire.
- Harmful if swallowed.
- Risk of serious damage to eyes.

#### 2.2. Potential Health Effects:

##### Inhalation

- irritation of the upper respiratory tract
- Irritating to mucous membranes
- Repeated or prolonged exposure: Risk of sore throat, nose bleeds.
- (in case of higher concentration): Cough.

**Eye contact**

- Severe eye irritation
- Lachrymation
- Redness
- Swelling of tissue
- Risk of serious damage to eyes.

**Skin contact**

- When in contact with damp skin, irritation.
- Itching
- Repeated exposure may cause skin dryness or cracking.

**Ingestion**

- Severe irritation
- Irritation of the mouth and throat.
- Symptoms: Nausea, Abdominal pain, Vomiting, Diarrhoea.

**Other toxicity effects**

- See section 11: Toxicological Information

**2.3. Environmental Effects:**

- See section 12: Ecological Information

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Sodium carbonate peroxyhydrate**

CAS-No. : 15630-89-4  
Concentration : > 85,0 %

**Sodium carbonate**

CAS-No. : 497-19-8  
Concentration : appr. 13,0 %

**Sodium silicate SiO<sub>2</sub>/Na<sub>2</sub>O**

CAS-No. : 1344-09-8  
Concentration : appr. 1,5 %

### 4. FIRST AID MEASURES

**4.1. Inhalation**

- Remove the subject from dusty environment and let him blow his nose.
- If symptoms persist, call a physician.

**4.2. Eye contact**

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).
- Consult with an ophthalmologist immediately in all cases.

**4.3. Skin contact**

- Remove and wash contaminated clothing before re-use.
- Wash off with plenty of water.
- If symptoms persist, call a physician.

#### 4.4. Ingestion

- Call a physician immediately.

***If victim is conscious:***

- If swallowed, rinse mouth with water (only if the person is conscious).
- Do NOT induce vomiting.

***If victim is unconscious but breathing:***

- Artificial respiration and/or oxygen may be necessary.

### 5. FIRE-FIGHTING MEASURES

#### 5.1. Suitable extinguishing media

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### 5.2. Extinguishing media which shall not be used for safety reasons

- Never use water.

#### 5.3. Special exposure hazards in a fire

- Oxidising
- Hazardous decomposition products formed under fire conditions.
- Oxygen
- Sustains combustion
- Contact with combustible material may cause fire.
- Contact with flammables may cause fire or explosions.
- Risk of explosion if heated under confinement.

#### 5.4. Hazardous decomposition products

- Oxygen

#### 5.5. Special protective equipment for fire-fighters

- In the event of fire, wear self-contained breathing apparatus.
- Fire fighters must wear fire resistant personnel protective equipment.

#### 5.6. Other information

- Keep product and empty container away from heat and sources of ignition.

### 6. ACCIDENTAL RELEASE MEASURES

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. Advice for non-emergency personnel

##### 6.1.2. Advice for emergency responders

#### 6.2. Environmental precautions

- Limited quantity
- Flush into sewer with plenty of water.
- If the product contaminates rivers and lakes or drains inform respective authorities.

#### 6.3. Methods and materials for containment and cleaning up

- Do not add chemical products.
- Pick up and arrange disposal without creating dust.
- All receiving equipment should be clean, vented, dry, labelled and made of material that is compatible with the product.
- Flush with plenty of water.
- Treat recovered material as described in the section "Disposal considerations".

## 7. HANDLING AND STORAGE

### 7.1. Handling

- Clean and dry piping circuits and equipment before any operations.
- Never return unused material to storage receptacle.
- Containers and equipment used to handle the product should be used exclusively for that product.
- Keep away from heat and sources of ignition.
- Keep away from water.
- Protect from moisture.
- Keep away from Incompatible products.

