

# **RA Aquatics**

## **Material Safety Data Sheets (MSDS) & Chemical Handling Plan**

Please read the following information carefully and complete the test that was attached with your re-hire paperwork.

(Test must be completed as part of your hiring process.)

In compliance with OSHA and Fairfax County Health Department, RA adopted a chemical handling management plan for Aquatics Department Employees. We want to make you aware of the possible chemical and safety hazards at the pool. Please read the following plan information carefully, as the information will be on the test.

## Chemical Handling Management Plan

- Lifeguards typically work with the following chemicals:

Sodium Hypochlorite	Muriatic Acid	Sodium Bicarbonate
Soda Ash	Bromine	Pink Hand Soap
PineQuat Cleanser	Scouring Cleanser	
- MSDS (Material Safety Data Sheets) relevant to the specific chemicals are available in two places at each pool: on the back of the pump room door and inside the Operator Training and Maintenance Manual.
- All protective equipment is in each pool facility's pump room hanging on a hook just inside the entrance. Please notify your immediate supervisor (guards notify Pool Manager, Pool Manager notify UM) if any equipment is lost &/or damaged.
- According to Fairfax County Health Codes, employees under the age of 16 are NOT permitted in the pump room or chemical storage areas.
- Employees are responsible for passing the attached test and are required to familiarize themselves with all MSDS sheets and other safety hazards. Just as in lifeguarding, safety begins with knowledge and the prevention of accidents.
- The RA Chemical Handling Management Plan Administrator is the Aquatics Manager, Laura Kowalski. She is available for your assistance.
- If any RA Employee is found in violation of safety standards through the misuse of equipment and/or improper chemical handling, then he/she may be subject to termination.

## MSDS and Chemical Handling Management Plan Test:

As a condition of employment all employees must pass the MSDS test. The following section contains information that will be on the test:

- "How to Read MSDS"
- Sample MSDS Sheets

## HOW TO READ MSDS

**Every MSDS sheet has these 4 components**

### Product Name

This is the formal name of the chemical.

### Hazards

Each chemical has potential dangers, which can harm individuals if the MSDS is not followed. All dangers for each chemical are listed in the section. Never mix chemicals together!

### First Aid

Each chemical has DIFFERENT instructions for First Aid. Read all information carefully to be aware of what to do, if an individual should come in contact with a specific chemical.

### Protective Equipment

Each chemical requires specific protective equipment when handling. This section lists the equipment needed to prevent any unnecessary accidents.

# Sample Material Safety Data Sheet

## SECTION I: IDENTIFICATION

**Product Name:** SODIUM HYPOCHLORITE, SOLUTION  
**Chemical Name:** Hypochlorite, Aqueous Solution  
**Synonyms:** Bleach Hypo-solution  
**Chemical Family:** Alkali  
**Formula:** NaOC1  
**Manufacturer:** Manley-Regan Chemicals / Div. of E+E (US), Inc  
**Address:** 532 East Emaus Street, Middletown PA. 17057  
**Phone:** (717) 944-7471  
**E.P.A Product Registration No.** 35934-2

## SECTION II: INGREDIENTS

COMPONENT	CAS NO.	%	PEL / TLV-SOURCE
Sodium Hypochlorite	7681-52-9	12.5	Not Established
Contains Sodium Hydroxide	1310-73-2	0.8 to 2.4	PEL 8 Hr 2mg / m (3) OSHA TLV 8 Hr 2 mg / m (3) Ceiling ACGIH
Chlorine (available)	7782-50-5	Apprx 10.0	OSHA (PEL) TWA – 0.5 ppm STEL – 1ppm ACGIH (TLV) TWA – 0.5 ppm STEL – 1ppm
Water	7732-18-5	Apprx 89.0	

## SECTION III: PHYSICAL DATA

Boiling Point / Melting Point @ 760mm hg: 110C / N / A  
Vapor Pressure mm hg @ 20C: VP of water plus decomposition product VP  
Specific Gravity (water =1): Approx. 1.19  
Ph: 9.0 –12.0  
Solubility in Water: Complete  
Appearance: Light Yellow –Green Liquid  
Odor: Chlorine Intensity: Slight

## SECTION IV: FIRE AND EXPLOSION HAZARD DATA

Flash Point (test method): Non – Flammable

Autoignition Temperature: None

Flammability Limits in Air: None LEL : N/ A UEL : N/A

**Extinguishing Medium:** use water to cool containers, knock down fumes if released.

**NFPA Rating:** Not listed in 9<sup>th</sup> Edition

**Special firefighting Procedures:** Avoid fumes from spilled or exposed liquid, dilute copiously, ventilate and be prepared to use respiratory protection if needed. Acid contamination will produce very irritation fumes similar to chlorine gas.

