

Safety Data Sheet

Product Name: RG211: Hardness-1 (Hard-1)

Revision Date: June 4, 2015

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Section #1: Chemical Product and Company Identification

Product Name: RG211: Hardness-1 (Hard-1)

Other mean of identification: None

Chemical use/Restrictions: For industrial, commercial, institutional use only. Not intended for household use.

Manufacturer / Distributor: Enerco Corporation

Address: 317 N. Bridge St., Grand Ledge, MI 48837

Telephone: (800) 292-5908

Fax: (517) 627-8037

For chemical emergency - spill, leak, fire, exposure or accident - call CHEMTREC - day or night - (800) 424-9300

Section #2: Hazards Identification

Signal Word: **Danger**



Exclamation
Mark



Corrosion

<u>Classification Number and Name</u>	<u>Appendix Reference</u>	<u>Hazard Statement</u>	<u>Hazard Category</u>
C.4.1 Acute Toxicity - Oral	A.1	Harmful if swallowed	4
C.4.4 Skin Corrosion/Irritation	A.2	Causes severe skin burns and eye damage	1B
C.4.5 Eye Damage/Irritation	A.3	Causes serious eye damage	1

Precautionary Statements

Prevention

Do not breathe dusts or mists.

Wash exposed body parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear eye protection/face protection

Wear protective gloves/protective clothing/eye protection/face protection.

Response

If swallowed: Immediately call a poison center/doctor.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a poison center/doctor.

Rinse mouth.

Wash contaminated clothing before reuse.

Storage

Store locked up.

Disposal

Dispose of contents/container to comply with all local, state, and federal regulations.

Other Hazards: No other hazards identified during the classification process.

Unknown Acute Toxicity: No ingredients of unknown toxicity.

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Section #3: Composition/Information on Ingredients

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Weight %</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
<input checked="" type="checkbox"/> Ammonium Chloride	12125-02-9	<10%	unknown	10 mg/m ³
<input checked="" type="checkbox"/> Ammonium Hydroxide	1336-21-6	30-60%	35 mg/m ³	25 mg/m ³

Indicates hazardous substances. Remainder of components comprise proprietary information. This document is prepared pursuant to the OSHA Hazard Communication Standard, 29 CFR 1910.1200. In addition, other substances not "hazardous" per this OSHA standard may be listed.

Section #4: First Aid Measures

EMERGENCY OVERVIEW: Hazardous fumes and liquid. May be fatal if swallowed or inhaled. Use with adequate ventilation. Avoid breathing vapor or contact with eyes, skin or clothing.

Eye: Immediately flush with water for 15 minutes. Be sure eyelids are held open during flushing. Get medical attention immediately.

Skin: Flush with water for at least 15 minutes while removing contaminated clothing and footwear. Get medical attention immediately.

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

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Dilute with water or milk. Consult physician, get medical attention.

Potential Health Effects: See Section 11 For Toxicological Data.

Effects of Acute Exposure:
Eye: May cause irritation, redness, pain and tearing. May produce tissue damage
Skin: May cause irritation, redness, and pain. May produce burns.
Inhalation: Irritation of the respiratory tract characterized by coughing, choking, or shortness of breath. Higher concentrations can cause burns. Brief exposure to 5000 ppm can be fatal.
Ingestion: May cause corrosion to the esophagus and stomach. Ingestion of as little as 3-4 ml may be fatal.

Effects of Chronic Exposure: Normal use of this product does not result in chronic exposure.

Medical Conditions Generally Aggravated by Exposure: Pre-existing upper respiratory and lung diseases and pre-existing skin diseases may be aggravated.

Section #5: Fire-Fighting Measures

NFPA Hazard Codes - (Health / Flammability / Reactivity):

3 / 0 / 0

NFPA Code Legend

4 - Severe Hazard
3 - Serious Hazard
2 - Moderate Hazard
1 - Slight Hazard
0 - Minimal Hazard

Extinguishing Media: Use media suitable for surrounding fire. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire.

Unusual Fire and Explosive Hazards: Vapors may explode if ignited in an enclosed area.

Special Fire Fighting Procedures: Fire fighters should wear full protective gear including self-contained breathing apparatus.

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Section #6: Accidental Release Measures

Spill and Leak Procedure: Ventilate area of spill or leak. Small spill: Dilute with water and mop up. Large spill: Absorb with dry earth, sand or other non-combustible material and place in an appropriate waste disposal container. Prevent entry into sewers, basements or confined areas. Dike if necessary. Neutralize the residue with a dilute solution of acetic acid. Wash area with water. Water must go to a treatment plant, not to the environment.

Disposal: Dispose of in accordance with all applicable federal, state, and local health and environmental standards and regulations.

Section #7: Handling and Storage

Precautions to be Taken in Handling: Avoid contact with eyes, skin, and clothing. Keep container tightly closed when not in use. Do not ingest. Avoid breathing vapor. Never add water to this product, add product to water. Wash thoroughly after handling.

Precautions to be Taken in Storage: Store in a cool, dry, secure place. Normal shelf life 1 year. Store below 120°F and above 40°F. Do not store with or near food supplies or potable water. Keep container tightly closed.

