

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name	Sodium Hypochlorite Solution (6-8%)
Effective Date	May 2011
Synonyms	Sodium Salt of Hypochlorous Acid, chlorine bleach, sodium hypochlorite
Chemical formula	NaOCl
CAS name & no.	Sodium Salt of Hypochlorous Acid, 7681-52-9
Product Use	Bleaching Agent, Chemical Intermediate
Manufacturer's name and address	Georgia Gulf Chemicals and Vinyls, LLC P.O. Box 629 Plaquemine, LA 70765-0629
Emergency telephone number	For transportation emergencies: CHEMTREC (800) 424-9300 For all other emergencies: (225) 685-2500
MSDS contact	Corporate Health & Safety Department P.O. Box 629 Plaquemine, LA 70765-0629 Phone Number (225) 685-2500 responsiblecare@ggc.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Wt. %
Sodium Hypochlorite	7681-52-9	6 - 8
Sodium Hydroxide	1310-73-2	2 - 4
Sodium Carbonate	497-19-8	3 - 4
Sodium Chloride	7647-14-5	0 - 9
Sodium Chlorate	7775-09-9	0 - 1
Water	7732-18-5	70 - 90

3. HAZARDS IDENTIFICATION

PRECAUTIONARY INFORMATION

Corrosive. Can cause severe eye, skin and respiratory tract burns. Highly toxic by ingestion. Ingestion will cause severe burns of the mouth, throat and stomach. Avoid any skin or eye contact. Avoid breathing dusts or mist.

POTENTIAL HEALTH EFFECTS

Primary Routes of Entry

Inhalation, ingestion, skin, and eye contact.

Acute Effects

Ingestion causes immediate, severe pain in the mouth, throat, and stomach as well as diarrhea and vomiting, from which collapse may result. Vomitus usually contains blood and possibly tissue. All tissues which come in contact with this chemical may be damaged. Death may result from ingestion. If the patient survives, permanent damage to the gastrointestinal tract may occur and the person may have permanent difficulty in swallowing. Inhalation causes respiratory irritation, which may develop into serious lung injury depending upon the degree of exposure. Serious pneumonitis may develop. Eye contact with Sodium Hypochlorite solid, dust, mist or solution usually results in immediate pain and can cause permanent eye damage including blindness. Skin contact may result in irritation, which may not be immediately painful. Greater exposure results in severe burns with scarring.

Chronic Effects

Prolonged exposures may result in upper respiratory irritation, ulceration of the nasal passage, and severe skin irritation. Exposure to high concentrations to this chemical may cause permanent lung injury.

Medical Conditions Aggravated by Exposure

Persons with impaired respiratory function and/or cardiovascular disease may be more susceptible than the general population to the hazardous effects of this chemical.

Carcinogen Status

Sodium Hypochlorite is not considered carcinogenic by OSHA, NIOSH, NTP, IARC or EPA.

4. FIRST AID MEASURES

Inhalation

If a person breathes a large amount of this chemical, move the exposed person to fresh air at once. Provide emergency airway support. Give 100% humidified supplemental oxygen with artificial respiration, if needed. Transport to emergency medical facility without delay.

Skin Contact

If this chemical contacts the skin, immediately flush the contaminated skin thoroughly with water for at least 15 minutes. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin thoroughly with water. Get medical attention promptly.

Eye Contact

If this chemical contacts the eyes, immediately flush the eyes with large amounts of room temperature water. Hold the eyelids apart during the flushing operation. Washing must be started within 10 seconds of contact and continued for 30 minutes to prevent permanent injury. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention immediately. Ophthalmology consultation is a must.

Ingestion

Do not attempt to give anything by mouth to an unconscious or convulsive person. If swallowed, do not induce vomiting. Give large amounts of water. If vomiting occurs spontaneously, keep airways clear. Give more water when vomiting stops. Get emergency medical attention immediately.

Note to Physician

Sodium hypochlorite is an alkaline corrosive. For exposure by ingestion do not use emesis, lavage or acid antidotes. Dilute immediately by giving milk, melted ice cream, beaten egg white, starch paste or antacids such as milk of magnesia, aluminum hydroxide gel, or magnesium trisilicate gel. Avoid sodium bicarbonate because of carbon dioxide release. Sodium thiosulfate solution may prove beneficial by reducing unreacted material.

5. FIRE FIGHTING MEASURES

Flash Point Not Applicable

Flammable Limits (% By Vol.)

