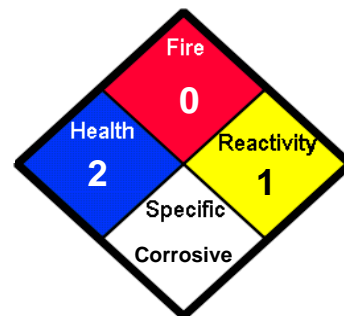




Horizon Chemical Co., Inc

2125 Energy Park Drive, St. Paul, MN 55108

651.917.3075 • FAX 651.917.3087



MATERIAL SAFETY DATA SHEET

PRODUCT NAME: SODIUM HYPOCHLORITE 6-16% **DATE:** 1/21/2004

MANUFACTURER'S NAME: Vertex Chemical Corporation **DISTRIBUTED BY:** Horizon Chemical Co., Inc.
9909 Clayton Road
Suite 219
St. Louis, MO 63124
314.991.4005
2125 Energy Park Drive
St. Paul, MN 55108
651.917.3075

NATIONAL EMERGENCY RESPONSE CENTER: 1-800-424-8802
FOR EMERGENCY DURING TRANSPORTATION ONLY: 1-800-535-5053

SECTION I - PRODUCT IDENTIFICATION

TRADE NAME: Horizon Liquefied Chlorinator **SYNONYMS/ COMMON NAMES:**
Liquid Bleach, Soda Bleach, VERTEX CSS-6, VERTEX
CONCENTRATE, VERTEX CSS-10, VERTEX CSS-12, VERTEX
Germicidal Ultra Bleach, Chlorine, Horizon Liquefied Chlorinator.

PRODUCT USE: Sanitation

CHEMICAL NAME: Sodium Hypochlorite

CHEMICAL FORMULA: NaOCl

CHEMICAL FAMILY: Oxidizing Agent (Hypochlorite) **SHIPPING NAME & HAZARD CLASS- (DOT):**
Hypochlorite Solution 8
Corrosive Material, UN1791

CAS NO.: 7681-52-9 **PG III, RQ (Sodium Hypochlorite)**

SECTION II - EMERGENCY RESPONSE INFORMATION

HEALTH HAZARDS: See Section VI **FIRE OR EXPLOSION:** See Section IX

IMMEDIATE PRECAUTIONS: WASH FROM EYES: Section V, First Aid
Section X, Reactivity
Section XI, Spill, Leak & Disposal Procedures

SPILLS OR LEAKS: See Section XI **FIRST AID:** See Section V

SECTION III - COMPOSITION

COMPONENT	CAS NO.	% by weight	PEL	TLV	OTHER	HAZARD
Sodium Hypochlorite	7681-52-9	6-16	None	None	None	Corrosive/Oxidizer
Sodium Chloride	7647-14-5	5-13	None	None	None	None
Sodium Hydroxide	1310-73-2	0.2-4.0	2MG/M3	2MG/M3	None	Corrosive
Water	7732-18-5	Balance	None	None	None	None

SECTION IV - PHYSICAL PROPERTIES

Concentration	6% NaOCl	11%NaOCl	13%NaOCl
Appearance	Banana-Colored Clear Liq.	Banana-Colored Clear Liq.	Banana-Colored Clear Liq.
Boiling Point, F	219°F	222°F	225°F
Color	Clear Yellow	Clear Yellow	Clear Yellow
Density	NA	NA	NA
Evaporation Rate	NA	NA	NA
Freeze Point, F	20°F	-1°F	-12°F
Melting Point	NA	NA	NA
Molecular Weight	74.45	74.45	74.45
Odor	Pungent Chlorine Odor	Pungent Chlorine Odor	Pungent Chlorine Odor
pH	12.31	12.95	13.05
Solubility	Soluble in Water	Soluble in Water	Soluble in Water
Specific Gravity	1.115	1.173	1.211
Vapor Density	NA	NA	NA
Vapor Pressure @ 55°C (Kpa)	7.63	7.63	9.34
Viscosity	NA	NA	NA
Vapor Pressure @ 50°C (Kpa)	6	6.2	7.5

SECTION V - FIRST AID MEASURES

- EYES:** Immediately flush eyes thoroughly and continue to repeatedly flush eyes with constantly running water for 15 minutes, lifting the upper and lower eyelids occasionally. Get immediate medical attention.
- SKIN:** Immediately flush skin thoroughly and continue to repeatedly flush eyes with constantly running water for 15 minutes. Remove contaminated clothing and shoes; wash before reuse. Get immediate medical attention.
- INHALATION:** Remove to fresh air. Give artificial respiration if not breathing. Administer Oxygen if breathing is difficult. Get immediate medical attention.
- INGESTION:** Do not induce vomiting. If conscious, give water or milk, or milk of magnesia. Do not give baking soda or acid antidotes. Do not give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.
- NOTES TO PHYSICIAN:**
None.

