



DESCAL-EZY 611®

HEAVY DUTY DESCALER TO REMOVE MINERAL DEPOSITS IN WATER SYSTEMS:

DESCRIPTION

DESCAL-EZY 611® is a biodegradable buffered acid that is mild, non-fuming, non corrosive and is suitable for cleaning the hard water deposits/and or iron oxides from boilers, condensers, cooling systems, heat exchangers, pipeline systems etc.

INSTRUCTIONS

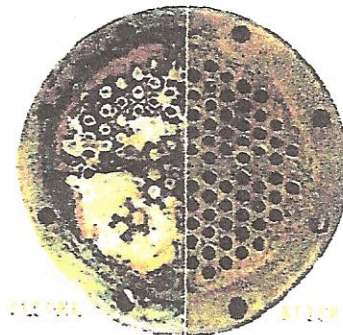
In some cases it might be necessary to use full strength. However, due to its high strength dilution can range from 1to1 up to 1 to 4 with water. Dilute 1:4 with water for circulation method for boilers, cooling towers and heat exchangers. DESCAL-EZY 611® can be heated up to 125°F.

FEATURES

- . NONCORROSIVE
- . BIODEGRADABLE
- . CORROSION INHIBITORS
- . NON-FLAMMABLE.
- . SAFE ON WORKERS
- . POWERFUL PENETRATING AGENTS

SPECIFICATIONS

- . APPEARANCE: LIGHT BROWN LIQUID
- . DETERGENCY: EXCELLENT
- . PH: 1-2



.SPECIFIC GRAVITY: 1.04

. BIODEGRADABLE: YES

. DOES NOT CONTAIN HCL

APPLICATION

Descaling can be accomplished by circulation. For large components and systems, use in-situ soaking. For small components soak in immersion bath. The most effective method is by circulation as it ensures renewal of acid film in contact with the scale.

Periodic descaling is necessary in areas where the water supply is highly mineralized. Scale built up in heat exchangers result in reduced flow, increase fuel consumption, and decrease energy efficiency. This, in turn, can result in boiler becoming noisy, venting frequently or developing cold spots, all of which are undesirable, but all of each are preventable by regular descaling of the heat exchanger.

Typically, the higher the temperature at which a heat exchanger is operated the greater its propensity towards lime scaling.

DESCAL-EZY 611[®] can dissolve approximately 1.5 kg of calcium carbonate scale per gallon in concentrated form. It does not need to be heated up during cleaning. Because DESCAL-EZY 611[®] is free rinsing, there is no need to neutralize or pacify the system after cleaning.

DESCAL-EZY 611[®] does not corrode, pit, erode or have any other harmful effects on materials and metals found in water based systems or equipments. You can clean the equipment IN-SITU (sometimes without having to shut down the machine).

Specific applications may differ depending on the specific equipment, layout, and other factors. Contact us if you have any questions on how to most effectively use DESCAL-EZY 611[®]

DESCAL-EZY 611[®] will extend the usable life of your equipment, especially when used as part of a regularly scheduled preventative maintenance program. Removing the scale build up allows the equipment to operate more efficiently with less down time.



DESCAL-EZY 611®

Pipe Capacities

Diameter of Pipe	Length in Feet Per Gallon
1/8"	338
1/4"	185
3/8"	100
1/2"	63
3/4"	36
7/8"	32
1"	22
1-1/4"	12.8
1-1/2"	9.45
2"	5.73
2-1/2"	4.02
3"	2.6
3-1/2"	1.95
4"	1.57
5"	0.96
6"	0.66
8"	0.39
10"	0.24
12"	0.16
14"	0.12
16"	0.1
18"	0.07

EXAMPLE: If you have a 40-ft. pipe and the diameter is 10 inches, the formula would be as follows:

40-ft. divided by .24 = 166.67 gallons

This is the volume of the pipe which means you would need 84 gallons of DESCAL-EZY 611 and 84 gallons of water

HEAT EXCHANGERS

Heat Exchangers in many manufacture facilities are very crucial in everyday operations. Heat Exchangers are designed to transfer temperature from one form to another. And while transferring temperature, the Heat Exchanger, over a period of time will collect lime, scale and rust on the waterside of the Exchanger. With, *Descalzy611*, you do not have to dismantle or remove the unit from your operations. You may want to install the *Descalzy611* in your water supply such as your cooling tower, chiller, or your closed loop water system. Doing this procedure, you will eliminate down time in your everyday operations while cleaning out your Exchanger.

If you just intended to clean out the Heat Exchanger, you still do not have to dismantle or remove the Exchanger from your operations.

