

Product Safety Summary

Sodium Percarbonate (Sodium Carbonate Peroxyhydrate)

CAS No. 15630-89-4

This Product Safety Summary is intended to provide a general overview of the chemical substance. The information on the summary is basic information and is not intended to provide emergency response information, medical information or treatment information. The summary should not be used to provide in-depth safety and health information. In-depth safety and health information can be found on the Material Safety Data Sheet (MSDS) for the chemical substance.

Names

- Sodium percarbonate
- PCS (Percarbonate de soude)
- Sodium carbonate hydrogen peroxide
- Carbonic acid disodium salt (1:2), compd. with hydrogen peroxide (H₂O₂) (2:3)
- Sodium carbonate peroxyhydrate (SCP)
- Solid hydrogen peroxide

Product Overview

Sodium percarbonate is an addition salt of hydrogen peroxide and sodium carbonate that provides a solid source of hydrogen peroxide. When dissolved in water, sodium percarbonate liberates hydrogen peroxide. Sodium percarbonate is a white, granular or powdered solid oxidizer. It is used primarily as a bleaching agent in cleaning products.

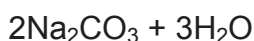
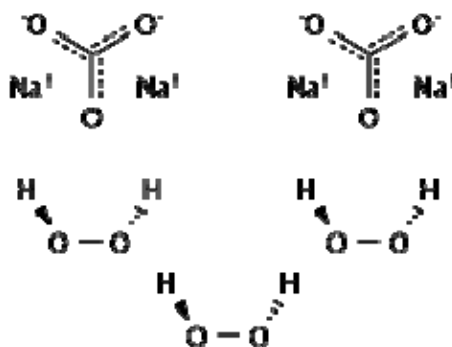
Solvay Chemicals, Inc. does not sell sodium percarbonate directly to consumers. Most sodium percarbonate is used in eco-friendly bleach products including home and industrial laundry detergents. Some sodium percarbonate is used in toothpastes. Additionally, a relatively small amount is registered with the EPA for use as an algacide. Consumers may be exposed to sodium percarbonate in any of these consumer product applications.

Exposure to sodium percarbonate can cause irritation to the skin, eyes, and respiratory tract. Ingestion should be avoided at all concentrations.

Sodium percarbonate is not persistent in the environment and readily decomposes to soda ash (sodium carbonate) and hydrogen peroxide which will subsequently decompose to water and oxygen when exposed to soils, sediments, and surface or ground waters.

Manufacture of Product

- Solvay Chemicals, Inc.'s production facility is located along the Gulf Coast.
- Solvay Chemicals, Inc. manufactures sodium percarbonate using a fluid bed process, hence the designation "FB[®] Sodium Percarbonate". A solution of hydrogen peroxide is sprayed together with a solution of sodium carbonate in a fluidizer; water is evaporated and the resultant crystals dried.



- Sodium percarbonate naturally decomposes very slowly to form sodium carbonate and hydrogen peroxide. The hydrogen peroxide may further decompose to form water and oxygen and liberate some heat. The decomposition proceeds according to the reaction below:



Product Description

Sodium percarbonate ($2\text{Na}_2\text{CO}_3 \cdot 3\text{H}_2\text{O}_2$) is manufactured and sold as a white, odorless powder or granules. Typical physical properties are provided in Table 1.

Table 1: Typical physical properties for Sodium Percarbonate

Equivalent Hydrogen Peroxide Content	27.5%
Decomposition Temperature	> 131° F (55° C)
Bulk Density	59 – 75 lbs./ft ³ (950-1200 kg/m ³)
Flash point	Non- flammable
Solubility in water	120 g/L @ 68° F (20° C)
pH	10.4 – 10.6 (1% aqueous solution)

Product Uses

The majority of sodium percarbonate produced in the United States is used by the detergent industry for consumer products. Other uses include algaecides, chemical synthesis and environmental applications such as control of odor at waste treatment facilities. A small amount is used in denture cleaners and toothpaste.

Exposure Potential

Workplace exposure - Exposures can occur at a sodium percarbonate manufacturing facility or a manufacturing, packaging or storage facility that handles percarbonate. Exposure may also occur in the event of a transportation incident. Persons involved in maintenance, sampling and testing activities, or in the loading and unloading of sodium percarbonate containers are at greater risk of exposure. Following good industrial hygiene practices will minimize the likelihood of exposure; however, persons involved in higher risk activities should always wear proper personal protective equipment such as protective gloves, goggles and a hard hat. In instances where the potential for dusting is high, proper respiratory protection should also be worn.

