Anion Performance Chemicals

Industrial Descale Solutions & Descale Services

P.O Box 487 • Oakwood, GA 30566 • Phone 877-264-0131 • Fax 877-264-0132

How it Works

Anion D'Scale is a water-based solvent containing wetting agents, corrosion inhibitors, anti-foaming and degreasing compounds.

It is designed to penetrate and remove encrusted lime scale, rust, corrosion products and dirt from water-wetted surfaces in process equipment, e.g., exchangers and liquid-ring vacuum pumps. Anion D'Scale is used in industrial applications.

With a pleasant fragrance that masks obnoxious odors normally associated with dissolving water scale and corrosion, Anion D'Scale quickly releases the inert gas generated by the reaction of lime scale with Anion D'Scale.

Anion D'Scale was designed to remove scale pictured about and return piping to "like new" condition.

Why Use Anion D'Scale?

The formation of scale in process equipment increases pressure drop, requiring more pumping horsepower to maintain volumetric throughput. Heat transfer surfaces gradually become fouled and thermal efficiencies decrease. Pieces of scale attach themselves to rotating equipment, i.e., pumps and mixers and cause bearing failure, if these problems sound familiar, then you know why you need to periodically clean the lime scale and rust out of the system with Anion D'Scale.

Anion D'Scale provides excellent methods to clean equipment without expensive disassembly. In some applications, the cleaning can be accomplished while the system is in operation. Anion D'Scale can remove scale in small, inaccessible places that cannot otherwise be cleaned.

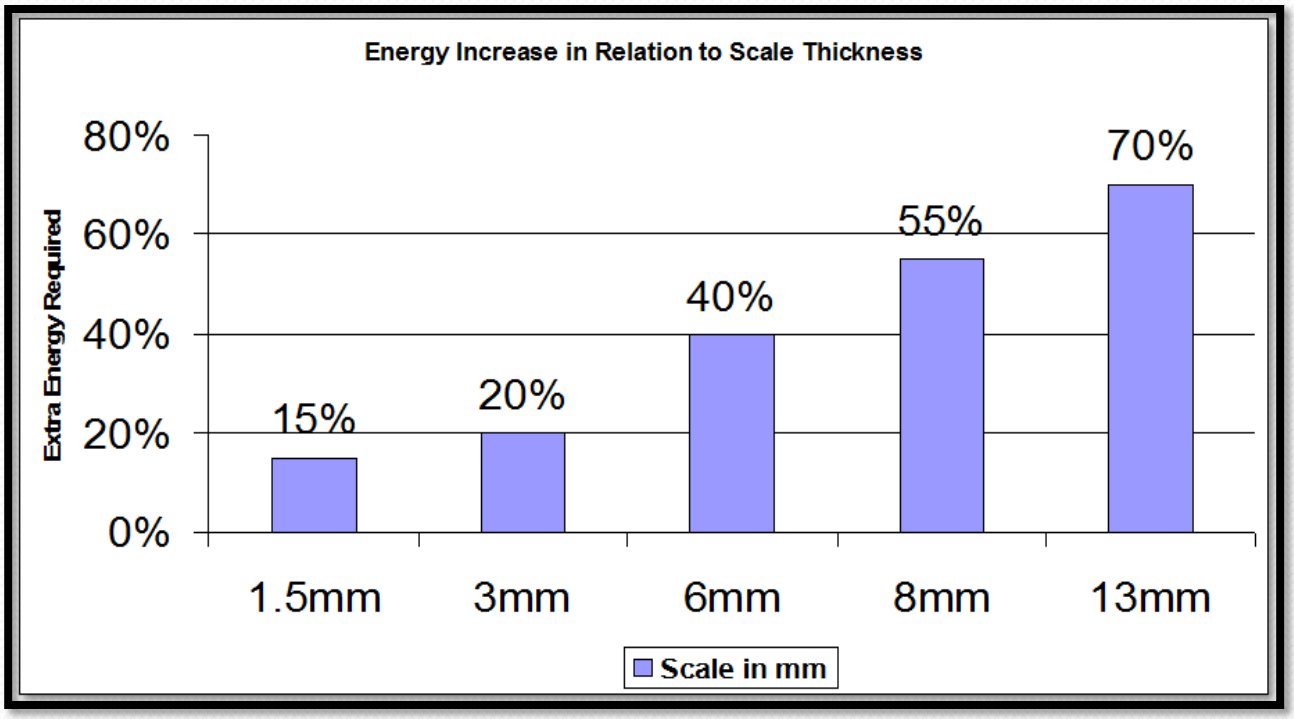
The Cost of Scale

Fouling on the waterside of your equipment will increase your energy cost tremendously.

Current methods of maintenance/cleaning would not be able to address this problem as equipment is not cleaned to bare metal and fouling is spread over a large surface area.

A good proactive/predictive maintenance program, with regards to waterside fouling, reduces unplanned shutdowns, astronomical energy and operational costs, lower maintenance budgets and maintains optimum operating efficiency in equipment.