INSTRUCTIONS FOR *DESCALEZY611* CLEANING

1. By-Pass Heat Exchanger from operation.
2. Remove the existing water in the exchanger. This MUST be done, to insure proper results.
3. Disconnect the Water In/Out connections from Exchanger.
4. Attatch the necessary hoses to the In/Out connections on the Exchanger to a circulating pump. Refer to our Chart for necessary circulation time and the amount of *Descalzy611* to be used.
5. Once the circulation has been completed, flush the Exchanger with water to remove any insolubles.

QUANTITY & CIRCULATION – CALCULATION CHART

HEAT EXCHANGERS 4” through 8” Diameters

4” Diameter

4 Foot Length	1 Gal. Circulate for 45 Min.
6 Foot Length	1 Gal. Circulate for 45 Min.
8 Foot Length	1.5 Gal. Circulate for 45 Min.
10 Foot Length	2 Gal. Circulate for 1 Hr.
12 Foot Length	2 Gal. Circulate for 1 Hr. 45 Min.
16 Foot Length	3 Gal. Circulate for 1 Hr. 45 Min.
8 Foot Length	3 Gal. Circulate for 1 Hr. 45 Min.
20 Foot Length	3 Gal. Circulate for 1 Hr. 45 Min.
24 Foot Length	3.5 Gal. Circulate for 1 Hr. 45 Min.
30 Foot Length	4 Gal. Circulate for 2 Hr.
40 Foot Length	5 Gal. Circulate for 2 Hr.

5” Diameter

4 Foot Length	1 Gal. Circulate for 45 Min.
6 Foot Length	1.5 Gal. Circulate for 45 Min.
8 Foot Length	1.5 Gal. Circulate for 45 Min.
10 Foot Length	2.5 Gal. Circulate for 1 Hr. 45 Min.
12 Foot Length	2.5 Gal. Circulate for 1 Hr. 45 Min.
16 Foot Length	3.5 Gal. Circulate for 1 Hr. 45 Min.
20 Foot Length	4.5 Gal. Circulate for 1 Hr. 45 Min.
24 Foot Length	5 Gal. Circulate for 1 Hr. 45 Min.
30 Foot Length	7Gal. Circulate for 1 Hr. 45 Min.
36 Foot Length	8 Gal. Circulate for 1 Hr. 45 Min.
40 Foot Length	9 Gal. Circulate for 2 Hr.

6” Diameter

4 Foot Length	1 Gal. Circulate for 45 Min.
6 Foot Length	1 Gal. Circulate for 45 Min.
8 Foot Length	2 Gal. Circulate for 1 Hr. 45 Min.
10 Foot Length	3 Gal. Circulate for 1 Hr. 45 Min.
12 Foot Length	4 Gal. Circulate for 1 Hr. 45 Min.
16 Feet Length	5 Gal. Circulate for 1 Hr. 45 Min.
20 Foot Length	6 Gal. Circulate for 1 Hr. 45 Min.
24 Foot Length	7.5 Gal. Circulate for 1 Hr. 45 Min.
30 Foot Length	11 Gal. Circulate for 1 Hr. 45 Min.
36 Foot Length	14 Gal. Circulate for 1 Hr. 45 Min.
40 Foot Length	15 Gal. Circulate for 1 Hr. 45 Min.

8” Diameter

4 Foot Length	2 Gal. Circulate for 45 Min.
5 Foot Length	2 Gal. Circulate for 45 Min.
6 Foot Length	3 Gal. Circulate for 45 Min.
8 Foot Length	4 Gal. Circulate for 1 Hr. 45 Min.
10 Foot Length	6 Gal. Circulate for 1 Hr. 45 Min.
16 Foot Length	8.5 Gal. Circulate for 1 Hr. 45 Min.
20 Foot Length	11 Gal. Circulate for 1 Hr. 45 Min.
24 Foot Length	15 Gal. Circulate for 1 Hr. 45 Min.
30 Foot Length	18 Gal. Circulate for 2 Hr. 45 Min.
36 Foot Length	23 Gal. Circulate for 2 Hr. 45 Min.
40 Foot Length	25 Gal. Circulate for 2 Hr. 45 Min.

QUANTITY & CIRCULATION – CALCULATION CHART

HEAT EXCHANGERS 4” through 8” Diameters

4” Diameter

4 Foot Length	1 Gal. Circulate for 45 Min.
6 Foot Length	1 Gal. Circulate for 45 Min.
8 Foot Length	1.5 Gal. Circulate for 45 Min.
10 Foot Length	2 Gal. Circulate for 1 Hr.
12 Foot Length	2 Gal. Circulate for 1 Hr. 45 Min.
16 Foot Length	3 Gal. Circulate for 1 Hr. 45 Min.
8 Foot Length	3 Gal. Circulate for 1 Hr. 45 Min.
20 Foot Length	3 Gal. Circulate for 1 Hr. 45 Min.
24 Foot Length	3.5 Gal. Circulate for 1 Hr. 45 Min.
30 Foot Length	4 Gal. Circulate for 2 Hr.
40 Foot Length	5 Gal. Circulate for 2 Hr.