### 7.2. Storage

- Keep in a dry place.
- Keep in a cool, well-ventilated place.
- Keep away from direct sunlight.
- Keep away from heat.
- Keep away from incompatible products
- The container must be used exclusively for the product.
- Keep in container fitted with safety valve or vent.

### 7.3. Packaging material

- Stainless steel
- Polyethylene
- Paper + PE coating.
- glass

### 7.4. Other information

- Avoid dust formation.
- Refer to protective measures listed in sections 7 and 8.
- In industrial installations, apply the rules for the prevention of major accidents (consult an expert).
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- To avoid thermal decomposition, do not overheat.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Exposure Limit Values

#### **Sodium carbonate peroxyhydrate**

- SAEL (Solvay Acceptable Exposure Limit) 2006  
TWA = 5 mg/m<sup>3</sup>
- US. ACGIH Threshold Limit Values  
Remarks: none established

#### **Sodium carbonate**

- SAEL (Solvay Acceptable Exposure Limit) 2007  
TWA = 10 mg/m<sup>3</sup>
- US. ACGIH Threshold Limit Values  
Remarks: none established

#### **Particles not otherwise specified (PNOS)**

- Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) 07 2006  
time weighted average = 10 mg/m<sup>3</sup>  
Remarks: Total dust
- Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) 07 2006

- time weighted average = 3 mg/m<sup>3</sup>  
Remarks: respirable dust fraction
- Canada. Ontario OELs. (Ministry of Labor - Control of Exposure to Biological or Chemical Agents) 03 2006  
time weighted average = 3 mg/m<sup>3</sup>  
Remarks: Respirable particles.
  - Canada. Ontario OELs. (Ministry of Labor - Control of Exposure to Biological or Chemical Agents) 03 2006  
time weighted average = 10 mg/m<sup>3</sup>  
Remarks: Inhalable particulate.
  - US. ACGIH Threshold Limit Values 2007  
time weighted average = 3 mg/m<sup>3</sup>  
Remarks: Respirable particles.
  - US. ACGIH Threshold Limit Values 2010  
time weighted average = 10 mg/m<sup>3</sup>  
Remarks: Inhalable particles.
  - Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) 12 2008  
time weighted average = 10 mg/m<sup>3</sup>  
Remarks: Total dust
  - Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) 07 2009  
time weighted average = 3 mg/m<sup>3</sup>  
Remarks: Respirable particles.
  - Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) 07 2009  
time weighted average = 10 mg/m<sup>3</sup>  
Remarks: Total particulate.
  - Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) 05 2009  
8 hour average contamination limit: = 10 mg/m<sup>3</sup>  
Remarks: Alveolar dust fraction
  - Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) 05 2009  
8 hour average contamination limit: = 3 mg/m<sup>3</sup>  
Remarks: respirable dust fraction
  - Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) 05 2009  
15 minute average contamination limit: = 20 mg/m<sup>3</sup>  
Remarks: Alveolar dust fraction
  - Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) 05 2009  
15 minute average contamination limit: = 6 mg/m<sup>3</sup>  
Remarks: respirable dust fraction

## 8.2. Engineering controls

- Ensure adequate ventilation.
- Refer to protective measures listed in sections 7 and 8.
- Apply technical measures to comply with the occupational exposure limits.

## 8.3. Personal protective equipment

### 8.3.1. Respiratory protection

- Use only respiratory protection that conforms to international/ national standards.
- Recommended Filter type:

### 8.3.2. Hand protection

- Wear suitable gloves.

### 8.3.3. Eye protection

- Chemical resistant goggles must be worn.

