



Material Safety Data Sheet (M.S.D.S.) • Rev. 4.1.2003
HYPOCHLORITE SOLUTION *Synonym: Bleach*

A. DESCRIPTION

M.S.D.S. Number: 0236

Date: 03/15/00 Edition: 004

Trade Name: Soda Bleach Solution

Chemical Name/synonyms: Sodium Hypochlorite- Aqueous Solution (4.8 16.6% NaOCl)

Chemical Family: Inorganic Salt Formula: NaOCl

CAS Number: 7681-52-9

U.S. D.O.T. Shipping Name: Hypochlorite Solution

U.S. D.O.T. Hazard Class: Corrosive Material

Subsidiary Risk: N/A I.D. number: UN1791

Reportable Quantity (R.Q.): 100 Lbs./45.4 K.G.

Canadian Dangerous Goods Description - Shipping Name: Hypochlorite Solution

Primary Classification: Class 8, Subsidiary Class: 9.2,

Pin Number: UN1791, Packing Group: III

WHMIS Classification: Class E - Corrosive Material

B. PHYSICAL DATA

Boiling Point @ 760 MM HG: Decomposes

Vapor Density (Air=1): N/A

Specific Gravity (H₂O=1): 1.21 @ 20 C

PH of Solutions: Approx. 13

Freezing/melting Point: -14 C (6 F)

Solubility (weight % in water): complete

Bulk Density: 8.8 Lbs./gal. (U.S.) [11.4 - 12.1 lbs./Imperial gal.]

Volume % Volatile: complete

Vapor Pressure: 17.5 MM HG @ 20 C

Evaporation Rate: (Water = 1): 1

Heat of Solution: N/A

Appearance and Odor: Clear, pale yellow or greenish liquid with a chlorine odor.

C. INGREDIENTS:

Material	Percent
Sodium Hypochlorite Weight % (CAS #7681-52-9)	4.8 - 16.6
Sodium Hydroxide (CAS # 1310-73-2)	Approx. .2 - 1.7
Water	Balance

D. FIRE/EXPLOSION HAZARD DATA

Flash Point (method used): Non-flammable

Flammable Limits in Air (% by volume): LEL: N/A UEL: N/A

Extinguishing Media: N/A

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved pressure-demand, self contained breathing apparatus. Use water spray to cool fire-exposed containers.

Unusual Fire and Explosion Hazards: Can decompose to form irritating chlorine gas and oxygen.

E. HEALTH HAZARD DATA

Toxicity Data:

LC50 Inhalation: Not Established

LD50 Dermal: Not Established

Skin/Eye Irritation: Not Established

LD50 Ingestion: (rat) 8.91 Mg./Kg (12% Solution.)

Fish, LC50 (Lethal Concentration): Unknown

Classification: (Poison, Irritant, etc.)

Inhalation: Corrosive

Skin: Corrosive

Skin/Eye: Corrosive

Ingestion: Corrosive

Aquatic: Unknown

F. EFFECTS OF OVEREXPOSURE

This section covers effects of overexposure for inhalation, eye/skin contact, ingestion and other types of overexposure information in the order of the most hazardous and the most likely route of overexposure.

Is chemical listed as a carcinogen or potential carcinogen? NTP - No, IARC - No, OSHA - No

Medical conditions generally aggravated by exposure: none known.

Permissible Exposure Limits: None established by OSHA, ACGIH or H. Krevit & Company, Inc.

As a minimum, H. Krevit & Company, Inc. recommends controlling exposures such that irritation does not occur.

Acute: Safe handling of this material on a long-term basis should emphasize minimizing repeated acute exposure.

Inhalation: Inhalation of mist or fumes can cause bronchial irritation, cough, difficult breathing, inflammation of the mouth, nausea, and in severe exposures, pulmonary edema.

Material has odor of chlorine.

Eye/Skin: Liquefied contact can produce irritation of the skin with blistering and eczema. Direct contact with eyes may cause redness, pain and in the case of concentrated hypochlorite, permanent damage.

Ingestion: Ingestion of a few ounces can cause corrosion of mucous membranes, swelling of the throat, perforation of the esophagus and stomach, vomiting, colitic hypotension and circulatory collapse.

May lead to convulsions, coma or death. At 12.5% concentrations, as little as 1 ounce may be lethal.

Chronic: Carcinogenesis: The carcinogenic potential of sodium hypochlorite was studied in F344 rats.

After 104 weeks of drinking water containing up to 2000 ppm sodium hypochlorite, there was no evidence that this chemical produced any carcinogenic response. In addition, this exposure did not result in any adverse effects in blood, clinical chemistry, or other target organs.

G. EMERGENCY AND FIRST AID PROCEDURES:

Inhalation: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth.

If breathing is difficult, give oxygen. Call a physician.

Eye Or Skin Contact: Flush eyes and skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If irritation occurs, consult a physician. Thoroughly clean clothing and shoes before reuse or discard.