5” Diameter

4 Foot Length	1 Gal. Circulate for 45 Min.
6 Foot Length	1.5 Gal. Circulate for 45 Min.
8 Foot Length	1.5 Gal. Circulate for 45 Min.
10 Foot Length	2.5 Gal. Circulate for 1 Hr. 45 Min.
12 Foot Length	2.5 Gal. Circulate for 1 Hr. 45 Min.
16 Foot Length	3.5 Gal. Circulate for 1 Hr. 45 Min.
20 Foot Length	4.5 Gal. Circulate for 1 Hr. 45 Min.
24 Foot Length	5 Gal. Circulate for 1 Hr. 45 Min.
30 Foot Length	7 Gal. Circulate for 1 Hr. 45 Min.
36 Foot Length	8 Gal. Circulate for 1 Hr. 45 Min.
40 Foot Length	9 Gal. Circulate for 2 Hr.

6” Diameter

4 Foot Length	1 Gal. Circulate for 45 Min.
6 Foot Length	1 Gal. Circulate for 45 Min.
8 Foot Length	2 Gal. Circulate for 1 Hr. 45 Min.
10 Foot Length	3 Gal. Circulate for 1 Hr. 45 Min.
12 Foot Length	4 Gal. Circulate for 1 Hr. 45 Min.
16 Feet Length	5 Gal. Circulate for 1 Hr. 45 Min.
20 Foot Length	6 Gal. Circulate for 1 Hr. 45 Min.
24 Foot Length	7.5 Gal. Circulate for 1 Hr. 45 Min.
30 Foot Length	11 Gal. Circulate for 1 Hr. 45 Min.
36 Foot Length	14 Gal. Circulate for 1 Hr. 45 Min.
40 Foot Length	15 Gal. Circulate for 1 Hr. 45 Min.

8” Diameter

4 Foot Length	2 Gal. Circulate for 45 Min.
5 Foot Length	2 Gal. Circulate for 45 Min.
6 Foot Length	3 Gal. Circulate for 45 Min.
8 Foot Length	4 Gal. Circulate for 1 Hr. 45 Min.
10 Foot Length	6 Gal. Circulate for 1 Hr. 45 Min.
16 Foot Length	8.5 Gal. Circulate for 1 Hr. 45 Min.
20 Foot Length	11 Gal. Circulate for 1 Hr. 45 Min.
24 Foot Length	15 Gal. Circulate for 1 Hr. 45 Min.
30 Foot Length	18 Gal. Circulate for 2 Hr. 45 Min.
36 Foot Length	23 Gal. Circulate for 2 Hr. 45 Min.
40 Foot Length	25 Gal. Circulate for 2 Hr. 45 Min.

"QUANTITY & CIRCULATION - CALCULATION CHART"

HEAT EXCHANGERS 12" through 24" Diameter

12" Diameter

4 Foot Length	5 Gal. Circulate for 1 Hr. 45 Min.
6 Foot Length	7 Gal. Circulate for 1 Hr. 45 Min.
8 Foot Length	10 Gal. Circulate for 1 Hr. 45 Min.
10 Foot Length	14 Gal. Circulate for 1 Hr. 45 Min.
12 Foot Length	17 Gal. Circulate for 1 Hr. 45 Min.
16 Foot Length	23 Gal. Circulate for 1 Hr. 45 Min.
20 Foot Length	28 Gal. Circulate for 2 Hr. 45 Min.
24 Foot Length	34 Gal. Circulate for 3 Hr. 45 Min.
30 Foot Length	44 Gal. Circulate for 3 Hr. 45 Min.
36 Foot Length	52 Gal. Circulate for 3 Hr. 45 Min.
40 Foot Length	54 Gal. Circulate for 3 Hr. 45 Min.

