HYPO-CHLOR®

Sterile Pharmaceutical Clean Room Formula

Sterile Sodium Hypochlorite at 0.25%, 0.52% and 5.25%

MATERIAL SAFETY DATA SHEET – USA Version

COMPLIES WITH OSHA HAZARD COMMUNICATIONS STANDARD 29 CFR 1910.1200
(Complies with Commission Directive 91/155/EEC amended by 2001/58/EC)

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* * * Section 1 - Chemical Product and Company Identification * * *

Product Use: Sodium hypochlorite and water formulated to 0.25%, 0.52% and 5.25%

Manufacturer Information

Veltek Associates, Inc.
15 Lee Blvd.
Malvern, PA USA 19355-1234
Mfg Contact: 24 Hr CHEMTREC International (703) 527-3887

Phone: 610-644-8335
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* * * Section 2 - Hazards Identification * * *

Emergency Overview

Negligible fire hazard. Contact with acid releases toxic chlorine gas. May be harmful if swallowed or inhaled. Contact with this material will cause moderate to severe irritation to the skin, eyes and mucous membranes. Product can cause substantial but temporary eye injury. Lower concentrations can cause moderate irritation of the eyes, skin and mucous membranes.

Potential Health Effects: Eyes

This product is severely irritating to the eyes. Product can cause substantial but temporary eye injury. Lower concentration may cause moderate irritation.

Potential Health Effects: Skin

This product is severely irritating to the skin. Lower concentrations may cause moderate irritation.

Potential Health Effects: Ingestion

This product may be harmful if it is swallowed. Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Health Effects: Inhalation

This product may be harmful by inhalation. Inhalation can cause moderate to severe irritation of mucous membranes and upper respiratory tract with coughing, sore throat and breathing difficulty. May cause pulmonary edema and respiratory disturbances. Lower concentrations may cause moderate irritation of the respiratory tract and mucous membranes.

Medical Conditions Aggravated by Exposure

Pre-existing skin, eye and respiratory disorders may be aggravated by exposure to product.

HMIS Ratings: Health: 2 **Fire:** 0 **Physical Hazard:** 0 **Pers. Prot.:** B

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
7732-18-5	Water	95-100
7681-52-9	Sodium hypochlorite	0.25-5.25*

Component Information/Information on Non-Hazardous Components

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

This product is a controlled product according to Canada's Controlled Product Regulations.

* Even though the concentration range does not fall under the ranges prescribed by WHMIS, this is the actual range at which the component varies in the three products.

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

First Aid: Skin

Immediately take off all contaminated clothing. Wash affected area with mild soap and water. If irritation persists, get medical attention. Wash contaminated clothing before reuse.

First Aid: Ingestion

Do not induce vomiting. Call a physician immediately.

First Aid: Inhalation

If inhaled, immediately remove the affected person to fresh air. If not breathing, have a qualified individual give artificial respiration, preferably mouth-to-mouth. Call a physician immediately.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

Minor fire hazard. Burning may release hazardous combustion products.

Hazardous Combustion Products

Chlorine, oxides of sodium.

Extinguishing Media

Dry chemical, foam, carbon dioxide, water fog.

Fire Fighting Equipment/Instructions

Fire fighters should wear full-face, self contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling any combustion products.

NFPA Ratings: Health: 2 **Fire:** 0 **Reactivity:** 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

* * * Section 6 - Accidental Release Measures * * *

Containment Procedures

Stop the flow of material, if this is without risk. Block any potential routes to water systems. Remove sources of ignition.

Clean-Up Procedures

Ventilate the contaminated area. Wear appropriate protective equipment and clothing during clean-up. Absorb with an inert material and shoveled into an appropriate container for disposal. Do not allow the spilled product to enter public drainage system or open water courses.

Evacuation Procedures

Isolate area. Keep unnecessary personnel away.

Special Procedures

Do not inhale vapors or mists of this product. Do not get this material in contact with skin or eyes.

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Do not get this material in your eyes, on your skin, or on your clothing. Do not inhale vapors or mists of this product. Keep container closed. Do not mix with acids.

Storage Procedures

Keep the container tightly closed and in a cool, well-ventilated place away from sunlight and incompatible materials. Empty product containers may contain product residue. Do not reuse empty containers.

* * * Section 8 - Exposure Controls / Personal Protection * * *

A: Component Exposure Limits

ACGIH, OSHA, NIOSH and the provinces of Canada have not developed exposure limits for any of this product's components.

Engineering Controls

Use local exhaust ventilation.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Wear chemical goggles; face shield (if splashing is possible).

