Sodium Carbonate Peroxyhydrate Chemical Fact Sheet

Formulations

Sodium carbonate peroxyhydrate (SCP) was first registered with the EPA in 2002. It is a granular product that is used in lakes as an algaecide. SCP is created from sodium carbonate and hydrogen peroxide. It is sold under the trade names Phycomycin®, GreenClean®, PAK™ 27and EcoBlast™.

Aquatic Use and Considerations

SCP is used to treat filamentous algae and cyanobacteria. Cyanobacteria are the blue-green algae that can cause scummy blooms that can potentially contain toxins harmful when ingested. Green algae may also be affected, but lower doses may selectively treat cyanobacteria but not the green algae. SCP can also treat liverworts and mosses, but is not labeled for vascular plants. There is some evidence that higher application rates may inhibit growth of coontail (*Ceratophyllum demersum*).

When applied to water, SCP becomes sodium carbonate and hydrogen peroxide. The hydrogen peroxide oxidizes the algae, and kills it. The SCP action will be obvious in 5-10 minutes after treatment, and there may be some fizzing from the hydrogen peroxide.

SCP can be used to clear algae-filled water as well as to prevent the growth of algae 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, considerations must be taken 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. For heavy blooms or large waterbodies, treat no more than ½ of the waterbody, and wait at least two days to treat the remainder of the waterbody. Treatment of some cyanobacteria

may result in release of toxins due to the rupture of cells.

Due to potential effects on beneficial invertebrates, it is not recommended to apply this product in waters where biocontrol is occurring for invasive plants. This could include native or stocked populations of the milfoil weevil (*Euhrychiopsis lecontei*) which controls Eurasian watermilfoil (*Myriophyllum spicatum*) as well as the loosestrife beetle (*Galerucella calmariensis*) which is used to control purple loosestrife (*Lythrum salicaria*).

The use of SCP may cause increases in water alkalinity and pH, although the extent to which this occurs in natural waterbodies following treatments at application rates has not been studied.

Post-Treatment Water Use Restrictions

There are no restrictions on any use following a treatment with SCP, including swimming, eating fish from treated water bodies, pet/livestock drinking water use, irrigation, or human drinking water.

Herbicide Degradation, Persistence and Trace Contaminants

SCP breaks down to sodium carbonate and hydrogen peroxide in water. The end product from the breakdown of the hydrogen peroxide is water and oxygen.

Sodium carbonate peroxyhydrate is not persistent in sediments or water.

No trace contaminants have been identified related to SCP manufacture or use.

Impacts on Fish and Other Aquatic Organisms

SCP is not toxic to minnows at application rates, but has not been tested on other fish. It is toxic to water fleas (*Daphnia*) at application rates, but dosages on the lower end of the labeled rates (below 2 parts per million (ppm)) do not affect *Daphnia*. Other aquatic invertebrates have not been tested.

SCP is toxic to birds when ingested in concentrated form, so care needs to be taken to avoid spills and clean up any spills. No toxicity would be expected to birds from SCP as applied to lakes or ponds.

SCP is also highly toxic to bees and it should not be allowed to drift to flowering plants or used when contact with bees might occur. Other insects also may be affected by SCP, and therefore it should not be used when beneficial insects are present. Toxicity tests have not been done for the milfoil weevil or the loosestrife beetle, however at least one label of SCP prohibits application when beneficial insects are present.

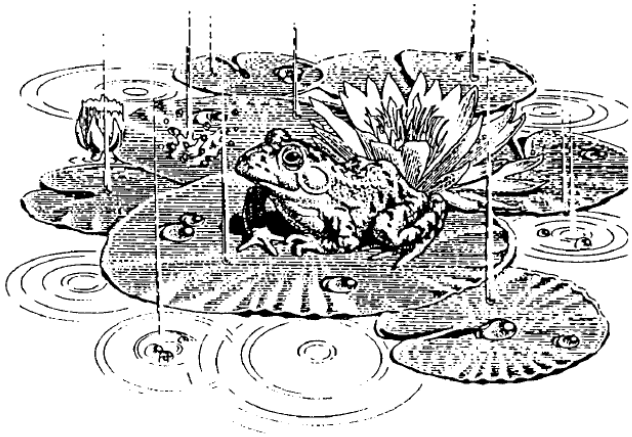
Chronic toxicity information is not available for SCP. For single applications, SCP will not be present in water long enough to create any chronic exposure, however, there may be a concern of chronic risk due to repeated applications on the same waterbody.

SCP does not bioaccumulate.

Human Health

The risk of acute exposure to SCP is primarily to applicators. It can cause serious eye damage and is an irritant when inhaled. It can cause itching or dryness when on the skin. When handling, applicators must wear protective goggles and chemical-resistant gloves to keep it out of the eyes and off the skin. No significant risks are present to recreational users of water treated with SCP.

SCP has not been tested for chronic human health effects, but chronic exposure to SCP from water applications are only likely to occur with repeated applications.



For Additional Information

Environmental Protection Agency
Office of Pesticide Programs
www.epa.gov/pesticides

Wisconsin Department of Agriculture, Trade, and Consumer Protection
http://datcp.wi.gov/Plants/Pesticides/

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

Wisconsin Department of Health Services
http://www.dhs.wisconsin.gov/

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

Wisconsin Department of Natural Resources
Box 7921
Madison, WI 53707-7921

DNR PUB-WT-976 2012