16" Diameter

5 Foot Length	11 Gal. Circulate for 1 Hr. 45 Min.
6 Foot Length	16 Gal. Circulate for 1 Hr. 45 Min.
8 Foot Length	19 Gal. Circulate for 1 Hr. 45 Min.
10 Foot Length	23 Gal. Circulate for 2 Hr. 45 Min.
12 Foot Length	29 Gal. Circulate for 2 Hr. 45 Min.
16 Foot Length	41 Gal. Circulate for 3 Hr. 45 Min.
20 Foot Length	52 Gal. Circulate for 3 Hr. 45 Min.
24 Foot Length	60 Gal. Circulate for 3 Hr. 45 Min.
30 Foot Length	80 Gal. Circulate for 4 Hr. 45 Min.
36 Foot Length	95 Gal. Circulate for 4 Hr. 45 Min.
40 Foot Length	110 Gal. Circulate for 4 Hr. 45 Min.

20" Diameter

6 Foot Length	24 Gal. Circulate for 2 Hr. 45 Min.
8 Foot Length	31 Gal. Circulate for 2 Hr. 45 Min.
10 Foot Length	39 Gal. Circulate for 3 Hr. 45 Min.
12 Foot Length	49 Gal. Circulate for 3 Hr. 45 Min.
16 Foot Length	64 Gal. Circulate for 3 Hr. 45 Min.
18 Foot Length	74 Gal. Circulate for 4 Hr. 45 Min.
20 Foot Length	79 Gal. Circulate for 4 Hr. 45 Min.
24 Foot Length	95 Gal. Circulate for 4 Hr. 45 Min.
30 Foot Length	115 Gal. Circulate for 4 Hr. 45 Min.
36 Foot Length	145 Gal. Circulate for 4 Hr. 45 Min.
40 Foot Length	155 Gal. Circulate for 4 Hr. 45 Min.

24" Diameter

5 Foot Length	27 Gal. Circulate for 3 Hr. 45 Min.
6 Foot Length	34 Gal. Circulate for 3 Hr. 45 Min.
8 Foot Length	49 Gal. Circulate for 3 Hr. 45 Min.
10 Foot Length	55 Gal. Circulate for 3 Hr. 45 Min.
12 Foot Length	65 Gal. Circulate for 4 Hr. 45 Min.
16 Foot Length	90 Gal. Circulate for 4 Hr. 45 Min.
20 Foot Length	115 Gal. Circulate for 4 Hr. 45 Min.
24 Foot Length	135 Gal. Circulate for 4 Hr. 45 Min.
30 Foot Length	175 Gal. Circulate for 4 Hr. 45 Min.
36 Foot Length	215 Gal. Circulate for 5 Hr. 45 Min.
40 Foot Length	235 Gal. Circulate for 5 Hr. 45 Min.

"QUANTITY & CIRCULATION - CALCULATION CHART"

HEAT EXCHANGERS 30" through 48" Diameter

30" Diameter

6 Foot Length	52 Gal. Circulate for 4 Hr. 45 Min.
8 Foot Length	70 Gal. Circulate for 4 Hr. 45 Min.
10 Foot Length	85 Gal. Circulate for 4 Hr. 45 Min.
12 Foot Length	105 Gal. Circulate for 4 Hr. 45 Min.
16 Foot Length	145 Gal. Circulate for 4 Hr. 45 Min.
18 Foot Length	160 Gal. Circulate for 4 Hr. 45 Min.
20 Foot Length	175 Gal. Circulate for 4 Hr. 45 Min.
24 Foot Length	215 Gal. Circulate for 5 Hr. 45 Min.
30 Foot Length	275 Gal. Circulate for 5 Hr. 45 Min.
36 Foot Length	325 Gal. Circulate for 6 Hr. 45 Min.
40 Foot Length	355 Gal. Circulate for 6 Hr. 45 Min.

36" Diameter

6 Foot Length	75 Gal. Circulate for 4 Hr. 45 Min.
8 Foot Length	105 Gal. Circulate for 4 Hr. 45 Min.
10 Foot Length	125 Gal. Circulate for 4 Hr. 45 Min.
12 Foot Length	155 Gal. Circulate for 4 Hr. 45 Min.
16 Foot Length	215 Gal. Circulate for 5 Hr. 45 Min.
18 Foot Length	250 Gal. Circulate for 5 Hr. 45 Min.
20 Foot Length	265 Gal. Circulate for 5 Hr. 45 Min.
24 Foot Length	325 Gal. Circulate for 6 Hr. 45 Min.
30 Foot Length	395 Gal. Circulate for 6 Hr. 45 Min.
36 Foot Length	480 Gal. Circulate for 6 Hr. 45 Min.
40 Foot Length	530 Gal. Circulate for 6 Hr. 45 Min.

