

**Safety Data Sheet**

according to 29CFR1910/1200 and GHS Rev. 3

**Initial preparation date:** : 02.18.2015**Hardness Reagent****SECTION 1: Identification of the substance/mixture and of the supplier****Product name:** Hardness Reagent**Manufacturer/Supplier Article number:** AR-1003-4000**Recommended uses of the product and restrictions on use:** Laboratory chemicals**Manufacturer Details:**

Aqua Analytics  
 245 Matheson Blvd East, Units 1 & 2 Mississauga, Ontario Canada L4Z 3C9  
 (888) 712-4000

**Emergency telephone number:**

Emergency Phone No. (613) 996-6666

**SECTION 2: Hazards identification****Classification of the substance or mixture:**

Not classified for physical or health hazards under GHS.

**Signal word:** None**Hazard statements:**

None

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
 Keep out of reach of children.  
 Read label before use.

**Other Non-GHS Classification:** None**SECTION 3: Composition/information on ingredients****Ingredients:**

| <b>Ingredients:</b>       |                                 |         |
|---------------------------|---------------------------------|---------|
| CAS 7732-18-5             | Deionized Water                 | 98.83 % |
| CAS 6381-92-6             | Disodium EDTA, Dihydrate        | 0.86 %  |
| CAS 7791-18-6             | Magnesium Chloride, Hexahydrate | 0.06 %  |
| CAS 1310-73-2             | Sodium Hydroxide, ACS           | 0.14 %  |
| Percentages are by weight |                                 |         |

**SECTION 4: First aid measures****Description of first aid measures****After inhalation:**

Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Loosen clothing and place exposed in a comfortable position. Seek medical assistance if cough or other symptoms

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appear.

**After skin contact:**

Continue rinsing while removing contaminated clothing and shoes. Immediately seek medical attention. Wash hands and exposed skin with soap and plenty of water. Rinse or flush skin/hair gently with water for at least 30 minutes.

**After eye contact:**

Protect unexposed eye. Remove contact lenses, if present and easy to do, and continue rinsing. Rinse or flush eye gently with water for at least 30 minutes, lifting upper and lower lids. Seek immediate medical attention (ophthalmologist).

**After swallowing:**

Immediately seek medical attention. Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed:**

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, pulmonary edema. Vomiting. Irritation. Shortness of breath. Headache. Nausea. Dizziness. Stomach - Irregularities - Based on Human Evidence.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures****Extinguishing media****Suitable extinguishing agents:**

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:** None**Special hazards arising from the substance or mixture:**

Thermal decomposition can lead to release of irritating gases and vapors.

**Advice for firefighters:****Protective equipment:**

Wear protective eyewear, gloves, and clothing. Refer to Section 8.

**Additional information (precautions):**

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes and clothing.

**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures:**

Ensure adequate ventilation. Ensure that air-handling systems are operational.

**Environmental precautions:**

Should not be released into environment. Prevent from reaching drains, sewer, or waterway.

**Methods and material for containment and cleaning up:**

Soak up with inert absorbent material and dispose of as hazardous waste. Wear protective eyewear, gloves, and clothing. Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13. Keep in suitable closed containers for disposal. Refer to Section 8.

**Reference to other sections:** None

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**Hardness Reagent****SECTION 7: Handling and storage****Precautions for safe handling:**

Avoid contact with skin, eyes and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Do not eat, drink, smoke, or use personal products when handling chemical substances. Refer to Section 13.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials.

**SECTION 8: Exposure controls/personal protection****Control parameters:**1310-73-2, Sodium hydroxide, ACGIH TLV Ceiling 2 mg/m<sup>3</sup>.**Appropriate engineering controls:**

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

**Respiratory protection:**

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

**Protection of skin:**

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

**Eye protection:**

Face shield and tight fitting goggles are appropriate eye protection. Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**General hygienic measures:**

Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes and clothing. Before re-wearing, wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

|  |                         |   |                   |
|--|-------------------------|---|-------------------|
| <b>Appearance (physical state, color):</b> | Clear, colorless liquid | <b>Explosion limit lower:</b>                   | Not determined    |
|  |                         | <b>Explosion limit upper:</b>                   | Not determined    |
| <b>Odor:</b>                               | Not determined          | <b>Vapor pressure at 20°C:</b>                  | Not determined    |
| <b>Odor threshold:</b>                     | Not determined          | <b>Vapor density:</b>                           | Not determined    |
| <b>pH-value:</b>                           | 8-10                    | <b>Relative density:</b>                        | Not determined    |
| <b>Melting/Freezing point:</b>             | Approximately 0°C       | <b>Solubilities:</b>                            | Soluble in water. |
| <b>Boiling point/Boiling range:</b>        | Approximately 100°C     | <b>Partition coefficient (n-octanol/water):</b> | Not determined    |

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|---------------------------------------|----------------|--|--|
| <b>Flash point (closed cup):</b>      | Not determined | <b>Auto/Self-ignition temperature:</b> | Not determined   |
| <b>Evaporation rate:</b>              | Not determined | <b>Decomposition temperature:</b>      | Not determined   |
| <b>Flammability (solid, gaseous):</b> | Not determined | <b>Viscosity:</b>                      | a. Kinematic: Not determined<br>b. Dynamic: Not determined |
| <b>Density at 20°C:</b>               | Not determined |  |  |

**SECTION 10: Stability and reactivity****Reactivity:**

Reacts violently with Cyclopentadiene, Cyclopentanone oxime, Nitroaryl amines, Hexalithium disilicide, Phosphorous(III) oxide, Powdered metals.

**Chemical stability:**

Stable under normal conditions.

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Incompatible materials.

**Incompatible materials:**

Bases, Halides, Organic materials, Carbides, fulminates, Nitrates, picrates, Cyanides, Chlorates, alkali halides, Zinc salts. Permanganates (potassium permanganate), Hydrogen peroxide, Azides, Perchlorates., Nitromethane, Phosphorous. Cyclopentadiene, Cyclopentanone oxime, Nitroaryl amines, Hexalithium disilicide, Phosphorous(III) oxide, Powdered metals.

**Hazardous decomposition products:**

Sulfur oxides.

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:**

Skin - Rabbit Result: Extremely corrosive and destructive to tissue 7664-93-9.

**Serious eye damage/irritation:**

Eyes - Rabbit Result: Corrosive to eyes 7664-93-9.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:**

No additional information.

**SECTION 12: Ecological information**

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7664-93-9, LC50 - Gambusia affinis (Mosquito fish) - 42 mg/l - 96 h.

7664-93-9, EC50 - Daphnia magna (Water flea) - 29 mg/l - 24 h.

**Persistence and degradability:** No additional information.**Bioaccumulative potential:** No additional information.**Mobility in soil:** No additional information.**Other adverse effects:** No additional information.**SECTION 13: Disposal considerations****Waste disposal recommendations:**

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed together with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification. Neutralize with soda ash or calcium carbonate.

**SECTION 14: Transport information****US DOT****UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated

**Limited Quantity Exception:**

None

**Bulk:****RQ (if applicable):** None**Proper shipping Name:** Not Regulated.**Hazard Class:** None**Packing Group:** Not Regulated.**Marine Pollutant (if applicable):** No additional information.**Comments:** None**Non Bulk:****RQ (if applicable):** None**Proper shipping Name:** Not Regulated.**Hazard Class:** None**Packing Group:** Not Regulated.**Marine Pollutant (if applicable):** No additional information.**Comments:** None**SECTION 15: Regulatory information****United States (USA)****SARA Section 311/312 (Specific toxic chemical listings):**

None of the ingredients are listed.

**SARA Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

**TSCA (Toxic Substances Control Act) :**

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All ingredients are listed.

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):**

1310-73-2 Sodium Hydroxide 5000 lbs.

**Proposition 65 (California):****Chemicals known to cause cancer:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**Canada****Canadian Domestic Substances List (DSL) :**

All ingredients are listed.

**SECTION 16: Other information**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 1-0-0**HMIS:** 1-0-0**GHS Full Text Phrases:** None**Abbreviations and Acronyms:** None