#### 8.3.4. Skin and body protection

- Protective suit

#### 8.3.5. Hygiene measures

- Use only in an area equipped with a safety shower.
- Eye wash bottle with pure water
- Handle in accordance with good industrial hygiene and safety practice for diagnostics.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. General Information

Appearance	:	powder
Colour	:	white
Odour	:	odourless

### 9.2. Important health safety and environmental information

pH	:	from 10,4 - 10,6 <i>Concentration: 10,1 g/l</i>
Boiling point/boiling range	:	<i>Remarks: not applicable</i>
Flash point	:	<i>Remarks: not applicable</i>
Flammability	:	<i>Remarks: The product is not flammable.</i>
Explosive properties	:	<u><i>Explosion danger.</i></u> <i>Remarks: Not explosive</i>
Oxidizing properties	:	<i>Remarks: Oxidising</i>
Vapour pressure	:	<i>Remarks: not applicable</i>
Relative density / Density	:	<i>Remarks: no data available</i>
Bulk density	:	900 - 1.200 kg/m <sup>3</sup>
Solubility(ies)	:	Water 150 g/l <i>Temperature: 20 °C ( 68 °F )</i>
Partition coefficient: n-octanol/water	:	<i>Remarks: not applicable</i>
Viscosity	:	<i>Remarks: not applicable</i>
Vapour density	:	<i>Remarks: not applicable</i>

### 9.3. Other data

Decomposition temperature	:	<i>Remarks: Self-Accelerating decomposition temperature (SADT)</i>  : > 55 °C ( 131 °F ) <i>Remarks: 50 kg</i>
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## 10. STABILITY AND REACTIVITY

### 10.1. Stability

- Potential for exothermic hazard
- Stable under recommended storage conditions.

#### 10.2. Conditions to avoid

- Exposure to moisture.
- To avoid thermal decomposition, do not overheat.
- Keep at temperature not exceeding: 55 °C ( 131 °F )

#### 10.3. Materials to avoid

- Water, Acids, Bases, Heavy metal salts, Reducing agents, Organic materials, Flammable materials

#### 10.4. Hazardous decomposition products

- Oxygen

## 11. TOXICOLOGICAL INFORMATION

### Toxicological data

#### *Acute oral toxicity*

- LD50, rat, 1.034 mg/kg

#### *Acute inhalation toxicity*

- LC0, 1 h, rat, > 4.580 mg/m<sup>3</sup>

#### *Acute dermal irritation/corrosion*

- LD 10, rabbit, > 2.000 mg/kg

#### *Skin irritation*

- rabbit, slight irritation

#### *Eye irritation*

- rabbit, Risk of serious damage to eyes.

#### *Chronic toxicity*

- no data available

#### *Remarks*

- Harmful if swallowed.
- Risk of serious damage to eyes.
- Irritating to respiratory system and skin.
- Risk of serious damage to eyes.
- Irritating to skin and mucous membranes

## 12. ECOLOGICAL INFORMATION

### 12.1. Ecotoxicity effects

#### *Acute toxicity*

- Fishes, Pimephales promelas, LC50, 71 mg/l
- Fishes, Pimephales promelas, NOEC, 96 h, 7,4 mg/l
- Crustaceans, Daphnia pulex, EC50, 4,9 mg/l
- Crustaceans, Daphnia pulex, NOEC, 48 h, 2 mg/l

### 12.2. Mobility

- Air  
Remarks: not applicable
- Water  
Remarks: considerable solubility and mobility
- Soil/sediments  
Remarks: non-significant adsorption

### 12.3. Persistence and degradability

#### *Abiotic degradation*

- Result: not applicable
- Water/soil  
Result: significant hydrolysis

#### *Biodegradation*

- Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

### 12.4. Bioaccumulative potential

- Remarks: not applicable

### 12.5. Other adverse effects

- no data available

### 12.6. Remarks

- Hazard for the environment is limited due to product properties:
- . weak persistence of degradation products.
- Does not bioaccumulate.

## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste from residues / unused products

- Dilute with plenty of water.
- Dispose of wastes in an approved waste disposal facility.
- Can be landfilled, when in compliance with local regulations.
- In accordance with local and national regulations.

