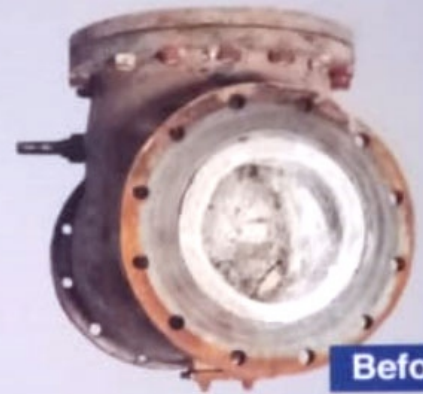


Wastewater Treatment

RYDLYME dissolves water scale, lime, struvite, vivianite, mud and rust deposits safely, quickly and effectively!



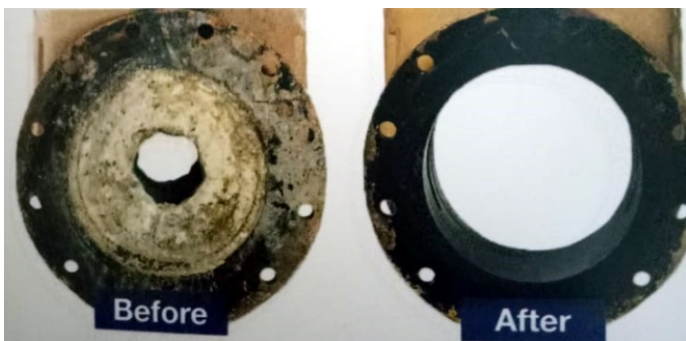
*the solution to your
water scale problems*

What is RYDLYME?

RYDLYME is the trade name of our scientifically formulated descaler. **RYDLYME** is specifically designed to dissolve the toughest water scale, struvite/vivianite lime, calcium and rust deposits from virtually any equipment which utilizes water. This powerful, yet totally safe, liquid descaler is non-toxic, non-injurious, non-flammable, non-hazardous, non-corrosive and BIODEGRADABLE; so **RYDLYME** will not harm your personnel, equipment or our environment!



RYDLYME is extremely effective at dissolving struvite deposits from the piping and other affected equipment in wastewater facilities. The amount of **RYDLYME** required will be dependent on the severity of the scale accumulation and the volume of the system to be cleaned. Typically, **RYDLYME** will be applied at 50-100% depending on the thickness of the struvite deposits to be removed. The most effective method of cleaning is to circulate the **RYDLYME** solution through the equipment utilizing an auxiliary pumping system. Substitute methods include alternating the flow direction or static bath cleaning. Please contact a technical representative for more information on your application!

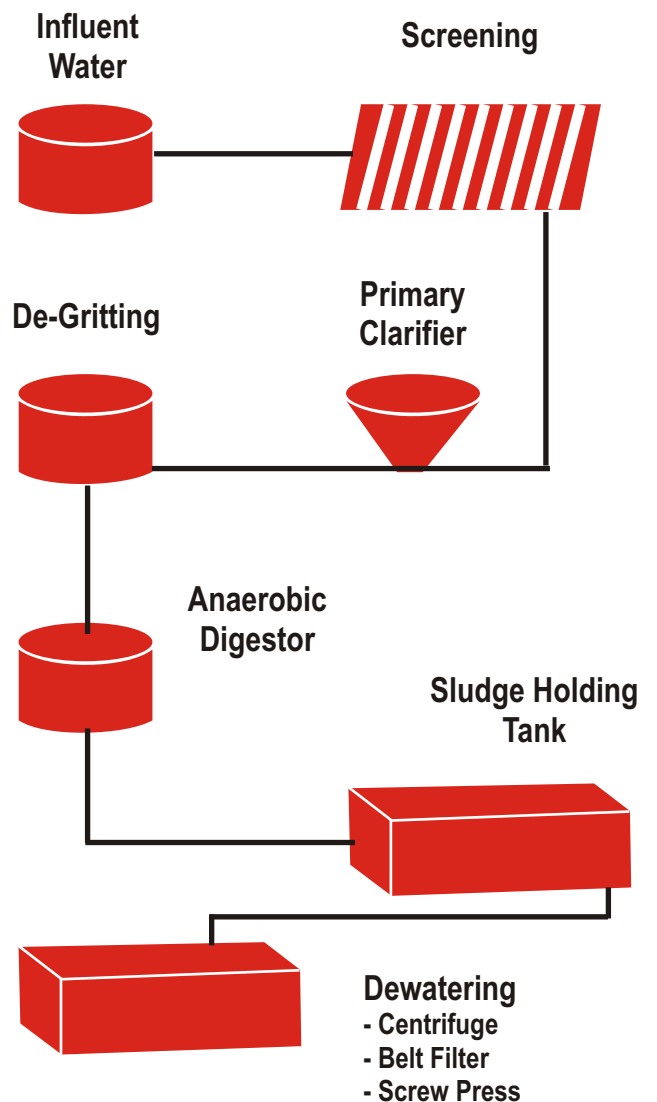


18" ID gate valve before & after **RYDLYME** cleaning.



RYDLYME

THE SOLUTION TO YOUR WATER SCALE PROBLEMS!