Section #8: Exposure Controls / Personal Protection

Permissible Exposure Limits: Ammonium Chloride: ACGIH 10mg/m³

Ventilation: Provide adequate exhaust ventilation to control work place concentrations.

Eye Protection: Chemical splash goggles and/or face shield. Eyewash fountain in the work place is strongly recommended.

Skin Protection: Chemical resistant gloves. Shower in the work place is strongly recommended.

Respiratory Protection: Use adequate ventilation to keep airborne levels below the exposure limits. Respiratory protection may be required for work areas where misting may occur.

Other Protection Equipment: Any other protective clothing or use of equipment necessary to prevent eye and skin contact.

Section #9: Physical and Chemical Properties

Appearance: Clear Colorless Liquid

Flammable Limits: Not Applicable

Odor: Characteristic Ammonia Odor

Vapor Pressure: 2.3KPA (@20°C)(water)

Odor Threshold: No Information Available.

Vapor Density: 0.62 (Air=1)

pH (1% sol'n, unless noted): 10-11

Relative Density: No Information Available.

Melting Point (deg. F): No Information Available.

Solubility in Water: Complete

Boiling Point (deg. F): >212°F

Partition Coefficient: No Information Available.

Flash Point: Not Applicable

Auto-ignition (deg. F): No Information Available.

Evaporation Rate: Similar To Water

Decomposition (deg. F): No Information Available.

Flammability (NFPA Rating): 0

Viscosity: No Information Available.

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Section #10: Stability and Reactivity

Reactivity (NFPA Rating): 0

Chemical Stability: Stable

Hazardous Reactions: Will not occur

Conditions to Avoid: Avoid Temperatures Above 120°F Or Below 40°F

Incompatibility: Oxidizing Agents, Alkalis, Acids, Metals, Halogens

Hazardous Decomposition Products: Burning May Produce Ammonia And Nitrogen Oxides

Section #11: Toxicological Information

Irritant or corrosive to eyes, skin, and mucous membranes.

LDLo, Oral, Human: 43 mg/kg

LCLo, inhalation, Human: 5000 ppm

Ingredients as Carcinogens: To the best of our knowledge, this product does not contain any substances that are considered by OSHA, NTP, IARC, or ACGIH to be 'probable' or 'suspected' human carcinogens.

Section #12: Ecological Information

This material is expected to be very toxic to aquatic life. The LC50/96-hour values for fish are less than 1 mg/L. This material is not expected to significantly bioaccumulate.

Section #13: Disposal Considerations

Best route is to use product for its originally intended purpose. Dispose of in accordance with all applicable environmental standards and in accordance with all local, state, and federal laws and regulations.

Section #14: Transport Information

DOT Proper Shipping Name: Corrosive Liquid, N.O.S., (Ammonium Hydroxide Solution)

DOT Hazard Class: 8

DOT UN Number: 1760

DOT Label: Corrosive

DOT Packing Group: III

The shipping name listed above applies to a 55 gallon drum size (~500 lbs) of the product offered for ground transport. This product may have more than one proper shipping name, depending on packaging, product properties, and mode of shipment.

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Section #15: Regulatory Information

TSCA: All Ingredients Are On The TSCA Inventory Or Are Not Required To Be Listed On The TSCA Inventory.

RCRA Hazard Class: No Component Of This Product Is Listed.

CERCLA RQ: Listed: Ammonium Chloride RG 5,000 Lbs Listed: Ammonium Hydroxide RG 1,000 Lbs

SARA Title III

Extremely Hazardous Substance: No Component Of This Product Is Listed.

Hazardous Substance: Hazard Due To: Irritant, Corrosive

Hazard Catagorization: Sudden Release of Pressure Immediate (Acute) Health
 Reactive Delayed (Chronic) Health
 Fire

Section 313 Chemicals: This product contains the following EPCRA Section 313 chemical subject to the reporting requirements of Section 313 of The Emergency Planning and Community Right-To-Know Act of 1986(40CFR372)

CAS#	Chemical Name
1336-21-6	Ammonium Hydroxide

This information should be included in all MSDS's that are copied and distributed for this material.

STATE RIGHT-TO-KNOW

CHEMICAL NAME	CAS NUMBER	LIST
Ammonium Hydroxide	1336-21-6	MA,NJ1,NJ2,NY,PA1,PA3
Ammonium Chloride	12125-02-9	MA,MN,NY,PA1,PA3

MA=Massachutts Hazardous Substance MN=Minnesota Hazardous Substance NJ1=New Jersey RTK Hazardous Substance NJ2=New Jersey TCPA Extremely Hazardous Substance NY=New York Hazardous Substance PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%) PA3=Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%)

Section #16: Other Information

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This product is a testing reagent. The use rate is drops to mls. per day. The normal amount purchased is = or < a quart.

We believe that the statements, technical information, and recommendations contained herein are reliable. However, since data, safety standards, and government regulations are subject to change and conditions of handling and of use or misuse are beyond our control, and since health and safety precautions given may not be adequate for all individuals and/or situations, we make no warranty, either expressed or implied, with respect to the continuing accuracy of the information contained herein.