40" Diameter

6 Foot Length	90 Gal. Circulate for 4 Hr. 45 Min.
8 Foot Length	115 Gal. Circulate for 4 Hr. 45 Min.
10 Foot Length	140 Gal. Circulate for 4 Hr. 45 Min.
12 Foot Length	170 Gal. Circulate for 5 Hr. 45 Min.
16 Foot Length	230 Gal. Circulate for 5 Hr. 45 Min.
18 Foot Length	270 Gal. Circulate for 6 Hr. 45 Min.
20 Foot Length	300 Gal. Circulate for 6 Hr. 45 Min.
24 Foot Length	350 Gal. Circulate for 6 Hr. 45 Min.
30 Foot Length	450 Gal. Circulate for 6 Hr. 45 Min.
36 Foot Length	550 Gal. Circulate for 7 Hr. 45 Min.
40 Foot Length	630 Gal. Circulate for 7 Hr. 45 Min.

48" Diameter

4 Foot Length	90 Gal. Circulate for 4 Hr. 45 Min.
6 Foot Length	125 Gal. Circulate for 4 Hr. 45 Min.
8 Foot Length	165 Gal. Circulate for 4 Hr. 45 Min.
10 Foot Length	195 Gal. Circulate for 5 Hr. 45 Min.
16 Foot Length	330 Gal. Circulate for 6 Hr. 45 Min.
18 Foot Length	390 Gal. Circulate for 6 Hr. 45 Min.
20 Foot Length	450 Gal. Circulate for 6 Hr. 45 Min.
24 Foot Length	525 Gal. Circulate for 7 Hr. 45 Min.
30 Foot Length	650 Gal. Circulate for 7 Hr. 45 Min.
36 Foot Length	775 Gal. Circulate for 7 Hr. 45 Min.
40 Foot Length	875 Gal. Circulate for 7 Hr. 45 Min.

Desalezy 611

SECTION I

AI-SEALING LLC
10503 Rockley Rd.
Houston TX 77099
Date:10/11/11
Phone:

INQUIRY- (404) 761-0657
EMERGENCY- (800) 424-9300

HEALTH	2
FLAMMABILITY	0
REACTIVITY	1

SECTION II HAZARDOUS INGREDIENTS/INFORMATION

HAZARDOUS COMPONENTS	CAS#	OSHA / PEL	ACGIH / TLV	OTHER / STEL	SK
Buffered Acid Salt	506-89-8	NE	NE		

SECTION III -PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: >212 F
Vapor Pressure (mm Hg): ND
Vapor Density (Air=1): >1
Solubility in Water: COMPLETE

Appearance and odor: Light straw liquid with bland odor.
Specific Gravity (H2O=1): 1.045
Melting Point: NA
Evaporation Rate:(Butyl Acetate=1) <1

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): NONE
Extinguishing Media: N/A
Special Fire Fighting Procedures:

Flammable Limits: LEL: N/A UEL: N/A

Do not enter confined fire space without proper protective equipment including a NIOSH approved self-contained breathing apparatus.
Explosion Hazards: NONE

SECTION V-REACTIVITY DATA

Stability: Stable
Incompatibility (Materials to Avoid): Strong caustics.
Hazardous Decomposition or Byproducts: Heat, carbon dioxide, oxides of nitrogen and carbon monoxide.
Hazardous Polymerization: Will not occur.

SECTION VI-HEALTH HAZARD DATA

Health Hazards (Acute and Chronic): NONE KNOWN
Routes of Entry, Signs of Exposure, and Symptoms of Exposure:
SKIN and EYES: Severe irritant to eyes.
INHALATION: Irritation and difficulty in breathing
INGESTION: Gastric pain and vomiting.

Medical Conditions Generally Aggravated by Exposure: Unknown

Carcinogenic: NONE

Emergency and First Aid Procedures:

SKIN & EYE CONTACT: Rinse skin with clear water.
For eye contact immediately flush with clear running water for 15 minutes. Get medical attention.
INHALATION: Remove to fresh air. If breathing does not return to normal, get medical attention.

INGESTION: Immediately drink large quantities of water. Get medical attention. **MAY BE TOXIC OR FATAL IF SWALLOWED**

SECTION VII-PRECAUTIONS FOR SAFE HANDLING AND USE

SPILLS: Built a dike and transfer to suitable container then pH adjustment and dispose in accordance with federal and state regulations.

Handling and Storing: Keep container closed when not in use. Do not freeze. Follow label instructions.

Other Precautions: Keep this and all chemicals out of the reach of children.

SECTION VIII-CONTROL MEASURES

Respiratory Protection (Specify Type):None.

Ventilation: Mechanical: Normal.

Protective Gloves: Rubber or neoprene.

Eye Protection: Safety glasses.

Other Protective Clothing or Equipment: Drenching safety shower and eye wash station.

SECTION IX-ADDITIONAL INFORMATION