**Unusual Fire And Explosion Hazards:** Product decomposes when heated and may cause containers to rupture or explode.

## **EMERGENCY TELEPHONE NUMBERS**

CHEMTREC 1-800-424-9300  
MANLEY-REGAN CHEMICALS

24 HOURS A DAY ALL YEAR AROUND  
(call collect) (717) 944-7471

## SECTION V: HEALTH DATA

### **Toxicological Test Data:**

Sodium Hypochlorite @ 12.5%  
Rat, Oral LD50

### **Result:**

5.0 g / kg

Sodium Hypochlorite @ 5.25%  
Rat, Oral LD50

13.0 g / kg

### **Potential effects of Exposure:**

Acute: Irritating effects increase with strength of solution and time of exposure.

Chronic: constant irritant to eyes and throat.

Eyes: Causes severe eye irritation.

Skin: Irritation, reddening, damage with long or repeated exposure.

Inhalation: Fumes from exposed solution very irritation to mucous membranes, may cause sneezing. Grossly excessive exposure can cause bronchitis and pneumonia, and corrosion of the respiratory tract in severe cases.

Ingestion: Causes irritation of membranes of the mouth and throat, stomach pain and possible ulceration, in severe cases can produce circulatory collapse, lethargy, delirium, convulsions, and coma.

### **NSF INFORMATION:**

NSF Maximum drinking water use concentration –100 mg / L

The finished drinking water should be monitored for disinfections by products in accordance with state and U. S E.P.A. regulations and guidelines. Levels of chlorite ion and chlorate ion should not exceed 10 ppb.

## **SECTION V: Continued**

### **First Aid Procedures:**

**Eyes:** Flush eyes with flowing water for at least 15 minutes. Seek medical attention.

**Skin:** Wash affected areas with soap and water. If irritation develops, consult physician.

**Ingestion:** If swallowed, DO NOT induce vomiting or administer baking soda or acidic antidotes. Drink water or milk and obtain medical attention: **ADVICE TO PHYSICIAN:** Antidote- give Sodium Thiosulfate orally.

**Inhalation:** If inhaled, move to fresh air. Aid in breathing, if necessary, and Seek medical attention.

## **SECTION VI: REACTIVITY DATA**

**Stability:** Relatively Stable contingent upon, Temperature, Contamination, and PH.

**Conditions to Avoid:** Contact with acids will release CL2.

**Chemical Incompatibly:** Acids, Ammonias, Oxidizable Materials, Metals, Heat Sources, and Light Sources.

**Hazardous Decomposition Products:** Chlorine, Hydrochloric

**Hazardous Polymerization.** Does not occur.

**Conditions to Avoid:** Mixing Ammonia and Hypochlorite Solutions.

**Corrosive to Metal:** YES

**Oxidizer:** NO

## **SECTION VII: SPECIAL PROTECTION**

**Respiratory Protection:** NIOSH approved acid gas chemical cartridge respirator or full face with canister. For unknown concentration, use self-contained breathing apparatus.

**Eye Protection:** If splashing can occur, use chemical goggles and full-face shield.

**Protective Clothing:** Use rubber gloves, apron or rain suit and boots to avoid bodily contact.

**Ventilation:** Local exhaust recommended to remove chlorine odor.

## **SECTION VIII: ENVIRONMENTAL DATA**

**Environmental Toxicity Data:** Aquatic Toxicity rating: 96 hr. LC50  
Ceriodaphnia dubia: 1.23 ppm  
Pimephales promelas: 1.19 ppm

**Spill and Leak Procedures:** Do not allow material to enter sewers, streams, ponds, or storm conduits. Personnel involved in clean up must be appropriately equipped. As produced, this material is not regulated under RCRA if discarded; it is a corrosive hazardous waste, EPA hazardous waste number D002.

**Waste Disposal Method:** Contain spills in plastic drums when available. Contain in as small an area as possible, such as a holding area, for dilution and neutralization. Dispose of in accordance with Federal, State, and local regulations.

**Container Disposal:** Dispose in a licensed facility. Recommend crushing or other means to prevent unauthorized reuse.

## **SECTION IX: SHIPPING DATA**

<b>D.O.T Proper Shipping Name:</b>	Hypochlorite solution
<b>D.O.T Hazard Classification:</b>	Corrosive Material
<b>D.O.T Labels Required:</b>	Corrosive
<b>D.O.T Placards Required:</b>	Corrosive
<b>UN / NA Number Required:</b>	UN1791
<b>Reportable Quantity:</b>	100 lb. (10 gallons)

## **SECTION X: SARA TITLE III INFORMATION**

This blend does not contain any substances subject to the Threshold Planning Quantity. (TPQ) requirements of section 313 of the act.

## **SECTION XI: APPROVALS INFORMATION**

**NSF LIMITS:** NSF maximum Drinking Water use Concentration, 100 mg / L as Sodium Hypochlorite.

**USDA APPROVAL:** This product is acceptable as a sanitizer for all surfaces not always requiring a rinse in official establishments operation under the federal meat, poultry, shell egg, and egg products inspection programs.

DATE PREPARED: 08/18/94  
PREPARED BY: F. SALLADA

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