

Product Safety Summary

Sodium Bisulfite Solution (CAS No. 7631-90-5)

This Product Safety Summary is intended to provide a general overview of the chemical substance. The information in 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 hydrogen sulfite (sulphite) solution
- E222 (food industry)

Product Overview

Sodium bisulfite solution is a variously colored liquid at room temperature. It is used in waste water treatment, in the pulp and paper industry, in the photographic industry and in various other industries as a bleach or dechlorinator. It can also be used to treat flue gases to remove sulfur trioxide (SO₃). Sodium bisulfite solution is sometimes used as a food additive. Sodium bisulfite solution can also be used in the manufacture of other chemicals.

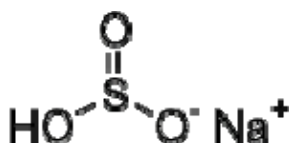
Solvay Chemicals, Inc. does not sell sodium bisulfite solution directly to consumers. Consumers may be exposed to sodium bisulfite in many of the consumer product applications listed above or in situations where the sodium bisulfite is not transformed or reacted.

Exposure to sodium bisulfite solution can cause irritation to the skin, eyes, and respiratory tract. If inhaled, sodium bisulfite solution may cause sensitization (develop an allergic reaction). Breathing sodium bisulfite solution mists or vapor may aggravate asthma or other pulmonary (breathing) diseases and may cause headaches, breathing difficulties, or heart irregularity from sulfur dioxide (SO₂) exposure. Exposure to too much SO₂ may cause death. Ingestion of sodium bisulfite solution may cause gastrointestinal irritation, nausea, vomiting and diarrhea.



Manufacture of Product

- Solvay Chemicals, Inc.'s production facility is located near Green River, Wyoming.
- Solvay Chemicals, Inc. manufactures sodium bisulfite solution by reacting sulfur dioxide with sodium carbonate (soda ash) in water.



NaHSO₃
Sodium Bisulfite

Product Description

Sodium bisulfite (NaHSO₃) solution is manufactured and sold as a variably colored liquid. Typical physical properties are provided in Table 1.

Table 1: Typical physical properties of Sodium Bisulfite Solution

| | |
|----------------------------|--|
| Flash point | Non- flammable |
| Solubility in water | 430 g/l NaHSO ₃ @ 43° F (6° C) |
| pH | 4.5 |

Product Uses

Sodium bisulfite solution is used in many industries; for example, in the treatment of waste water, in the pulp and paper industry, in the photographic industry and in various other industries as a bleach or dechlorinator. Sodium bisulfite solution can also be used in the manufacture of other chemicals.

Exposure Potential

- **Workplace exposure** – Sodium bisulfite solution continually liberates sulfur dioxide (SO₂), a toxic gas. Proper care should be taken to prevent exposure to this toxic gas by using proper personal protective equipment or ensuring proper ventilation. Exposures can occur at a sodium bisulfite solution manufacturing facility or a manufacturing, packaging or storage facility that handles sodium bisulfite solution. 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 bisulfite solution containers are at greater risk of exposure. Following good industrial hygiene practices will minimize the likelihood of sodium bisulfite solution exposure; however, persons involved in higher risk activities should always wear proper personal protective equipment such as protective gloves and goggles. In instances where the potential for misting is high, proper respiratory protection should also be worn.
- **Consumer exposure to products containing sodium bisulfite solution** - Although Solvay Chemicals, Inc. does not sell sodium bisulfite solution directly to consumers, some of its uses are in consumer products such as photographic processing solutions or food additives. The user should always use these products in strict compliance with the manufacturer's use and/or label instructions. Persons sensitive to sulfites should be careful when eating in an unfamiliar establishment.
- **Environmental releases** - Spills of sodium bisulfite solution should be contained and isolated from waterways and sewers or drains. Sodium bisulfite solution releases sulfur dioxide, a poisonous gas. Spills should be recovered and placed in a compatible container. Dispose of waste or residues in accordance with applicable local, state or federal regulations. Persons attempting to clean up sodium bisulfite solution spills should wear proper personal protective equipment (See guidelines in the Workplace exposure section of this document or the [Material Safety Data Sheet](#)).
- **Fires** – Sodium bisulfite solution is not flammable or combustible. Fires that occur in the presence of sodium bisulfite solution should be extinguished using means appropriate to the surroundings. When sodium bisulfite in solution decomposes (at very high temperatures), it liberates toxic sulfur dioxide and sulfur oxides.

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

Health Information

Sodium bisulfite typically found in consumer products should pose little a risk of symptoms due to skin or inhalation exposure since sodium bisulfite is used in very low concentrations. Sodium bisulfite solution can produce the following adverse health affects:

- **Contact** - Skin exposures can cause symptoms ranging from minor skin irritation or itching to redness and swelling. Eye exposure to sodium bisulfite solution may result in redness, tearing or moderate eye irritation.
- **Inhalation** - The inhalation of sodium bisulfite solution mists can cause nose and throat irritation or coughing. Repeated or prolonged exposures may cause sore throat or nosebleeds. Inhalation may also cause severe respiratory reactions and aggravate asthma or other breathing diseases.
- **Ingestion** - The ingestion of sodium bisulfite solution may cause irritation of the mouth and throat, nausea, vomiting and diarrhea.
- **Other Effects** - The International Agency for Research on Cancer (IARC) has not classified sodium bisulfite in solution 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 bisulfite solution is not considered to be environmentally hazardous or toxic.

For more ecological and environmental information concerning this product, please consult the [Material Safety Data Sheet](#).

Physical Hazard Information

For more information concerning the physical hazards of this product, please consult the [Material Safety Data Sheet](#).

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
- NJ Department of Health & Senior Services Hazardous Substance Fact Sheets
<http://web.doh.state.nj.us/rtkhsfs/factsheets.aspx>
- This summary was prepared in June, 2011.

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