Personal Protective Equipment: Skin

Use impervious gloves. Use of an impervious apron is recommended.

Personal Protective Equipment: Respiratory

If ventilation is not sufficient to effectively prevent buildup of vapors, appropriate NIOSH/MSHA respiratory protection must be provided

Personal Protective Equipment: General

Use good industrial hygiene practices in handling this material. Eye wash fountain and emergency showers are recommended.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Colorless to yellow liquid	**Odor:**	Chlorine-like
Physical State:	Liquid	**pH:**	9-10
Vapor Pressure:	17.5 mmHg @ 20°C (68°F)	**Vapor Density:**	Not available
Boiling Point:	40°C (70°F)	**Melting Point:**	-6°C (21°F)
Solubility (H2O):	Complete	**Specific Gravity:**	1.209
Evaporation Rate:	Not available	**Bulk Density:**	1.07-1.14
Octanol/H2O Coeff.:	Not available	**Flash Point Method:**	Not available
Flash Point:	Not available	**Auto Ignition:**	Not available

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

Stable under normal conditions. Slowly decomposes on contact with air. Contact with acids liberates toxic chlorine gas.

Chemical Stability: Conditions to Avoid

Keep away from incompatible materials.

Incompatibility

Strong acids, organic materials, ammonia, amines, ammonium salts, aziridine, methanol, phenyl acetonitrile, cellulose, ethyleneimine, oxidizable metals, soaps, bisulfates.

Hazardous Decomposition

Chlorine, oxides of sodium.

Possibility of Hazardous Reactions

Will not occur.

* * * Section 11 - Toxicological Information * * *

Acute Dose Effects

A: General Product Information

May be harmful if swallowed or inhaled. Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Inhalation can cause moderate to severe irritation of mucous membranes and upper respiratory tract with coughing, sore throat and breathing difficulty. Overexposure may cause pulmonary edema and respiratory disturbances. Smaller concentrations may cause moderate irritation of the respiratory tract and mucous membranes. Contact with this material will moderate to severe irritation to the skin, eyes and mucous membranes. Product can cause substantial but temporary eye injury. Lower concentrations can cause moderate irritation of the eyes, skin and mucous membranes.

B: Component Analysis - LD50/LC50

Sodium hypochlorite (7681-52-9)

Oral LD50 Rat: 8200 mg/kg; Dermal LD50 Rabbit: >10000 mg/kg

Carcinogenicity

A: General Product Information

No information available for the product.

B: Component Carcinogenicity

Sodium hypochlorite (7681-52-9)

IARC: Monograph 52, 1991 (Listed under Hypochlorite salts) (Group 3 (not classifiable))

Target Organ Effects

Eyes, Skin, Respiratory Tract, Gastrointestinal Tract.

*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

No information available for the product. Components may be toxic to aquatic life.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions

A: General Product Information

Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: Hypochlorite Solution

TDG Information

Shipping Name: Not regulated as a dangerous good.

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Sodium hypochlorite (7681-52-9)

CERCLA: 100 lb final RQ; 45.4 kg final RQ

Acute Health: Yes **Chronic Health:** No **Fire:** No **Pressure:** No **Reactive:** No

State Regulations

A: General Product Information

Other state regulations may apply. Check individual state requirements.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Sodium hypochlorite	7681-52-9	Yes	Yes	Yes	Yes	Yes	No

Canadian WHMIS Information

A: General Product Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by CPR.

All components in this product are listed on the Canadian Domestic Substances List (DSL).

B: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Sodium hypochlorite	7681-52-9	1 % (English Item 1443, French Item 1013)

WHMIS Classification: Class D2B- Toxic Material

Additional Regulatory Information

A: General Product Information

No additional information available.

B: Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Water	7732-18-5	Yes	DSL	EINECS
Sodium hypochlorite	7681-52-9	Yes	DSL	EINECS

* * * Section 16 - Other Information * * *

Other Information

No additional information available.

MSDS History

New MSDS: 23 August 2005.

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; CFR = Code of Federal Regulations; CNS = Central Nervous System; DSL = Domestic Substances List; EINECS = European Inventory of Existing Commercial Chemical Substances; EPA = Environmental Protection Agency; HEPA = High Efficiency Particulate Air filters; IARC = International Agency for Research on Cancer; LC50 = Lethal Concentration 50%; LD50 = Lethal Dose 50%; NIOSH = National Institute for Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit; RCRA = Resource Conservation and Recovery Act; SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit; TDG = Transport Dangerous Goods TSCA = Toxic Substance Control Act; TWA = Time Weighted Average; WHMIS = Workplace Hazardous Materials Information System.

This is the end of MSDS # HC-98-01