

# MALLINCKRODT

## Material Safety Data Sheet

Mallinckrodt, Inc. Science Products Division, P.O. Box M Paris, KY 40361

Mallinckrodt provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. MALLINCKRODT MAKES NO REPRESENTATIONS, OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF

MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR TO THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MALLINCKRODT WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

Emergency Telephone Number: 314-982-5000

### SODIUM HYPOCHLORITE SOLUTION

#### PRODUCT IDENTIFICATION:

Synonyms: Bleach, hypochlorous acid, sodium salt

Formula CAS No.: 7681-52-9

Molecular Weight: 74.44

Chemical Formula: NaOCl

Hazardous Ingredients: Sodium hypochlorite

#### PRECAUTIONARY MEASURES

**DANGER! MAY BE FATAL IF SWALLOWED.**

**HARMFUL IF INHALED. CAUSES SEVERE BURNS.**

Do not get in eyes, on skin, or on clothing.

Avoid breathing mist.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

This substance is classified as a POISON under the Federal Caustic Poison Act.

#### EMERGENCY/FIRST AID

**If swallowed, DO NOT INDUCE VOMITING!**

Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. In all cases call a physician.

SEE SECTION 5.

DOT Hazard Class: Corrosive Material

#### SECTION 1 Physical Data

Appearance: Clear or pale yellow liquid.

Odor: Chlorine odor.

Solubility: 100% in water.

Boiling Point: Decomposes slightly @ 40°C (96°F).

Melting Point: -6°C (21°F)

Specific Gravity: 1.07

Vapor Density (Air=1): No information found.

Vapor Pressure (mm Hg): 17.5 @ 20°C (68°F)

Evaporation Rate: No information found.

#### SECTION 2 Fire and Explosion Information

**Fire:**

Not considered to be a fire hazard. Substance releases oxygen when heated, which may increase the severity of an existing fire. Containers may rupture from pressure build-up.

**Explosion:**

This solution is not considered to be an explosion hazard. Anhydrous sodium hypochlorite is very explosive.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire. Use water spray to cool fire-exposed containers, to dilute liquid, and control vapor.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

#### SECTION 3 Reactivity Data

**Stability:**

Slowly decomposes on contact with air. Rate increases with the concentration and temperature. Exposure to sunlight accelerates decomposition. Sodium hypochlorite becomes less toxic with age.

**Hazardous Decomposition Products:**

It emits toxic chlorine gas when heated to decomposition or in contact with acids.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Amines, ammonium salts, aziridine, methanol, phenyl acetonitrile, cellulose, ethylenimine, oxidizable metals, acids, and heat.

#### SECTION 4 Leak/Spill Disposal Information

Ventilate area. Clean-up personnel require protective clothing and respiratory protection from vapors. Allow only qualified personnel to handle the spill. Contain and recover liquid when possible. Absorb with vermiculite, dry sand, earth, or similar material. Scoop up with non-sparking tools and place in a closed container, and dispose in a RCRA approved facility.

Reportable Quantity (RQ)(CWA/CERCLA) : 100 lbs.

Ensure compliance with local, state and federal regulations.



## **SECTION 5 Health Hazard Information**

### **A. EXPOSURE / HEALTH EFFECTS**

#### **Inhalation:**

Excessive inhalation of vapors, mists, or fumes may cause bronchial irritation, coughing, labored breathing, nausea, and pulmonary edema. Additional effects have included circulatory collapse and confusion, delirium, coma.

#### **Ingestion:**

May cause erosion of the mucous membranes. Symptoms include vomiting, circulatory collapse, confusion, coma, and death. May cause edema of pharynx, glottis, and larynx and perforation of the esophagus or stomach. Effects are less damaging at lower concentrations.

#### **Skin Contact:**

Contact may cause severe irritation with blistering and eczema, especially at higher concentrations.

#### **Eye Contact:**

Contact may cause severe irritation and damage, especially at higher concentration.

**Chronic Exposure:**  
No information found.

#### **Aggravation of Pre-existing Conditions:**

No information found.

## **B. FIRST AID**

#### **Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

#### **Ingestion:**

If swallowed, DO NOT induce vomiting. Give large quantities of water or milk if available. Call a physician immediately. Never give anything by mouth to an unconscious person.

#### **Skin Exposure:**

Remove any contaminated clothing. Wipe off excess from skin. Wash skin with plenty of water for at least 15 minutes. Get medical attention promptly.

#### **Eye Exposure:**

Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## **C. TOXICITY DATA (RTECS, 1986)**

Mutation references cited.

## **SECTION 6 Occupational Control Measures**

#### **Airborne Exposure Limits:**

-OSHA Permissible Exposure Limit (PEL):  
0.5 ppm (TWA), 1 ppm (STEL) as Chlorine

-ACGIH Threshold Limit Value (TLV):  
1 ppm (TWA), 3 ppm (STEL) as Chlorine

#### **Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

#### **Personal Respirators: (NIOSH Approved)**

If the TLV is exceeded a full facepiece chemical cartridge respirator may be worn, in general, up to 100 times the TLV or the maximum use concentration specified by the respirator supplier, whichever is less. Alternatively, a supplied air full facepiece respirator or airlined hood may be worn.

#### **Skin Protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls to prevent skin contact.

#### **Eye Protection:**

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area.

## **SECTION 7 Storage and Special Information**

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances.

.....  
SODHP