Lower Explosive Limit (LEL) Not Applicable
Upper Explosive Limit (UEL) Not Applicable

Autoignition Temperature Not Applicable

5. FIRE FIGHTING MEASURES (cont.)

Fire Fighting Procedures/Fire Extinguishing Media

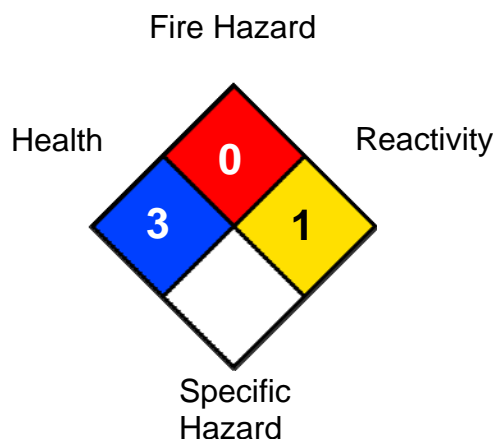
Sodium Hypochlorite is not combustible. Use fighting agent suitable for surrounding fire to extinguish fire. Use carbon dioxide or suitable dry chemical extinguisher. Structural fire fighter's protective clothing is recommended for fire situations only; it is not effective in spills. Wear full protective clothing and NIOSH approved self-contained respirator, with a full face piece, in the positive pressure mode.

Unusual Fire and Explosion Hazards

Sodium hypochlorite will react with metals such as aluminum, tin, and zinc to generate flammable and explosive hydrogen gas. Hydrogen chloride and chlorine may be produced as hazardous combustion products.

National Fire Protection Association Hazard Rating

- 4= Extreme
- 3 = High
- 2 = Moderate
- 1 = Slight
- 0 = Insignificant



6. ACCIDENTAL RELEASE MEASURES

Protect People:

Evacuate area. Clear non-emergency personnel from the area. Ventilate area of spill or leak. Eliminate all sources of ignition. Allow only trained personnel wearing appropriate protective gear to be in the spill response.

Protect the Environment:

Contain material to prevent contamination of the soil, surface water or ground water. Dike spills immediately. Keep out of water supplies and sewers. Small spills should be carefully flushed with water.

Clean Up:

(See MSDS Section 15 for Regulatory Information)

7. HANDLING AND STORAGE

Handling and Storage

Do not get into eyes, on skin, or on clothing. Avoid breathing mists or spray. Use only with adequate ventilation. All personal protective equipment should be selected in accordance with the hazard assessment required by 29 CFR 1910.132 (d).

Store and handle in accordance with all current regulations and standards. Store in a cool, dry place. Store in a corrosion resistant container such as titanium or tantalum with an adequate relief device. Store in a well-ventilated area. Avoid direct sunlight. Avoid heat, flames, sparks, and other sources of ignition. This material is a strong oxidant and reacts violently with combustible reducing materials causing a fire and explosion hazard. Keep separated from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

All personal protective equipment should be selected in accordance with the hazard assessment required by 29 CFR 1910.132 (d).

Respiratory Protection

Use appropriate NIOSH approved respirator in accordance with 29 CFR 1910.132 and 1910.134, to prevent overexposure. Respirators must be selected based on the airborne levels found in the workplace and must not exceed the working limits of the respirator.

Eye Protection

Use splash proof chemical safety goggles and appropriate full-face shield. Follow the eye and face protection guidelines of 29 CFR 1910.132 and 1910.133. An eye wash fountain (in accordance with 29 CFR 1910.151) should be within the immediate work area for emergency use.

Skin Protection

Chemical protective clothing and gloves must be used in accordance with 29 CFR 1910.132 and 29 CFR 1910.138.

Ventilation

Provide general and/or local ventilation to control airborne levels below exposure guidelines. Local exhaust ventilation should comply with OSHA regulations and the American Conference of Industrial Hygienists, Industrial Ventilation - A Manual of Recommended Practice.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION (cont.)**Exposure Guidelines**

Sodium Hypochlorite	AIHA WEEL	Ceiling	2 mg/m ³
Sodium Hydroxide	OSHA PEL ACGIH TLV	TWA Ceiling	2 mg/m ³ 2 mg/m ³
Chlorine (from Sodium Hypochlorite)	OSHA PEL ACGIH TLV ACGIH TLV	Ceiling TWA Ceiling	1 ppm 0.5 ppm 1 ppm

Other

Where there is any possibility of exposure of an individual's body to sodium hypochlorite, facilities for quick drenching of the body should be provided (in accordance with 29 CFR 1910.151) within the immediate work area for emergency use. Such individuals should be provided with and required to use impervious clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear to hazy liquid
Odor	characteristic bleach odor
Boiling Point	Approximately 110°C
Melting Point	Approximately -10°C
Solubility	Soluble in water, alcohol and glycerol
Specific Gravity (Water = 1.0)	1.2 at 20°C
Vapor Density (Air = 1.0)	Not Applicable
Vapor Pressure	17.5mm Hg at 20°C
pH	14 at 20°C

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions. Stability decreases with concentration, heat, light, decreased pH, and contamination with heavy metals.

