

SODIUM PERCARBONATE

CHEMICAL FACT SHEET

Formulations

Sodium percarbonate was first registered with the U.S. EPA in 2002 and is currently under registration review. An interim registration review decision is expected in 2024. It is labeled to control algae using surface application. Sodium percarbonate is available in liquid and granular form. Commercial formulations approved for aquatic use in Wisconsin include Phycomycin®, GreenClean®, PAK® 27 and EcoBlast™.*

Aquatic Use and Considerations

Sodium percarbonate is a contact algaecide (i.e., it affects cells on contact). It does not belong to a WSSA herbicide group. Its mechanism of action is by oxidizing critical cell components, which leads to membrane disruption and cell death.

When applied to water, sodium percarbonate becomes sodium carbonate and hydrogen peroxide. The hydrogen peroxide is what oxidizes the algae and causes it to decompose. Treatment effects will be obvious in five to ten minutes; there may also be some fizzing caused by the hydrogen peroxide.

Sodium percarbonate can be used to clear algae-filled water as well as to prevent algae growth in the first place. This feature separates it from other chemicals used to treat algae such as copper products, which are used to reduce algae blooms but do nothing to prevent additional algal growth.

When used to treat an algal bloom, applicators must take care to prevent unsafe drops in oxygen concentration in the water that can be harmful or lethal to fish and other aquatic life. Applications should be made early in the day.

* Product names are provided solely for your reference and should not be considered exhaustive nor endorsements.

For heavy blooms or large waterbodies, treat no more than one-half of the waterbody, and wait at least two days to treat the remainder of the waterbody. The use of sodium percarbonate may cause increases in water alkalinity and pH.

Algaecides, such as sodium percarbonate, may temporarily control algae and cyanobacteria (e.g., blue-green algae) but do not fix the underlying cause of algal blooms. The predominant toxin-producing blue-green algae in Wisconsin form visible blooms and scums, which can alert the public to potentially hazardous conditions. Treating a harmful algal bloom could induce toxin release from dying cells, which may be invisible to recreational users. Releasing toxins in a single large dose could cause more harm to lake organisms than if toxins were bound up in cells. Because of the risk of toxin release to public and environmental health, and the short duration of algaecide efficacy in nutrient-enriched water bodies, the Wisconsin Department of Natural Resources issues permits for algaecides sparingly and primarily for private ponds.

Sodium percarbonate is labeled to control planktonic (suspended), filamentous (mat-forming) and blue-green algae (cyanobacteria). Sodium percarbonate is not labeled for control of vascular plants.†

Post-Treatment Water Use Restrictions

There are no post-treatment restrictions on treated water use for swimming, fishing, livestock drinking water, irrigation, or human drinking water.†

† May vary by formulation, application rate, and/or product. Every product label must be carefully reviewed and followed by the user.

Herbicide Degradation, Persistence and Trace Contaminants

Sodium percarbonate is broken down by water (hydrolysis) to sodium carbonate and hydrogen peroxide. Hydrogen peroxide then breaks down further to water and oxygen. The half-life (the time it takes for half of the active ingredient to degrade) for the entire process is around 8 hours. Sodium percarbonate is not persistent in sediments or water.

Impacts on Fish and Other Aquatic Organisms

Since sodium percarbonate breaks down so quickly, it is practically non-toxic to freshwater fish when used according to label instructions and does not bioaccumulate (the process by which chemicals in the environment or in a food source are taken up by plants or animals). It is slightly toxic to freshwater invertebrates and practically non-toxic to bees and other terrestrial insects.

Human Health

Chemical applicators are primarily at risk of toxic effects after short-term exposure to sodium percarbonate. It can cause serious and irreversible eye damage and is harmful if swallowed, inhaled or absorbed through the skin. Wear proper personal protective equipment and follow label instructions while handling.

Sodium percarbonate has not been tested for long-term human health effects but risks from long-term exposure to sodium percarbonate are only likely to occur to chemical applicators who conduct repeated applications. Risks to chemical applicators are expected to be minimal if label instructions are followed. No significant risks are present to recreational users of water treated with sodium percarbonate.

For Additional Information

U.S. Environmental Protection Agency (EPA)
Office of Pesticide Programs
epa.gov/pesticides

Wisconsin Department of Agriculture, Trade,
and Consumer Protection
[datcp.wi.gov/Pages/Programs_Services/ACMOv
erview.aspx](http://datcp.wi.gov/Pages/Programs_Services/ACMOverview.aspx)

Wisconsin Department of Natural Resources
608-266-2621
dnr.wi.gov/lakes/plants

Wisconsin Department of Health Services
dhs.wisconsin.gov

National Pesticide Information Center
1-800-858-7378
npic.orst.edu

