

APEX ENGINEERING PRODUCTS CORPORATION
1241 Shoreline Drive
Aurora, IL 60504
Phone Number: 630-820-8888 Fax: 630-820-8886

SAFETY DATA SHEET

1. IDENTIFICATION OF THE PRODUCT AND COMPANY _____

Product Identifier

RYDLYME (pronounced: *rid-lime*)
Aqueous water scale cleaner/descaler.

Relevant identified uses of the product and uses advised against

General use: Aqueous acidic cleaner for the removal of calcium, lime, rust and other mineral deposits.

Uses advised against: Do not mix with strong oxidizing agents or strong caustics.

Manufacturer Information

Apex Engineering Products Corporation, established 1942
1241 Shoreline Drive
Aurora, Illinois 60504

Emergency Phone (Chemtrec): 800-424-9300 (Domestic), 703-527-3887 (International)

2. HAZARD IDENTIFICATION _____

Classification of the substance or mixture

Mixture

Hazard pictograms:



Signal word: Warning

Hazard statements:

H303: May be harmful if swallowed.

H316: Causes mild skin irritation.

H320: Causes eye irritation.

Precautionary statements:

(Prevention) P280: Wear protective gloves and eye protection.

P281: Use personal protective equipment as required.

(Response) P302+P352: IF ON SKIN: Wash with soap and water.

P321: Specific treatment, see section 4 of this SDS.

P332+P313: If skin irritation occurs, get medical attention.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes, remove contact lenses if present and easy to do, continue rinsing.
P337+P313: If eye irritation persists, get medical attention.

Other hazards: Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance: Not applicable.

Mixture: Chemical characterization (preparation).

CAS	PRODUCT NAME: RYDLYME	% by Weight
7647-01-0	Hydrochloric acid	5-9

There are no additional ingredients present which, within the current knowledge of the supplier, are classified as hazardous to the health or the environment. Confidential Business Information (CBI) is not harmonized under the Global Harmonized System (GHS). The full disclosure of this products' ingredients is protected under the Illinois Trade Secret Act. However, the CBI provisions have not compromised the health and safety of our users.

4. FIRST AID MEASURES

Description of first aid measures

After inhalation: Product is not designed to be misted, however, if product mist causes respiratory irritation or distress, move the exposed person to fresh air immediately. If irritation persists, seek medical attention.

After skin contact: Wash affected area with soap and water. If irritation persists, seek medical attention.

After eye contact: Immediately flush eyes with large amounts of water for 15 minutes. Remove contact lenses if present, after the first 5 minutes and continue rinsing. If irritation persists, seek medical attention.

After swallowing: Do NOT induce vomiting, drink milk, egg whites, etc. and seek immediate medical attention.

Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Eyes: Causes moderate to severe eye irritation. Symptoms include redness, stinging, tearing and swelling.

Skin: May cause mild to moderate irritation. Repeated and prolonged use may result in drying or cracking of skin or dermatitis.

Inhalation: Inhalation of mist or spray may cause mild irritation of the respiratory tract.

Ingestion: May be harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting, and diarrhea.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Use extinguishing media suitable for the surrounding fire.

Unsuitable media: None known.

Specific hazards arising from the mixture: None known.

Advice for firefighters

Protective equipment: As in any fire, wear self-contained breathing apparatus (pressure-demand, MSHA/NIOSH approved or equivalent and full protective gear).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Wear appropriate protective clothing designated in Section 8. Ventilate the area.

Environmental precautions: Rinse area with copious amounts of water to dilute. Sodium bicarbonate may also be used to absorb and/or neutralize liquid. Dispose of material in accordance with the local, State, Provincial, and Federal regulations for your location.

Methods and materials for containment and cleaning up: Absorb with liquid binding material.

7. HANDLING AND STORAGE

Precautions for safe handling: Observe label precautions. Wear all appropriate protective equipment specified in Section 8. Keep containers closed when not in use.