Case Studies

WASTEWATER LIFT STATION

CHALLENGE

Wastewater lift station pumps, valves and piping were severely clogged with struvite deposits. Hydroblasting for days achieved no results.

SOLUTION

Utilizing **RYDLYME** Biodegradable Descaler and a pumping system, a circulation loop was established to clean the system and completely dissolve the struvite deposits within 8 hours.

RESULTS

After flushing with water, pipes were opened fully, all valves functioned correctly and pumps achieved optimum flow rates! Other previously scrapped valves were cleaned separately with **RYDLYME** and

RAW SLUDGE TRANSFER PIPELINE

CHALLENGE

Raw sludge transfer piping choked by vivianite deposits. Pumps required to operate excessively at 15 amps and 58 PSI.

SOLUTION

Neat **RYDLYME** circulated for six hours.

RESULTS

Flow rates at all plants increased upwards of 150% on average, visual inspection at multiple points confirmed complete cleaning. Pumps measured 4 amps and only 29 PSI, saving loads of power and extending equipment life!

Applications

USE RYDLYME ANYWHERE!

- ✍ Boilers
- ✍ Pipelines
- ✍ Digesters
- ✍ Clarifiers
- ✍ Centrifuges
- ✍ Belt Presses
- ✍ Grit Screens
- ✍ Lifts Stations
- ✍ Screw Presses
- ✍ Belt Thickeners
- ✍ Transfers Pumps
- ✍ Heat Exchangers

RYDLYME is biodegradable and safe for your equipment, personnel and the environment!

RYDLYME IS NON-CORROSIVE

It will not erode, pit, oxidize or have other deleterious effects on metals or materials such as:

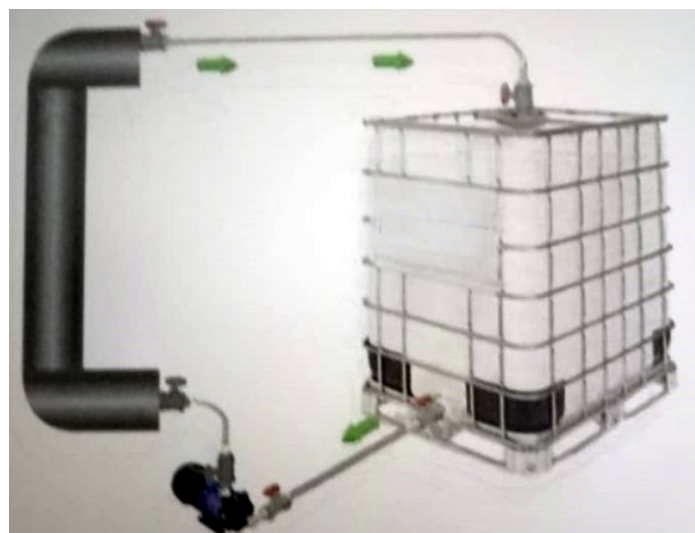
- | | |
|----------|-------------|
| ✍ IRON | ✍ COPPER |
| ✍ FIBER | ✍ RUBBER |
| ✍ STEEL | ✍ PLASTIC |
| ✍ BRASS | ✍ CERAMIC |
| ✍ GLASS | ✍ TITANIUM\ |
| ✍ NICKEL | ✍ STAINLESS |

Or other materials found in wastewater handling equipment

HOW TO REMOVE STRUVITE FROM PIPES IN WASTE WATER

Apex encourages, prior to cleaning, you contact us for technical assistance in determining the best dilution and method for removing your water scale deposits.

1. Obtain scale deposit for testing with **RYDLYME** to confirm adequate concentration to dissolve scale (typically 50-100%, if struvite/vivianite). Note severity of scale accumulation. Determine the current water volume and the design water volume of the system.
2. To setup a circulation, connect circulating pump inlet to vented container via hose.
3. Connect a hose from pump outlet to lowest accessible point for system.
4. Connect another hose from the highest accessible point of the system back to the vented container.
5. Add prescribed amount of **RYDLYME** to circulating container and turn on pump to begin dissolving struvite. Add water to the solution until a complete circuit is obtained.
6. Continue circulation for recommended duration. At hourly intervals, monitor the **RYDLYME** solution to determine end point. If **RYDLYME** is neutralized prior to the prescribed circulating duration, then more **RYDLYME** will be required to remove remaining scale.
7. Upon completion of the cleaning, rinse the system with water to remove any insoluble materials that may have been released from the scale deposit.
8. Return the system to service.



*Circulation set up for cleaning pipeline with **RYDLYME**
Visit our website for available pumping systems!*

AMOUNT OF CINQASTRE REQUIRED

The exact quantity of **RYDLYME** required to thoroughly remove struvite can be difficult to ascertain for various reasons. A basic rule of thumb for most struvite applications would be to utilize a 50-100% **RYDLYME** solution of the total water volume. Obviously, heavily fouled pipes/equipment would require additional product. Our strong recommendation is to contact your **RYDLYME** representative or our technical staff for assistance to help determine the appropriate circulating times, proper quantities and dilution of **RYDLYME** for your specific application.



*Before: 4" X 100 = 65 gallons
After: 18" X 100 = 1,320 gallons*