



# PAK<sup>®</sup> 27 ALGAECIDE

## Sodium Percarbonate

### Technical Data Sheet

## PAK<sup>®</sup> 27 ALGAECIDE

### INTRODUCTION

PAK<sup>®</sup> 27 Algaecide is approved for use as an algaecide by the U.S. Environmental Protection Agency (EPA). Depending on state regulations, it may be considered a Restricted Use Pesticide. PAK<sup>®</sup> 27 is also approved under NSF/ANSI Standard 60 (drinking water treatment chemicals). All ingredients in PAK<sup>®</sup> 27 have either "Generally Recognized as Safe" (GRAS) food additive status from the U.S. Food and Drug Administration (FDA) or exemptions from tolerances from the U.S. EPA.

The active ingredient in PAK<sup>®</sup> 27 is sodium carbonate peroxyhydrate, which is an addition compound of sodium carbonate and hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>). The nominal amount of sodium carbonate peroxyhydrate is 85% in PAK<sup>®</sup> 27 which corresponds to 27.6% H<sub>2</sub>O<sub>2</sub>.

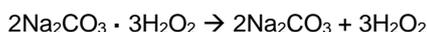
### APPLICATIONS

PAK<sup>®</sup> 27 is approved for use as an algaestat or algaecide for the selective control of blue-green algae in lakes, ponds, drinking water reservoirs, irrigation, drainage and conveyance ditches, canals, laterals, estuaries, bayous, lagoons, water gardens and water features, impounded water and waste water, and aquaculture. The product is applied at 3.0 to 100 lbs/acre-ft (9 to 307 lbs/million gals) of water to give 0.3 to 10.2 ppm H<sub>2</sub>O<sub>2</sub> by broadcasting the granules, manually or via a mechanical spreader, over the surface of the water.

**Application Note:** PAK<sup>®</sup> 27 may be applied in conjunction with copper compounds as part of a comprehensive treatment program. In such a program, copper treatments and PAK<sup>®</sup> 27 treatments would be staggered to maximize the efficacy of each treatment.

### CHEMISTRY

Upon dissolution, PAK<sup>®</sup> 27 releases its ingredients, soda ash (sodium carbonate) and hydrogen peroxide, into the water.



At the recommended application rate, the hydrogen peroxide component controls the growth of blue-green algae. At low dosage rates, green algae are not affected and are available to replenish dissolved oxygen in the water via photosynthesis.

### PRECAUTIONS

Decaying algae create a biological oxygen demand (BOD) which can deplete dissolved oxygen levels in the body of water. If the oxygen depletion is excessive, fish kills can occur. To avoid excessive oxygen depletion, apply PAK<sup>®</sup> 27 early enough in the day so that 8 to 10 hours of daylight remain. Do not reapply within 48 hours. If treating a large lake or a heavy algae bloom, treat 1/3 to 1/2 of water area first and wait two to three days before treating the remainder of the water.

### SPECIFICATIONS

PRODUCT PROPERTIES	STANDARD SPECIFICATIONS
Appearance	Free-flowing white granules
Available Oxygen	≥ 13.0
Particle Size Distribution (% retained on)	
850μ (US Sieve #20)	10 Maximum
212μ (US Sieve #70)	90 Minimum
Mean Particle Size (μ)	350 - 650

#### Solvay Chemicals, Inc.

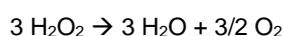
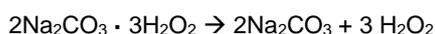
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## ADVANTAGES

**Selectivity:** At low dosage rates, PAK<sup>®</sup> 27 is selective for blue-green algae.

**Non-persistent:** Unlike copper compounds, which accumulate in mud and sediments, PAK<sup>®</sup> 27 adds no persistent toxic chemicals. Its decomposition leads to the formation of water and oxygen:



**Environmentally-compatible and non-toxic:** Continuous use of copper compounds can accumulate, reaching concentrations that are toxic to fish, invertebrates, and aquatic plants. At the lower dosage rates, PAK<sup>®</sup> 27 does not affect zooplankton and is non-toxic to fish, invertebrates, and aquatic plants.