Condition for safe storage: Keep in cool, dry, ventilated storage areas in closed containers. Transfer only to approved containers having correct labeling. Containers that have been opened should be carefully resealed and kept upright to prevent leakage. The recommended storage temperature is between -12°C/10°F and 81°C/180°F. Keep out of reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters: Contains no substances with occupational exposure values.

Exposure controls

Engineering: Maintain general industrial hygiene practices. Use normal exhaust, vent to atmosphere.

Personal protective equipment: Facilities storing or using this material should be equipped with an eyewash station. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking or using the lavatory.

Respiratory equipment: None required under normal operating conditions, even when materials vapors and/or mists occur.

Protective gloves: Recommended however not mandated. Material is non-toxic and can be held in the open hand without risk.

Eye protection: Wear protective goggles or safety glasses during use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark Liquid
Odor:	Comparable to Almonds
Odor threshold:	Not applicable
pH:	Unreadable, generally < 3
Freezing/melting point:	-26°C (-15°F)
Initial boiling point:	100°C (212°F)
Flash point:	Not applicable
Evaporation rate:	Not determined
Flammability (solid, gas):	Not applicable
Lower explosive limit (LEL)	Not determined
Upper explosive limit (UEL)	Not determined
Vapor Pressure:	Not determined
Density at 20°C:	1.045 g/cm ³ (8.7208 lbs/gal).
Solubility in Water:	Complete
Partition coefficient (n-octano/water):	Not determined
Autoignition temperature:	Not determined
Decomposition temperature:	Not determined

10. STABILITY AND REACTIVITY

Reactivity: No special reactivity reported, hazardous polymerization will not occur.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: None known.

Conditions to Avoid: Extreme temperatures, contact with incompatible materials.

Incompatible materials: Strong alkalis, oxidizing agents, chlorinated products (such as bleach).

Hazardous decomposition: None known.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

No toxicity tests have been carried out for this product. Acute toxicity data was estimated based on the toxicity of the individual components contained in this product.

Acute oral toxicity: Product is expected to have low acute oral toxicity.

Acute inhalation toxicity: Product is expected to have low acute inhalation toxicity.

Acute dermal toxicity: Product is expected to have low acute dermal toxicity.

Skin irritation: May cause mild skin irritation.

Eye irritation: Causes moderate to severe eye irritation.

Sensitization: No sensitizing effects known.

Carcinogenic categories: None of the components of this product are listed as carcinogens by AGCIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Aquatic toxicity: Product is expected to have low toxicity to aquatic organisms.

Persistence and degradability: Product is readily biodegradable.

Bioaccumulation potential: Material will not bioaccumulate.

Mobility in soil: The components of this product are water soluble and highly mobile in soil.

Results of PBT and vPvB assessment: No data available.

Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal: Unused product can be disposed of down sanitary sewers with water. Used solution may be hazardous as a result of the pre-existing contaminants present in the equipment being cleaned. Dispose of material in accordance with the local, State, Provincial, and Federal regulations for your location.

Contaminated packaging: Rinse with water and offer for recycling, if available in your area. Otherwise, dispose as non-hazardous waste.

14. TRANSPORT INFORMATION

UN Number: DOT-Not regulated, IMDG/IATA-Not applicable.

UN proper shipping name: DOT/IATA-Not applicable, IMDG-Not regulated.

Transport hazard class(es): DOT/IMDG/IATA-Not applicable.

Packing group: DOT/IMDG/IATA-Not applicable.

Marine pollutant: No.

Special precautions: Not applicable.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for substance or mixture

U.S. Federal Regulations

OSHA Hazard Communication Standard: This material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

OSHA Process Safety Management Standard: Components of this product are not regulated under OSHA PSM Standard 29 CFR 1910.119.

TSCA Status: All components of this product are listed on the Toxic Substance Control Act (TSCA) Inventory.

SARA Section 311/312 Hazard Categories: Not classified as hazardous.