Ingestion: If conscious: drink large quantities of water. Do not induce vomiting. Take immediately to a hospital or physician. If unconscious, or in convulsions: take immediately to a hospital do not give anything by mouth to an unconscious person.

NOTES TO PHYSICIAN (including antidotes): Do not administer acidic antidotes or sodium bicarbonate following sodium hypochlorite overexposure. One ounce of 1% sodium thiosulfate or milk of magnesia is helpful.

H. REACTIVITY DATA

Stability: Decomposes over time depending on temperature and exposure to sunlight.

Incompatibility (materials to avoid): Avoid mixing with acids (liberates chlorine), ammonia, urea, oxidizing materials, and metals such as nickel, copper, tin, manganese and iron (which cause liberation of oxygen).

Hazardous Decomposition Products: In a fire, sodium hypochlorite may decompose producing irritating chlorine gas and oxygen.

I. SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Spilled or Released: Immediately evacuate the area and provide maximum ventilation. Unprotected personnel should move upwind of spill. Only personnel equipped with proper respiratory and skin/eye protection (see section 8) should be permitted in area. Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters.

Large Spills: Recover spilled material on adsorbents, such as vermiculite, and sweep into closed containers for disposal. Do not use combustible adsorbents such as sawdust. After all visible traces have been removed, thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal.

Small spills: (less than 10 gallons): Can diluted with large quantities of water and then flushed to sanitary sewer.

Waste Disposal Method: H. Krevit & Company, Inc. recommends disposal in an approved hazardous waste management facility. Care must be taken when using or disposing of chemical materials and/or their containers to prevent environmental contamination. It is your duty to dispose of the chemical materials and/or their containers in accordance with all regulations regarding disposal.

J. SPECIAL PROTECTION INFORMATION

Respiratory Protection: Use a half or full facepiece acid gas chemical cartridge respirator when exposures to sodium hypochlorite are likely. An appropriate particulate pre-filter is also required when mists are present. Similar protection should be worn while cleaning up spills or leaks if irritation occurs. Respirators must be approved by NIOSH or MSHA. The respirator use limitations made by NIOSH/MSHA and by the manufacturer must be observed.

Ventilation (type): Use local or general ventilation to minimize employee exposures as necessary.

Eye Protection: Splash-proof chemical goggles

Gloves: Neoprene or Nitril gloves

Other Protective Equipment: Use rubber/plastic boots, apron or chemical suits when necessary to prevent skin contact.

K. SPECIAL PRECAUTIONS

Precautions to be Taken During Handling and Storing:

- When handling, wear gloves, safety goggles and respiratory protection.
- Store in a cool, dry, well-ventilated area.
- Avoid excessive storage temperatures and direct sunlight.
- Store away from acids and organics.
- Store only in closed, properly labeled containers.

Other Precautions:

- Avoid contact with eyes and skin. May cause burns to eyes and skin.
- Avoid Inhalation of vapors, mists and fumes.
- Use with adequate ventilation. Ventilation must be sufficient to minimize employee exposure to sodium hypochlorite.
- Wash thoroughly after handling.
- Do not swallow.
- Do not eat, drink or smoke in work area.

Comments:

TSCA: Sodium hypochlorite is on the TSCA inventory under CAS #7681 52-9.

SARA Title III - a. 311/312 categories - acute and reactivity, b. Not listed in section 313, c. Not listed as an "extremely hazardous substance" in section 302.

CERCLA: Listed in table 302.4 of 40 CFR part 302 as a hazardous substance with a reportable quantity of 100 pounds. Releases to air, land or water which exceed the R.Q. must be reported to the national response center, 1-800-424-8802.

Canadian WHMIS: sensitization to -product - none known, reproductive toxicity - none known, product use - bleaching paper pulp, textiles, water purification.

QUICK SAEEY TIPS FOR HANDLING HYPOCHLORITE SOLUTION

Provided In addition to, and, as a companion to the M.S.D.S.

1. All containers are **VENTED!** They must be stored in the upright position. Take care that they do not fall over on their sides.
2. When diluting, never pour water into the concentrated solution. This can cause a rapid heat buildup to occur which can be dangerous. Always pour the chemical into the water.
3. Protect your eyes when working with this chemical. A small amount of concentrate can cause permanent damage or blindness!
4. Never leave this chemical where it can be accessed by small children.

NOTE: *A small amount taken internally can be fatal!*

PLEASE READ:

This information Is taken from sources believed to be reliable and is offered in good faith. However, H. Krevit & Company makes no warranty as to the absolute correctness or sufficiency of any of the foregoing or that additional or other measures may not be required wider particular conditions. In addition, many of the products we sell can be extremely dangerous or fatal if they are not handled and used according to accepted industry standards. We have no control over the mis-use or mis-handling of any of our products once they leave our possession. Therefore H. Krevit & Company assumes no liability and is not responsible for the improper use, handling or storage of any products we sell. And, no warranty of any kind, expressed or implied, is made concerning the use of this product. User assumes all risk and liability from handling, use or application.