**Efficacy (independent of pH):** PAK<sup>®</sup> 27 is effective in acidic, neutral and alkaline bodies of water.

**Efficacy against Copper-resistant algae:** PAK<sup>®</sup> 27 provides a solution for treating ecosystems containing copper-resistant blue-green algae.

**NonToxic:** At low dosage rates, PAK<sup>®</sup> 27 is non-toxic to the ecosystem. Continuous use of copper compounds can accumulate, reaching concentrations that are toxic to fish, invertebrates, and aquatic plants.

**Reduction of toxins:** Some blue-green algae species produce toxins during their life cycle. The use of PAK<sup>®</sup> 27 as an algaestat can reduce toxin concentrations by preventing blooms from occurring.

**Improvement of taste and odor:** The hydrogen peroxide component of PAK<sup>®</sup> 27 will oxidize reduced sulfur compounds and has been shown to reduce geosmin and methyl isoborneol concentrations in water. These components, associated with blue-green algae blooms, are responsible for imparting an off-taste and odor in drinking water reservoirs.

**Ease of handling:** PAK<sup>®</sup> 27 is a convenient form of hydrogen peroxide. It is a free-flowing, non-dusting granule. This solid form has safety and handling benefits over the use of concentrated liquid hydrogen peroxide.

## TECHNICAL INFORMATION

<b>Active Ingredients:</b>	Sodium carbonate peroxyhydrate
<b>Synonyms:</b>	Sodium percarbonate
<b>Formula:</b>	$2\text{Na}_2\text{CO}_3 \cdot 3\text{H}_2\text{O}_2$
<b>CAS No.:</b>	15630-89-4
<b>Solubility (20°C, g/L):</b>	120
<b>Alkalinity (%Na<sub>2</sub>CO<sub>3</sub>):</b>	67



# PAK<sup>®</sup> 27 ALGAEICIDE

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#### AVAILABILITY

PAK<sup>®</sup> 27 is available in 50-lb bags or 2000-lb super sacks from Solvay Chemicals' La Porte, Texas plant. For more information, or to place an order, please contact Solvay Chemicals Customer Service at 1-800-443-2785.

#### STORAGE AND HANDLING

Store in a dry location away from heat and out of direct sunlight in containers fitted with safety valve or vent. Storage temperature: < 104°F (40°C). Damp product in contact with combustible materials may cause fire.

Store in an area away from acids, bases, metals, metal salts, reducing agents, organic materials and flammable substances.

Never return unused product to container.

Rotate inventories - first in, first out.

Do not stack 50-lb. bags more than 8 bags high. Do not stack pallets. Maintain two feet of spacing between pallets or bags.

Refer to label for specific disposal instructions.

It is a violation of State and Federal law to use this product in a manner inconsistent with its label instructions. The label must be in the possession of the user at the time of pesticide application.

#### SAFETY

KEEP OUT OF REACH OF CHILDREN.

Read the SDS prior to use. Ensure all personnel who may come in contact with this material are aware of the potential hazards, first aid measures and the proper storage and use techniques outlined in the SDS.

Storage and use areas should be equipped with a safety shower and eyewash station. Water is the preferred extinguishing medium in case of fire involving this product.

#### FIRST AID

**Eye contact:** Hold eyelids open and flush immediately with a steady, gentle stream of water for 15 minutes. Seek medical attention.

**Skin contact:** Wash with soap and water. Seek medical attention if irritation exists.

**Inhalation:** Remove victim to fresh air. Seek medical attention.

**Ingestion:** Call a physician. DO NOT induce vomiting or give anything by mouth to an unconscious person. Avoid alcohol.



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#### DANGER

##### Hazards to Humans and Domestic Animals

PAK<sup>®</sup> 27 is corrosive. It causes severe eye damage and skin irritation. Do not get in eyes, on skin or clothing. Harmful if swallowed or inhaled. Avoid breathing dust. Wear protective eyewear (chemical goggles, face shield, or safety glasses). Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse. When prolonged or frequent, repeated contact could occur, use chemically-resistant gloves and full body clothing.

##### Physical and Chemical Hazards

PAK<sup>®</sup> 27 is an oxidizing agent.

**Before using, read Safety Data Sheet (SDS) for this chemical.**

**Solvay Chemicals, Inc.  
24-hour Emergency Phone Number – 800-424-9300 (CHEMTREC<sup>®</sup>)**

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