SECTION VI - HEALTH HAZARDS IDENTIFICATION / INFORMATION

OVERVIEW: Primary Routes of Exposure: Skin or eye contact, inhalation Avoid eye or skin contact, inhalation.

SHORT-TERM EXPOSURE (ACUTE)

INHALATION: Inhalation of fumes or mists causes respiratory tract irritation and irritation of mucous membranes. If sodium hypochlorite is mixed with ammonia or other chemicals, evolution of chlorine or chlorine based compounds results. These gases can produce pulmonary edema. **Never mix with any other chemicals.**

EYES: Liquid and mists may severely irritate or damage eyes.

SKIN: The liquid will irritate the skin, causing redness and possibly inflammation, or chemical burns to broken skin.

INGESTION: Mists and liquid are extremely corrosive to the mouth and throat, mucous membranes and stomach. Swallowing the liquid burns the tissues, causes severe abdominal pain, nausea, vomiting, circulatory collapse, confusion, delirium, coma and collapse. Swallowing large quantities can cause death.

OTHER HEALTH EFFECTS OR NOTES:

Chronic Effects of Exposure: Irritation effects increase with strength of solution and time of exposure. Prolonged or repeated exposure can lead to constant irritation of eyes and throat. Prolonged or repeated contact may cause dermatitis and sensitization.

Medical Conditions Generally Aggravated By Exposure: Asthma or other pre-existing lung/respiratory illness.

SECTION VII - TOXICOLOGICAL INFORMATION

ACUTE ORAL: For 5% Solution Rat LD50 = 13 G/KG
For 12.5% Solution Rat LD50 = 5G/KG

DERMAL: Rat LD50 > 3.0 G/KG

ACUTE INHALATION: No Data Available

CARCINOGENICITY: This material is not considered to be a carcinogen by the National Toxicology Program, the International Agency for Research of Cancer, or the Occupational Safety and Health Administration.

OTHER DATA: None.

SECTION VIII - PERSONAL PROTECTION / EXPOSURE CONTROLS

VENTILATION: Local mechanical exhaust ventilation to minimize exposure to vapors or mist at the point of use.

RESPIRATORY: Wear a NIOSH-approved respirator appropriate for the vapor or mist concentration at the point of use. Appropriate respirators may be a full face-piece or a half mask air-purifying cartridge respirator equipped for acid gases/mists, a self-contained breathing apparatus in the pressure demand mode, or a supplied-air respirator.

EYE/FACE: Chemical goggles and full face-shield unless a full face-piece respirator is also worn. It is generally recognized that contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury. In laboratory situation, where running water is immediately available and an eyewash nearby, for handling of sixteen (16) ounces or less of product, safety glasses are acceptable eye protection.

SKIN: Long-sleeved shirt, trousers, rubber boots, rubber gloves, and rubber apron. In a laboratory situation, where running water is immediately available and an eyewash nearby, for handling sixteen (16) ounces or less of product, rubber gloves can be omitted. Hands should be rinsed immediately until slick feeling is gone from skin is exposure occurs.

OTHER: An eyewash and safety shower should be nearby and ready for use.

SECTION IX - FIRE FIGHTING MEASURES

FLASH POINT:	Not Flammable	FLAMMABLE LIMITS IN AIR, BY % VOLUME			
METHOD:	N/A	LOWER:	N/A	UPPER:	N/A
AUTOIGNITION TEMPERATURE:	N/A	FLAMMABLE LIMITS (% BY VOLUME)			
		LOWER:	N/A	UPPER:	N/A

EXTINGUISHING MEDIA: This material is not combustible. Use extinguishing media appropriate for surrounding fire.

FIRE FIGHTING PROCEDURES:

Fire fighters should wear self-contained breathing apparatus and full protective clothing. Use water spray to cool nearby containers and structures exposed to fire.

FIRE & EXPLOSION HAZARD:

Containers of this material can explode as oxygen is liberated under high heat or fire conditions. Toxic fumes similar to chlorine gas are liberated by contact with acids, ammonia, some detergent cleaners, organic materials, oxidizing agents and some reducing agents. See Special Precautions Section for TLV of elemental chlorine. Highly exothermic reactions with organic materials and oxidizable materials may cause fires in adjacent, heat sensitive materials: Do not store where contact may result with organic or oxidizable materials, e.g., sawdust, paper waste, or others.