- **Consumer exposure to products containing sodium percarbonate** - Although Solvay Chemicals, Inc. does not sell sodium percarbonate directly to consumers, the majority of its uses are in a variety of consumer products. The user should always use these products in strict compliance with the manufacturer’s use and/or label instructions.



- **Environmental releases** - Spills of sodium percarbonate should be contained and isolated from waterways, sewer drains, and any flammable or combustible materials. Small spills should be swept up, and placed in a compatible container. Never replace any spilled or contaminated sodium percarbonate back in the original container. Any remaining residues should be diluted with large amounts of water. Dispose of waste, rinsate or residues in accordance with applicable local, state or federal regulations. Do not use adsorbents to soak up sodium percarbonate washings. Adsorbents and adsorbents may contain organics that can react with sodium percarbonate. Rinse sodium percarbonate contaminated cloth or paper towels with water until they are free of residual sodium percarbonate. Failure to do so may result in a fire when the damp cloth / paper dries. Persons attempting to clean up sodium percarbonate spills should wear proper personal protective equipment (See guidelines in the Workplace exposure section of this document or the [Material Safety Data Sheet](#)).
- **Fires** - Fires involving sodium percarbonate should be extinguished with large amounts of water. Containers of sodium percarbonate involved in a fire should be cooled with water sprays. Wet or damp sodium percarbonate may start to decompose and release heat causing any nearby combustibles to catch fire. If the container begins to discolor or vent violently, emergency responders should evacuate the area.

For additional information concerning sodium percarbonate emergency response procedures, please consult the [Material Safety Data Sheet](#).

Health Information

Sodium percarbonate typically found in consumer products may pose a risk of symptoms due to skin or inhalation exposure. Sodium percarbonate can produce the following adverse health affects:

- **Contact** - Skin exposures can cause symptoms ranging from minor skin irritation or itching to redness and swelling. Burns can occur if treatment is delayed after exposure to concentrated solutions of sodium percarbonate. Eye exposure to sodium percarbonate may result in severe eye irritation, burns or even blindness.
- **Inhalation** - The inhalation of sodium percarbonate dusts can cause nose and throat irritation or coughing. Repeated or prolonged exposures may cause sore throat or nosebleeds.
- **Ingestion** - The ingestion of sodium percarbonate may cause bloating, belching, irritation of the mouth and throat, nausea, vomiting, abdominal pain and diarrhea.
- **Other Effects** - The International Agency for Research on Cancer (IARC) has not classified sodium percarbonate as a carcinogen (cancer causing).



For more information on health effects and routes of exposure, or for information concerning proper first aid measures, please consult the [Material Safety Data Sheet](#).

Environmental Information

Sodium percarbonate does not naturally occur in the environment. Sodium percarbonate is known to be toxic to certain aquatic organisms, such as some types of algae. Small amounts of sodium percarbonate may be released to the aquatic environment from sites that manufacture or use sodium percarbonate. Waste treatment facilities also receive sodium percarbonate from household sources such as laundry effluents.

Sodium percarbonate is not known to bioaccumulate or persist in the environment more than a few days. The degradation products of sodium percarbonate (sodium carbonate, water and oxygen) are non-toxic. For more ecological and environmental information concerning this product, please consult the [Material Safety Data Sheet](#).

Physical Hazard Information

Sodium percarbonate is an oxidizer and will support combustion. Sodium percarbonate can cause fires when left in contact with combustible materials such as paper, wood or cloth, especially if wet or damp.

Exposure of sodium percarbonate to impurities such as strong acids, bases, and transition metals (copper, manganese, chromium, etc.) can cause sodium percarbonate decomposition. Sodium percarbonate decomposition will result in the liberation of heat, oxygen gas, water, and possibly steam. Systems used to store or transport sodium percarbonate must be properly vented and must have enough emergency venting capacity to allow the contents of the system to withstand a catastrophic decomposition event.

For more information concerning the physical hazards of this product, please consult the [Material Safety Data Sheet](#). For information concerning the proper design of sodium percarbonate systems, please contact Solvay Chemicals, Inc.

Regulatory Information

Regulations may exist that govern the manufacture, sale, transportation, use and/or disposal of this chemical. These regulations can vary by city, state, country or geographic

region. Information may be found by consulting the relevant [Material Safety Data Sheet](#) specific to your country or region.

Additional Information

- Solvay America, Inc. www.solvaynorthamerica.com
- Solvay Chemicals, Inc. www.solvaychemicals.us
- Solvay Chemicals, Inc. Material Safety Data Sheets
www.solvaychemicals.us/EN/Literature/LiteratureDocuments.aspx
- Contact Solvay Chemicals, Inc. solvaychemicals.us@solvay.com
- This summary was prepared in October, 2010.

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