SARA 313 Information: Not listed.

Comprehensive Response Compensation and Liability Act (CERCLA): Not reportable.

Clean Air Act (CAA): This product does not contain any chemicals that are listed as Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b).

Clean Water Act (CWA): None of the chemicals in this product are listed as Hazardous Substances, Priority Pollutants or Toxic Pollutants under the CWA.

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains no chemical(s) known to the state of California to cause cancer or other reproductive harm.

Canada

WHMIS Hazard Symbol and Classification: Not applicable/Not classified as hazardous

Canadian Ingredient Disclosure List (IDL): None of the components in this product are listed on the IDL.

Canadian National Pollutant Release Inventory (NPRI): None of the components in this product are listed on the NPRI.

16. OTHER INFORMATION

Please use material only as directed. If procedures are not published for your particular application, please call for assistance. Furthermore, RYDLYME is designed to be used by itself or diluted with water and water only. Do not heat. Use RYDLYME at an ambient temperature. Vent circulating solution to atmosphere. Some adverse reactions may occur with some alloys of aluminum, magnesium, zinc and/or other sacrificial/inferior metallurgies. Please consult the manufacturer.

CAUTION: RYDLYME is non-corrosive, but the application of RYDLYME may expose pre-existing under deposit corrosion (pitting, holes or similar damage) that can result in leaks in pipes, equipment or systems.

Date of preparation: Creation date for SDS 03/01/2015.

FOR ADDITIONAL INFORMATION, PLEASE CONTACT OUR MANUFACTURING FACILITY AT 630-820-8888 OR OUR WEBSITE AT www.ApexEngineeringProducts.com.

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Specifications

RYDLYME dissolves waterscale, lime, mud and rust deposits safely, quickly and efficiently!

1. **RYDLYME** is a non-hazardous, non-corrosive, non-injurious, non-toxic, yet fully biodegradable descaler, heavily fortified with wetting and penetrating agents which actually dissolves water scale, lime, mud, rust, and other water formed deposits from water operated equipment.
2. Certified to **NSF/ANSI 60** for use as a cleaner in potable water systems. **NSF Registered** for use in beverage, pharmaceutical, bottling, poultry, and other food processing plants. USFDA has no jurisdiction over the product, since it does not come in direct contact with food.
3. **RYDLYME** is non-corrosive, but the application of **RYDLYME** may expose pre-existing under deposit corrosion (pitting, holes or similar damage) that can result in leaks in pipes, equipment or systems.
4. **RYDLYME** should be used as directed and at any temperature within the operating limits of between 0°F / -18°C and 180°F / 82°C. If the solution does freeze, slush or thicken at the lower operating temperatures, and then thaws, there will be no performance reducing results. Please consult the manufacturer when temperatures above 180°F / 82°C are encountered.
5. The solution does not deteriorate, oxidize, saponify, thicken or lose effectiveness for at least five years.
6. Although almost any chemical reaction will react faster under elevated temperatures, **RYDLYME** should be applied at ambient temperatures (65°F / 18°C to 95°F / 35°C) with full effectiveness and results obtainable.
7. The solution is exothermic, but does not develop a substantial increase in temperature while dissolving water scale, lime, mud, rust or other water formed deposits. However, when **RYDLYME** comes in contact with strong caustics, a significant exothermic reaction could result with temperatures potentially exceeding 140°F / 60°C.
8. **RYDLYME** has the ability to dissolve approximately two pounds (1 Kilo) of calcium carbonate scale per U.S. gallon while at 70°F / 21°C, and in concentrated form. If the **RYDLYME** is diluted, it will still dissolve two pounds per gallon, but will require additional circulating time.
9. The concentrated solution can be held, safely, in the open hand without deleterious affects. However, if irritation occurs, a simple soap and water rinse is all that is required. If irritation persists, please consult a physician.
10. The solution is of a pleasant or characteristic odor, very similar to roasted almonds, and does not exude any obnoxious or toxic vapors.
11. An exception to number 10 is that hazardous vapors may occur when encountering high concentrations of sulfur, chlorine, or liquid TNT. Please contact the manufacturer before proceeding under these circumstances or review the SDS of the chemical that **RYDLYME** may come in contact with for incompatibilities.
12. **RYDLYME** does not corrode, erode, attack, oxidize or have other deleterious affects on virtually any metal or materials commonly found in water systems such as:

**COPPER
RUBBER**

**BRASS
STEEL**

**BRONZE
TITANIUM**

**IRON
GLASS**

or other materials found in heat exchangers, vacuum pumps, evaporators, condensers, and other water operated equipment when used as directed.

(continued)

13. An exception to number 12 is that when using 100% concentrated (non-diluted) **RYDLYME** on magnesium, zinc, and/or aluminum, it could oxidize or pit. Furthermore, polished chrome and some alloys of stainless steel could become discolored. It is not recommended for use with concentrated solutions. The rule of thumb is that if the alloy is designed for use in a water system (aluminum engine block, aluminum mold, etc.), the alloy should be compatible with the **RYDLYME** solution. Otherwise, it is recommended that the **RYDLYME** be diluted 50% or more with water when cleaning.
14. Before commencing a cleaning job utilizing **RYDLYME**, all flexible or corrugated stainless steel should be temporarily replaced with rubber or similar hosing.
15. Agitating or circulating **RYDLYME** with compressed air is not recommended. Please consult the manufacturer with any questions.
16. It is recommended, but not mandatory, that the **RYDLYME** solution be thoroughly mixed before using. Some settling of a dark precipitate may occur with the majority of the liquid becoming a clear amber color. The use of the phased or non-agitated liquid will have no negative affects upon the performance of the solution.
17. The solution does not require neutralizers and it is free rinsing with water.
18. **RYDLYME** is an electrolyte, as are most cleaning agents. An electrolyte is any liquid that will transfer small electrical currents. Examples: salt water, vinegar, Coca-Cola. An electrolyte may cause plating in some types of equipment. This means a transfer of small amounts of one metal onto another metal according to the galvanic corrosion chart. In some instances, a thin coating of copper may be plated onto a steel drum while circulating an electrolyte such as **RYDLYME**. The only time plating occurs is when two dissimilar metals are in an electrolytic solution.
19. The solution has the ability to dissolve deposits from some equipment while in operation and without shutdown, either through the cooling tower or if auxiliary coolers are incorporated.
20. The solution has the properties to be mailed or shipped by any private or commercial carrier without restrictions. Air carriers for emergency deliveries may ship **RYDLYME** via next day air.
21. The solution is packaged and shipped in single gallon containers, 4x1 gallon cases, 5-gallon jugs, 30 and 55-gallon drums, 330 gallon totes, and tankers.
22. Do not circulate material for more than a six-hour period without consulting the manufacturer. Most **RYDLYME** cleaning applications can be accomplished within an average of two to four hours. Please use material only as directed.
23. **RYDLYME** is designed to be used by itself or diluted with water and water only.
24. The solution is biodegradable with a BOD value of 16 mg/l. This normally allows the solution to be water flushed down plant sewers. Check with local ordinances and regulations in your area prior to disposal.
25. **RYDLYME** is non-reportable under SARA Title 3: Sections 311/312/313 Categorization. **RYDLYME** does NOT contain any toxic creosols or other hazardous substances not listed in our current SDS. **RYDLYME** does NOT contain any VOC's. **RYDLYME** is not reportable under CERCLA.
26. The foregoing specifications are applicable to our product, **RYDLYME**, when used according to instructions that are available upon request and in NO WAY are intended to cover other uses or applications by the purchaser.

*For additional details regarding the specifications of **RYDLYME**, please contact the technical department at APEX ENGINEERING PRODUCTS CORPORATION at 630-820-8888 or on our toll free number 800-451-6291.*