Polymerization

Hazardous polymerization does not occur.

Hazardous Decomposition Products

May emit toxic fumes of chlorine when heated to decomposition.

Incompatible Materials

Flammable hydrogen may be generated from contact with metals such as: aluminum, brass, tin, zinc and alloys of these metals. Avoid contact with acids, halogenated organics, organic nitro compounds and glycols. Hazardous gases may be generated from contact with acids, ammonium hydroxide (ammonia water) or cleaners containing ammonia compounds. Violent reactions may occur with some organic compounds. Sodium Hypochlorite reacts readily with various reducing sugars (i.e., fructose, galactose, maltose, dry whey solids) to produce carbon monoxide. Precautions should be taken including atmospheric monitoring of the tank to ensure safety of personnel.

11. TOXICOLOGICAL INFORMATION

Animal Toxicity

Oral:	Rat, LD ₅₀	8910 mg/kg
	Mouse, LD ₅₀	5800 mg/kg
Eye:	Rabbit, Adult	10 mg MOD

LD₅₀ = Dose that is lethal to 50% of a given species by a given route of exposure.

12. ECOLOGICAL INFORMATION

Environmental Fate:

Aquatic: This material may be harmful to aquatic life in low concentrations

Biodegradation: This material is inorganic and not subject to biodegradation.

Ecotoxicity: Material is slightly toxic to aquatic organisms on an acute basis (LC50 between 10 and 100 mg/L in most sensitive species). May cause pH shifts outside the range of 5-10 standard units; this change may be toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Waste Management Information: Do not dump into any sewers, on the ground, or into any body of water. Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules). Waste characterization and compliance with applicable laws are the responsibility of the waste generator.

14. TRANSPORTATION INFORMATION

Proper Shipping Name	Hypochlorite Solution
DOT Hazard Class	8, (Corrosive)
DOT Shipping I.D. No.	UN 1791
PG	III
Labeling	Corrosive
RQ (lbs)	100

15. REGULATORY INFORMATION

Regulatory information is not meant to be all-inclusive. It is the user's responsibility to ensure compliance with federal, state or provincial and local laws.

SARA Title III

Section 302 and 304 of the Act; Extremely Hazardous Substances (40 CFR 355)

<u>COMPONENT</u>	<u>CAS No.</u>	<u>TPQ (lbs)</u>	<u>RQ (lbs)</u>
None	Not Applicable	Not Applicable	Not Applicable

Note: TPQ - Threshold Planning Quantity

RQ - Reportable Quantity

Section 311 Hazard Categorization (40 CFR 370)

<u>ACUTE</u>	<u>CHRONIC</u>	<u>FIRE</u>	<u>PRESSURE</u>	<u>REACTIVE</u>
X				X

Section 313 Toxic Chemicals (40 CFR 372.65)

<u>COMPONENT</u>	<u>CAS No.</u>	<u>WT. %</u>
None	Not Applicable	Not Applicable

15. REGULATORY INFORMATION (cont.)

CERCLA

Section 102(a) Hazardous Substances (40 CFR 302.4)

<u>COMPONENT</u>	<u>CAS No.</u>	<u>WT. %</u>	<u>RQ (lbs)</u>
Sodium Hypochlorite	7681-52-9	6-8	100
Sodium Hydroxide	1310-73-2	2-4	1000

RCRA

Waste containing Sodium Hypochlorite or Sodium Hypochlorite solution is regulated as a corrosive characteristic hazardous waste (hazardous waste code D002) if the pH of the waste is less than or equal to 2.0.

TSCA

All components of this solution are either listed on or exempt from the TSCA inventory.

Proposition 65

No ingredients of this solution are listed on the California Proposition 65 list.

Canada WHMIS

Hazard Classification: E

Canadian Environmental Protection Act

All ingredients of this product are on the Domestic Substances List (DSL)

Hazardous Products Act

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR)

16. OTHER INFORMATION

IMPORTANT: The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state, and local laws and regulations. **GEORGIA GULF CHEMICALS AND VINYLs, LLC MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, CONCERNING THE ACCURACY OR COMPLETENESS OF THE INFORMATION AND DATA HEREIN.** Georgia Gulf Chemicals and Vinyls, LLC will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading. This information relates to the material designated and may not be valid for such material used in combination with any other materials nor in any process.

MSDS Status: Revision Date: 05/03/2011

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