SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Primary Chlorine Standard
SYNONYMS: 
PRODUCT CODES: 251392Y
MANUFACTURER: YSI
ADDRESS: 1725 Brannum Lane
Yellow Springs, OH 45387
PHONE: +1 937-767-7241
Email: MSDSinfo@ysi.com

EMERGENCY PHONE: Chemtrec (US & Canada) 800-424-9300 (International) 001 703-527-3887

SECTION 1 NOTES:

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>CAS NO.</th>
<th>% VOL</th>
<th>SARA 313 REPORTABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hypochlorite</td>
<td>7681-52-9</td>
<td>&lt; 0.1</td>
<td></td>
</tr>
<tr>
<td>Sodium Bicarbonate</td>
<td>144-55-8</td>
<td>&lt; 0.5</td>
<td></td>
</tr>
<tr>
<td>Sodium Carbonate, monohydrate</td>
<td>5968-52-9</td>
<td>&lt; 0.5</td>
<td></td>
</tr>
<tr>
<td>Deionized Water</td>
<td>7732-18-5</td>
<td>&gt; 99</td>
<td></td>
</tr>
</tbody>
</table>

For Sodium Hypochlorite
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

SECTION 2 NOTES:

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

ROUTES OF ENTRY: Eyes, skin, ingestion and inhalation

POTENTIAL HEALTH EFFECTS

EYES: Irritation
SKIN: Irritation
INGESTION: Irritation of the esophagus.
INHALATION: Respiratory irritation

ACUTE HEALTH HAZARDS: Irritation

CHRONIC HEALTH HAZARDS: Irritation

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Unknown

CARCINOGENICITY: This product is not expected to be carcinogenic

SECTION 3 NOTES:
SECTION 4: FIRST AID MEASURES

EYES: Flush with water for 15 minute. Seek medical advice if irritation persists.

SKIN: Rinse affected area with water for 15 minutes. Seek medical advice if irritation persists.

INGESTION: DO NOT INDUCE VOMITING. If victim is alert, give 2-4 cupfulls of milk. Seek medical advice.

INHALATION: Remove victim to fresh air. If respiratory problems persist, seek medical advice.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

SECTION 4 NOTES:

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, UPPER: N/A
FLASH POINT: N/A
AUTOIGNITION TEMPERATURE: N/A

EXTINGUISHING MEDIA: Dry chemical, foam, water spray

SPECIAL FIRE FIGHTING PROCEDURES: Contact with acids may liberate toxic gasses.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Not expected

HAZARDOUS DECOMPOSITION PRODUCTS: Burning may liberate gaseous CO and CO2

SECTION 5 NOTES:

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Absorb onto inert material and place into proper container for disposal.

SECTION 6 NOTES:

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:

Use product in accordance with instructions. When used properly the user will not come in contact with, or be exposed to, any of its chemical components. Wash thoroughly after handling. Avoid contact with eyes.

Exposure of this product to temperatures up to 120°F (49°C) and below 32°F (0°C) will not create a safety hazard.

For optimum analytical accuracy, this product should be stored in the dark, preferably under refrigeration and should not be used beyond expiration date.

OTHER PRECAUTIONS:

SECTION 7 NOTES:

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
ENGINEERING CONTROLS:

VENTILATION: Provide for adequate local ventilation

RESPIRATORY PROTECTION: N/A

EYE PROTECTION: Protective goggles suitable for protection against impact and splashes

SKIN PROTECTION: Gloves compatible with product components

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Clothing suitable for protection against chemical splashes

WORK HYGIENIC PRACTICES: Always wash hands using soap and water after use. Maintain drench showers and eyewash areas. Observe general good hygiene procedures.

EXPOSURE GUIDELINES:

SECTION 8 NOTES:

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless

ODOR: Slight odor of bleach

PHYSICAL STATE: Liquid

pH AS SUPPLIED: 9.5

BOILING POINT: 100°C

FREEZING POINT: 0°C

VAPOR PRESSURE (mmHg): 14 mmHg at 20°C

VAPOR DENSITY (AIR = 1): 0.7 H2O

SPECIFIC GRAVITY (H2O = 1): 1.0

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (con’t)

SOLUBILITY IN WATER: Complete

PERCENT SOLIDS BY WEIGHT: <2%

PERCENT VOLATILE: N/A

MOLECULAR WEIGHT: N/A

SECTION 9 NOTES:

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Analytical stability guaranteed until date of expiration. Reactively stable.

CONDITIONS TO AVOID (STABILITY):
Exposure of this product to temperatures up to 120°F (49°C) and below 32°F (0°C) will not create a safety hazard.

For optimum analytical accuracy, this product should be stored in the dark, preferably under refrigeration and should not be used beyond expiration date.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Acids

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** None

**HAZARDOUS POLYMERIZATION:** Will not occur

**CONDITIONS TO AVOID (POLYMERIZATION):** None

**SECTION 11: TOXICOLOGICAL INFORMATION**

**TOXICOLOGICAL INFORMATION:** There is no data to report on this product. Not classified as a carcinogen.

**SECTION 12: ECOLOGICAL INFORMATION**

**ECOLOGICAL INFORMATION:** There is no data to report on this product. The components are expected to biodegrade.

**SECTION 13: DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL METHOD:** Collect in appropriate waste container. Dispose of in accordance with Federal, State and Local regulation.

**RCRA HAZARD CLASS:**

**SECTION 14: TRANSPORT INFORMATION**

**U.S. DEPARTMENT OF TRANSPORTATION**

**PROPER SHIPPING NAME:** Not Regulated

**HAZARD CLASS:**

**ID NUMBER:**

**PACKING GROUP:**

**LABEL STATEMENT:**

**WATER TRANSPORTATION**

**PROPER SHIPPING NAME:** Not Regulated

**HAZARD CLASS:**

**ID NUMBER:**

**PACKING GROUP:**

**LABEL STATEMENT:**

**AIR TRANSPORTATION**

**PROPER SHIPPING NAME:** Not Regulated

**HAZARD CLASS:**

**ID NUMBER:**
PACKING GROUP:
LABEL STATEMENT:

OTHER AGENCIES:

SECTION 14 NOTES:

SECTION 15: REGULATORY INFORMATION
U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): All chemical components of this product are listed on the TSCA Inventory.

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): Sodium Hypochlorite (100)

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): None

INTERNATIONAL REGULATIONS:

EUROPEAN INFORMATION: EU SYMBOLS: None
Risk Phrases: Contact with acid liberates toxic gas.
Safety Phrases: In case of accident, or if you feel unwell, seek medical advice immediately (show the label where possible).

CANADIAN INFORMATION: WHMIS Classification: D2B
All chemical components of this product are listed on Canada’s DSL or are exempt.

SECTION 15 NOTES:

SECTION 16: OTHER INFORMATION

OTHER INFORMATION:

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