### 13.2. Packaging treatment

- Clean container with water.
- Empty containers should be taken to an approved waste handling site for recycling or disposal.
- Uncleaned empty packaging
- Dispose of as unused product.
- In accordance with local and national regulations.

### 13.3. RCRA Hazardous Waste

- Listed RCRA Hazardous Waste (40 CFR 302) - No
- Unlisted RCRA Hazardous Waste (40 CFR 302) - Yes
- D001 (ignitable waste)

## 14. TRANSPORT INFORMATION

#### IATA-DGR

UN number	UN 3378
Class	5.1
Packing group	III
ICAO-Labels	5.1 - Oxidizing substances
Proper shipping name:	SODIUM CARBONATE PEROXYHYDRATE

#### IMDG

UN number	UN 3378
Class	5.1
Packing group	III
IMDG-Labels	5.1 - Oxidizing substances



EmS

F-A  
S-Q

Proper shipping name: SODIUM CARBONATE PEROXYHYDRATE

**U.S. Dept of Transportation**

UN number UN 3378  
Class 5.1  
Packing group III  
Label 5.1 - Oxidizing substances  
Proper shipping name: SODIUM CARBONATE PEROXYHYDRATE

**Canada (TDG)**

UN number UN 3378  
Class 5.1  
Packing group III  
Label 5.1 - Oxidizing substances  
Proper shipping name: SODIUM CARBONATE PEROXYHYDRATE

**Mexico (NOM-002-SCT)**

UN number UN 3378  
Class 5.1  
Packing group III  
Label 5.1 - Oxidizing substances

**15. REGULATORY INFORMATION**

**15.1. Inventory Information**

<b>Toxic Substance Control Act list (TSCA)</b>	: -	In compliance with inventory.
<b>Australian Inventory of Chemical Substances (AICS)</b>	: -	In compliance with inventory.
<b>Canadian Domestic Substances List (DSL)</b>	: -	In compliance with inventory.
<b>Inventory of Existing Chemical Substances (China) (IECS)</b>	: -	In compliance with inventory.
<b>Korean Existing Chemicals Inventory (KECI (KR))</b>	: -	In compliance with inventory.
<b>EU list of existing chemical substances (EINECS)</b>	: -	In compliance with inventory.
<b>Japanese Existing and New Chemical Substances (MITI List) (ENCS)</b>	: -	In compliance with inventory.
<b>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</b>	: -	In compliance with inventory.
<b>New Zealand Inventory (in preparation) (NZ)</b>	: -	In compliance with inventory.

**15.2. Other regulations**

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)**

- not regulated.

**SARA Hazard Designation (SARA 311/312)**

- Fire Hazard: Yes.

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required**

- not regulated.

**US. EPA CERCLA Hazardous Substances (40 CFR 302)**

- not regulated.

**US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)**

- yes.

**US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)**

- not regulated.

**US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)**

- not regulated.

**15.3. Classification and labelling**

**Canada. Canadian Environmental Protection Act (CEPA). WHMIS Ingredient Disclosure List (Can. Gaz., Part II, Vol. 122, No. 2)**

- C - Oxidizing Material
- D2B - Toxic Material Causing Other Toxic Effects

Remarks: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

## 16. OTHER INFORMATION

**Ratings :**

**NFPA (National Fire Protection Association)**

Health = 2 Flammability = 0 Instability = 1 Special =OX

**HMIS (Hazardous Material Information System)**

Health = 2 Fire = 0 Reactivity = 1 PPE : Supplied by User; dependent on local conditions

**Further information**

- General revision
- Distribute new edition to clients

Material Safety Data Sheets contain country specific regulatory information; therefore, the MSDS's provided are for use only by customers of the company mentioned in section 1 in North America. If you are located in a country other than Canada, Mexico or the United States, please contact the Solvay Group company in your country for MSDS information applicable to your location.

The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations or mixtures, one must confirm that no new hazards are likely to exist. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. (Unless noted to the contrary, the technical information applies only to pure product).

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