

**MATERIAL SAFETY DATA SHEET**

MANUFACTURER: Manufactured for  
ROSEMOUNT ANALYTICAL INC.  
ADDRESS: 851 McKinley Avenue  
Colombus, OH 43222

DATE REVISED: 1-27-11  
PREPARED BY: T. Phillips

TELEPHONE: (614) 224-5345

(1-800-424-9300 24 Hr. CHEMTREC/ CODE: RANA)

**SECTION 1-Product Identification**

**Product Name: Reagent #4 Hypochlorite Reagent (Blue)**

*Note: The following mixture is a result of mixing the "185-3010-34A add" with the "185-3010-34 diluent."*

**Synonyms: Bleach, hypochlorous acid solution**

**Part Number: 180-3010-34 mixture**

**SECTION 2-Composition/Information on Ingredients**

Ingredient(s)	CAS #	Percent	Hazardous
Water	7732-18-5	98.0	no
Sodium Hypochlorite	7681-52-9	2.0	yes

**SECTION 3-Hazards Identification**

Health Rating: 1  
Flammability Rating: 0  
Reactivity Rating: 1  
Contact Rating: 2

Lab Protective Equip: gloves, safety goggles, apron.

**Potential Health Effects:**

**INHALATION:** May cause irritation to the respiratory tract; symptoms may include coughing and sore throat

**INGESTION:** May cause nausea, vomiting

**SKIN CONTACT:** May irritate skin

**EYE CONTACT:** Contact may cause severe irritation and damage, especially at higher concentration.

**Note:** Persons with impaired respiratory function, or heart disorders (or disease) may be more susceptible to the effects of the substance.

**SECTION 4- First Aid Measures:**

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Ingestion:** If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Contact:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

**Note to Physician:**

Consider oral administration of sodium thiosulfate solutions if sodium hypochlorite is ingested. Do not administer neutralizing substances since the resultant exothermic reaction could further damage tissue. Endotracheal intubation could be needed if glottic edema compromises the airway. For individuals with significant inhalation exposure, monitor arterial blood gases and chest x-ray.

**SECTION 5–Fire Fighting Measures**

**Fire: Not Combustible**

**Explosion: N/A**

**Fire Extinguishing Media: Fight Surrounding Fire**

**Special Information:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

**SECTION 6–Accidental Release Measures**

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

**SECTION 7–Handling and Storage**

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

**SECTION 8–Exposure Controls/Personal Protection**

**Airborne Exposure Limits:**

Sodium Hypochlorite:

AIHA (WEEL) - STEL - 2 mg/m<sup>3</sup>

-OSHA Permissible Exposure Limit (PEL):

0.5 ppm (TWA), 1 ppm (STEL) as Chlorine

-ACGIH Threshold Limit Value (TLV):

1 ppm (TWA), 3 ppm (STEL) as Chlorine

**Ventilation System:** A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**Personal Respirators (NIOSH Approved):** If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece respirator with an acid gas cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Eye Protection:** Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

**SECTION 9–Physical and Chemical Properties**

**Appearance:** Colorless to yellowish liquid  
**Odor:** Chlorine-like odor  
**Solubility:** 100% in water  
**Density:** 1.07-1.14  
**pH:** 9-10  
**Boiling Point:** Approximately 104°C  
**Melting Point:** -6°C  
**Vapor Density (Air=1):** N/A  
**Vapor Pressure (mm Hg):** 17.5 @ 20C  
**Evaporation Rate (BuAc=1):** N/E

**SECTION 10-Stability and Reactivity**

**Stability:** Slowly decomposes on contact with air. Rate increases with the concentration and temperature. Exposure to sunlight accelerates decomposition. Sodium hypochlorite becomes less toxic with age.  
**Hazardous Decomposition Products:** Emits toxic fumes of chlorine when heated to decomposition. Sodium oxide at high temperatures.  
**Hazardous Polymerization:** Will not occur  
**Incompatibilities:** Ammonia (chloramine gas may evolve), amines, ammonium salts, aziridine, methanol, phenyl acetonitrile, cellulose, ethyleneimine, oxidizable metals, acids, soaps, and bisulfates.  
**Conditions to Avoid:** Light, heat, incompatibles.

**SECTION 11-Toxicological Information:**

No LD50/LC50 information found relating to normal routes of occupational exposure. Investigated as a tumorigen and mutagen. Irritation data: eye, rabbit, 10 mg - Moderate

Results from Corrositex® Testing: > 60 minutes, non-corrosive.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Sodium Hypochlorite (as NaOCl) (7681-52-9)	No	No	3
Water (7732-18-5)	No	No	None

**SECTION 12-Ecological Information**

**Environmental Fate:** N/A  
**Environmental Toxicity:** N/A

**SECTION 13-Disposal Considerations**

Dilute with water and flush to sewer if local ordinances allow, otherwise, whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

**SECTION 14-Transport Information**

Not regulated.

**SECTION 15-Regulatory Information**

Ingredient	-----\Chemical Inventory Status - Part 1\-----			
	TSCA	EC	Japan	Australia
Sodium Hypochlorite (as NaOCl) (7681-52-9)	Yes	Yes	Yes	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	--Canada--			
	Korea	DSL	NDSL	Phil.
Sodium Hypochlorite (as NaOCl) (7681-52-9)	Yes	Yes	No	Yes
Water (7732-18-5)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
Sodium Hypochlorite (as NaOCl) (7681-52-9)	No	No	No	No
Water (7732-18-5)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA-	-TSCA-
		261.33	8 (d)
Sodium Hypochlorite (as NaOCl) (7681-52-9)	100	No	No
Water (7732-18-5)	No	No	No

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
SARA 311/312: Acute: Yes      Chronic: No      Fire: No      Pressure: No  
Reactivity: No      (Mixture / Liquid)

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** S5

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**SECTION 16-Other Information**

N/A

**NFPA Ratings:**      Health:2      Flammability:0      Reactivity:1

\*\*\*\*\*

**Rosemount Analytical Inc., a Division of Emerson Process Management, provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. ROSEMOUNT ANALYTICAL INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, ROSEMOUNT ANALYTICAL INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.**

.....  
**Prepared by: Rosemount Analytical Inc.**  
Phone Number: (949) 757-8500