SENSITIVITY TO MECHANICAL IMPACT: N/A

SENSITIVITY TO STATIC DISCHARGE: N/A

NFPA RATING:	HEALTH:	2	REACTIVITY:	1
	FIRE:	0	SPECIFIC HAZARD:	Corrosive

SECTION X - STABILITY AND REACTIVITY

STABILITY:	STABLE	<u> X </u>	UNSTABLE	<u> </u>
HAZARDOUS POLYMERIZATION:	OCCURS	<u> </u>	WILL NOT OCCUR	<u> X </u>
REACTS WITH:	AIR	<u> </u>	OXIDIZERS	<u> X </u>
	WATER	<u> </u>	ACIDS	<u> X </u>
	HEAT	<u> </u>	ALKALIS	<u> </u>
			METALS	<u> X </u>
			OTHER	<u> X </u>
			NONE	<u> </u>

HAZARDOUS DECOMPOSITION PRODUCTS:

HOCL, Chlorine, HCL, NACL, Sodium Chlorate, and oxygen which depend on pH, temperature and time.

COMMENTS: Stability decreases with increased concentration, heat, light exposure, decrease in pH and contamination with heavy metals such as nickel, cobalt, copper and iron. DECREASES IN PH AND/OR CONTAMINATION CAN RESULT IS EVOLUTION OF CHLORINE (TOXIC) GAS.

CONDITIONS TO AVOID: EXCESSIVE HEAT, EXPOSURE TO LIGHT, REDUCED ALKALINITY, AND CONTAMINATION OF ANY KIND. REDUCED ALKALINITY OR CONTAMINATION CAN RESULT IN EVOLUTION OF CHLORINE (TOXIC) GAS.

STRONG OXIDIZING AGENT: in contact with the following incompatible, oxidizable materials, chemical reaction will occur allowing hazardous gases to evolve: Ether, ammonia, acids, oxidizing agents, reducing agents, oxidizable or combustible materials such as wood, cloth or organic materials, heavy metals such as iron, copper, magnesium, aluminum, tin, manganese, zinc, chromium, nickel, and their alloys. DO NOT MIX THIS PRODUCT WITH ANY OF THE FOREGOING OR HAZARDOUS GASES CAN RESULT.

SECTION XI - SPILL, LEAK AND DISPOSAL PROCEDURES

PERSONAL PRECAUTIONS:

Wear alkali-resistant slicker suit and complete protective equipment including goggles, rubber gloves, rubber boots, and a self-contained breathing apparatus in the pressure demand mode or a supplied-air respirator. If the spill or leak is small, a full face-piece air-purifying cartridge respirator equipped with acid gases/mists filters may be satisfactory. In any event, always wear eye protection.

- Follow protective measures provided under Personal Protection in Section 8.

ENVIRONMENTAL PRECAUTIONS:

Keep non-neutralized material out of sewers, storm drains, surface waters, and soil. This product is very toxic to aquatic life.

According to 40 CFR 302 Table 302.4 (CERCLA), environmental releases that exceed the RQ must be reported to the National Response Center by calling 800-424-8802 (202-426-2675) and the state emergency response commission and the local emergency planning committee (40 CFR 355.49) as appropriate.

METHODS FOR CLEANING UP:

For small spills or drips, mop or wipe up and dispose of in DOT-approved waste containers. For large spills, contain by diking with soil or other non-combustible absorbent material and dispose according to federal or local regulations.

Comply with all applicable governmental regulations on spill reporting, and handling of disposal waste.

DISPOSAL METHODS:

Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material.

Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures.

OTHER NOTES: Empty containers can have residues, gases and mists and are subject to proper waste disposal, as above.

SECTION XII - HANDLING AND STORAGE

HANDLING: Do not use pressure to empty container. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Store in original containers only at temperatures below 85°F. Do not store near acids, oxidizable materials, or organics. Do not store on wooden floors.

ATTENTION: When empty, the container may still be hazardous. Because container, even after they have been emptied, still retain product residues(vapor, liquid or solid), all labeled hazard precautions **MUST BE OBSERVED**. If "emptied" product containers of 110 gallons or greater volume are to be shipped, DOT requires the containers to be triple rinsed (or equivalent) to remove any residue and DOT placards be removed or covered with plain placards before they can be shipped as empty containers.

