



Sodium Chlorite

Health & Safety

Introduction

Sodium chlorite is commercially available in two different physical forms, either as a dry, flake material or in an aqueous solution. Unlike most chemicals, some of the hazards associated with this chemical may differ, depending on the form of this product.

Dry sodium chlorite, which is a white flake product with a slight chlorine odor, is an 80% active product. Sodium chlorite in its dry form is a strong oxidizer.

Sodium chlorite solutions are clear to slightly yellow in appearance, have a slight chlorine odor, and are available in different grades and concentrations ranging from 7.5% to 31% by weight. The most widely used solution products contain 25% active sodium chlorite. Sodium chlorite solutions are classified as corrosive by DOT.

The hazards and precautions specific to each form of this product will be discussed separately, followed by information common to both dry and liquid forms.

All users should read the appropriate product label and Safety Data Sheet (SDS) before handling dry or liquid forms of sodium chlorite.

Dry Sodium Chlorite

Health Hazards

Dry sodium chlorite may cause irritation or burns to the skin and eyes. It is harmful if swallowed.

Chemical Hazards

Sodium chlorite in its dry form is a strong oxidizer. An oxidizer is a compound that initiates or promotes combustion in other materials. This means that if sodium chlorite comes into contact with combustible materials, it can react rapidly and ignite. However, sodium chlorite will not normally burn by itself. Examples of combustible materials are oil or grease (such as from a forklift), wood (such as pallets), leather, cloth, paints, organics, and in some cases dirt. It is important to keep these materials away from dry sodium chlorite.

Dry sodium chlorite can be explosive in contact with chlorine, acids or acid materials such as alum. Contamination by these materials may start a chemical reaction, causing generation of heat and emission of chlorine dioxide, a poisonous and potentially explosive gas.

Handling Precautions

Do not get in eyes, on skin or on clothing. Do not taste or swallow. Avoid breathing dust and fumes. Keep containers closed. Do not handle with bare hands. Use only clean, dry plastic, utensils when handling. Mix only into water. Never add water to product. Remove and wash contaminated clothing to avoid fire.

Sodium Chlorite Solution

Health Hazards

Sodium chlorite solutions are corrosive and cause skin and eye irritation or burns. It is harmful if swallowed.





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Chemical Hazards

Sodium chlorite solution becomes a fire or explosion hazard if allowed to dry and can ignite on contact with combustible material after drying.

As with the dry product, sodium chlorite solutions are incompatible with materials such as organics, oxidizers, reducing agents, soap products, acids, paint products, combustible materials, and in some cases, dirt. Contamination may start a chemical reaction with generation of heat, liberation of hazardous gases (chlorine dioxide a poisonous, explosive gas), and possible fire and explosion.

Handling Precautions

Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid breathing fumes, mists or aerosols. Do not handle with bare hands. Mix only into water. This product becomes a fire hazard if allowed to dry. Remove and wash contaminated clothing to avoid fire.

Potential Health Effects

The health effects discussed below are common to both the dry and solution forms of sodium chlorite.

Eye Contact

Direct contact, or exposure to dust, mists or fumes may cause severe irritation and possibly burns. Symptoms may include tearing, redness and in severe cases, eye damage due to burns.

Skin Contact

Direct contact may cause severe irritation and/or burns with symptoms of redness, itching, swelling and possible destruction of tissue.

Ingestion

Ingestion may cause gastroenteritis with any or all of the following symptoms: nausea, vomiting, lethargy, diarrhea, bleeding or ulceration. Acute ingestion of large quantities may also cause anemia due to the oxidizing effects of the chemical.

Inhalation

Inhalation of dusts, vapors or mists may cause irritation of the mucous membranes and respiratory tract. Symptoms may include coughing, bloody nose, and sneezing. Severe overexposures may cause lung damage.

First Aid

If in eyes:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor immediately for treatment advice.

If on skin or clothing:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice if burning or irritation of the skin persists.





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If swallowed:

- Have person drink a glass of water immediately if able to swallow.
- Call a poison control center or doctor immediately for treatment advice.
- Do not induce vomiting unless told to do so by the poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

If inhaled:

- Move person to fresh air and monitor for respiratory distress.
- If cough or difficulty in breathing develops, get medical attention immediately.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration.
- Call a poison control center or doctor for further treatment advice.

Notes to Physician: Chlorine dioxide vapors are emitted when this product contacts acids or chlorine. If these vapors are inhaled, monitor patient closely for delayed development of pulmonary edema which may occur up to 48-72 hours post-inhalation. Following ingestion, neutralization and use of activated charcoal is not indicated.

Traumatic Shock: Whenever injured persons are being cared for, the person administering first aid should watch for signs of traumatic shock. Traumatic shock may follow serious injury and is a depressed condition of many of the body functions due to inadequate blood circulation throughout most of the body. Signs of shock are pale, moist cool skin; shallow and

irregular breathing; and weak pulse. Beads of perspiration may be noted about the lips, forehead, palms, and armpits. The patient may become nauseated. To treat shock, keep the patient lying down and as warm and comfortable as possible. Raise the patient's feet eight to twelve inches unless there is head injury, breathing difficulty, or if the patient complains of added pain.

Safety

Educating Employees

Only trained and properly protected personnel should be allowed to enter areas where sodium chlorite is present. Before working with or handling this product, the user should be trained and familiar with the proper safety precautions to follow. Additionally, all users and area supervisors should be trained in first aid procedures in case of accidental exposures to sodium chlorite.

Safe Work Practices

Water should always be easily accessible wherever sodium chlorite is stored or used. Safety showers and eyewash fountains should be close by and clearly marked. Portable or temporary systems are available for remote areas. Every precaution should be taken to ensure that a suitable system is in place and operational before handling sodium chlorite.

Do not enter confined areas such as tanks or pits without following proper entry procedures as required by 29 CFR 1910.146.





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Protective Equipment

Personnel working with sodium chlorite (dry or solution) should always wear the proper protective equipment. Where there is a potential for contact with sodium chlorite, wear chemical goggles, neoprene (or equivalent) boots and gloves and a chemical resistant apron with sleeves, or a chemical-resistant suit. A face shield should be worn in addition to goggles where splashing or spraying is a possibility. A face shield should never be substituted for chemical goggles for eye protection. Always place pant legs on the outside of boot tops. Thoroughly wash any PPE that becomes contaminated with sodium chlorite

Wear a NIOSH approved acid gas respirator with dust/mist pre-filters if any exposure to dust or mist is possible.

Note: Protective equipment and clothing should be selected, used, and maintained according to applicable standards and regulations. For further information, contact the clothing or equipment manufacturer or OxyChem Technical Service Department.

Good Housekeeping

Good housekeeping practices are important where sodium chlorite is used. All spills should be contained or flushed with water into a chemical sewer or a segregated holding tank or pond provided for the specific purpose of neutralization. Sodium chlorite must never be flushed to a sanitary sewer or other outlet connecting to waterways or uncontrolled runoff streams. Contact local and federal authorities for applicable regulations.

Ventilation

Local exhaust ventilation is recommended if vapors, mists or aerosols are generated. Otherwise, use general exhaust ventilation.

Where sodium chlorite dust may be present, ventilation of the work area should be accomplished as necessary to maintain concentrations in air below 1 mg/m³.

Further Information

More detailed information on sodium chlorite is available on request through the OxyChem Technical Service Department. Call or write:

OxyChem Technical Service Department
6200 S. Ridge Rd.
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