SPECIAL MIXING AND HANDLING INSTRUCTIONS:

Containers, even those that have been emptied, will retain product residue and vapors. Always obey hazard warnings and handle empty containers as if they were full. Do not mix or contaminate this product with ammonia, acids, hydro-carbons, alcohols, ethers, reducing agents, oxidizers, cleaning agents or other products which may liberate chlorine or other toxic vapors. For elemental chlorine, the OSHA PEL is .5 PPM TWA and 1 PPM STEL; the ACGIH TLV is 1 PPM TWA, with a STEL of 3 PPM. This product degrades with age. Use it within one month of receipt. It is a violation of federal law to use this product in a manner inconsistent with its labeling. EPA pesticides regulations apply, and EPA registration is required when using for disinfecting or sanitation purposes. **THIS PRODUCT IS LISTED ON THE TOXIC SUBSTANCES CONTROL ACT (TSCA) INVENTORY OF CHEMICAL SUBSTANCES.**

STORAGE: Store in a cool, dry, well-ventilated place away from incompatible materials. Keep container tightly closed and vented when no in use.

SECTION XIII - ECOLOGICAL INFORMATION

AQUATIC ECOTOX DATA

FISH: This product is very toxic to aquatic life.

INVERTEBRATES:

This product is very toxic to aquatic life.

AMPHIBIANS:

This product is very toxic to aquatic life.

PLANTS: This product is very toxic to aquatic life.

TERRESTRIAL ECOTOX DATA

WILDLIFE: No Data.

PLANTS: No Data.

ENVIRONMENTAL FATE DATA

BIOTIC: No Data.

ABIOTIC: No Data.

ADDITIONAL INFORMATION

None.

SECTION XIV - DISPOSAL CONSIDERATIONS

See Section VII, Handling and Storage.

SECTION XV - TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME: Hypochlorite Solution
DOT HAZARD CLASS: 8
DOT IDENTIFICATION NUMBER: UN1791
DOT PACKING GROUP: PG III
DOT HAZARDOUS SUBSTANCE(S): RQ 100 LBS.
DOT MARINE POLLUTANT(S): MARINE POLLUTANT
ADDITIONAL DESCRIPTION RQMT:

SECTION XVI - REGULATORY INFORMATION

US FEDERAL REGULATIONS:

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this material safety data sheet available to your employees.

TSCA Inventory Status: Listed on inventory.
SARA - 313 Listed Chemicals - No
RCRA Hazardous Waste No.: N/A
CERCLA: Yes

Vertex sodium hypochlorite is regulated under many federal and local laws, including OSHA, TSCA, RCRA, FIFRA, CERCLA and EPCRA. It is NOT on the list of Extremely Hazardous Substances, 40 CFR Part 355 Appendix A, nor on the "337 Toxic Chemicals" list, 40 CFR 372.

SARA/TITLE III HAZARD CATEGORIES:

IMMEDIATE (ACUTE) HEALTH:	<u>N/A</u>	REACTIVE HAZARD:	<u>N/A</u>
DELAYED (CHRONIC) HEALTH:	<u>N/A</u>	SUDDEN RELEASE OF PRESSURE:	<u>N/A</u>
FIRE HAZARD:	<u>N/A</u>		

HMIS HAZARD RATINGS:

HEALTH HAZARD: 2 FIRE HAZARD: 0 REACTIVITY: 1

SPECIFIC HAZARD: Corrosive

STATE REGULATIONS:

No Data.

INTERNATIONAL REGULATIONS:

No Data.

SECTION XVII - OTHER INFORMATION

MSDS LEGEND:

ACGIH	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
CAS	CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER
CEILING	CEILING LIMIT (15 MINUTES)
CEL	CORPORATE EXPOSURE LIMIT
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL	PERMISSIBLE EXPOSURE LIMIT (OSHA)
STEL	SHORT TERM EXPOSURE LIMIT (15 MINUTES)
TDG	TRANSPORTATION OF DANGEROUS GOODS (CANADA)
TLV	THRESHOLD LIMIT VALUE (ACGIH)
TWA	TIME WEIGHTED AVERAGE (8 HOURS)
WHMIS	WORKER HAZARDOUS MATERIALS INFORMATION SYSTEM (CANADA)

FOR ADDITIONAL INFORMATION

CONTACT: MSDS Coordinator Horizon Chemical Co., Inc. During Business Hours, Central Time
651.917.3075
Manufacturer MSDS's can also be obtained by contacting the number above. See notice below.

NOTICE

Horizon Chemical Co., Inc. ("Horizon") expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from the Horizon sales office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Horizon makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Horizons control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information obtained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

END OF MSDS