The effectiveness of heat exchangers is reduced with the increase in thermal resistance; even a minute layer of fouling reduces thermal conductivity.



Anion D'Scale Meets or Exceeds Government Regulations

- **Anion D'Scale** is non-toxic, non-corrosive, non-flammable, and non-hazardous when used as directed. The ingredients in Anion D'Scale, when spent, are not listed as hazardous waste, nor does it possess any of the hazardous characteristics specified in 40 CRF 261. Anion D'Scale has a low B.O.D (Basic Oxygen Demand) rating.
- **Anion D'Scale** is U.S.D.A is approved and acceptable for use as an acid cleaner in all departments of official establishments operating under the Federal Meat, Poultry Shell Egg Grading and Egg Products Inspection Program.
- **Anion D'Scale** meets all requirements of the U.S. Department of Transportation Regulations given in 173.240 (a) for shipment without hazardous warning.

Anion D'Scale is available in premium D.O.T 34 approved 55 gallon reusable drums. It is also available in 330-gallon returnable (at no charge) caged totes.

Safe, Easy and Effective

- Does not require pre-mixing; Does not separate
- One gallon dissolves 2.7 lbs. of scale
- No special shipping, transportation or handling required
- Rapidly biodegradable
- Non-Hazardous, Non-Corrosive, Non-Flammable
- Pleasant odor, Free rinsing, and Low foaming
- Re-usable, if not spent

- NON-CORROSIVE WITH SUPERIOR CORROSION INHIBITORS.
- YOUR EQUIPMENT WILL NOT BE HARMED!

Paper mill de-scaling applications:

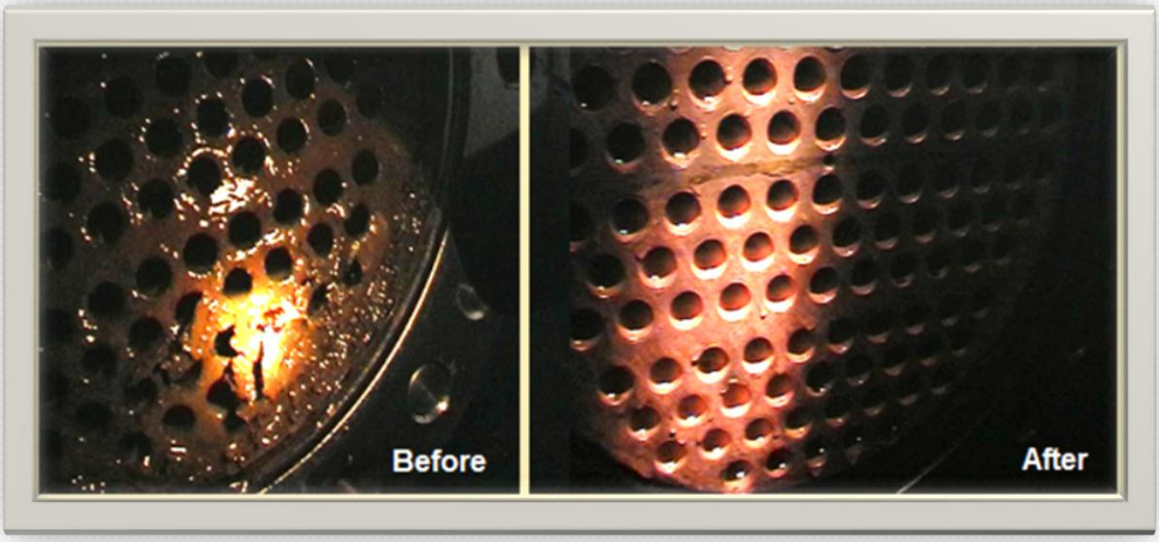
- Vacuum Pumps & Filters
- Calendar Rolls
- Mill Rolls
- Liquor Tanks
- Pulverizers
- Green Liquor Lines

Refinery de-scaling applications:

- Exchangers
- All types crackers
- Air & Gas Compressors
- Pumps
- Piping

Other Applications:

- Boilers
- Turbines
- Transformers
- Cooling Towers
- Air Compressors
- Hydrogen Coolers



Before and After Anion D'Scale

Anion D'Scale Stainless

Stainless steel requires a formula guaranteed to cause minimal corrosion.

This specially-formulated descaler is ideal for:

- stainless steel holding tanks
- Reservoirs
- heat exchangers
- condensers and other stainless steel equipment.

Anion Eco-Safe D'Scale

Anion's Eco-Safe descaling solution is a specialty formula that is Certified to NSF Standard 60.

Ideal For:

- **water heat exchangers**
- **Tank-less hot water heaters**
- **coolers**
- **pumps**
- **boilers**
- **Water piping systems**
- **Food processing, pharmaceutical, and more**

NSF®
Certified to NSF/ANSI 60

Example of Application – Vacuum Pump

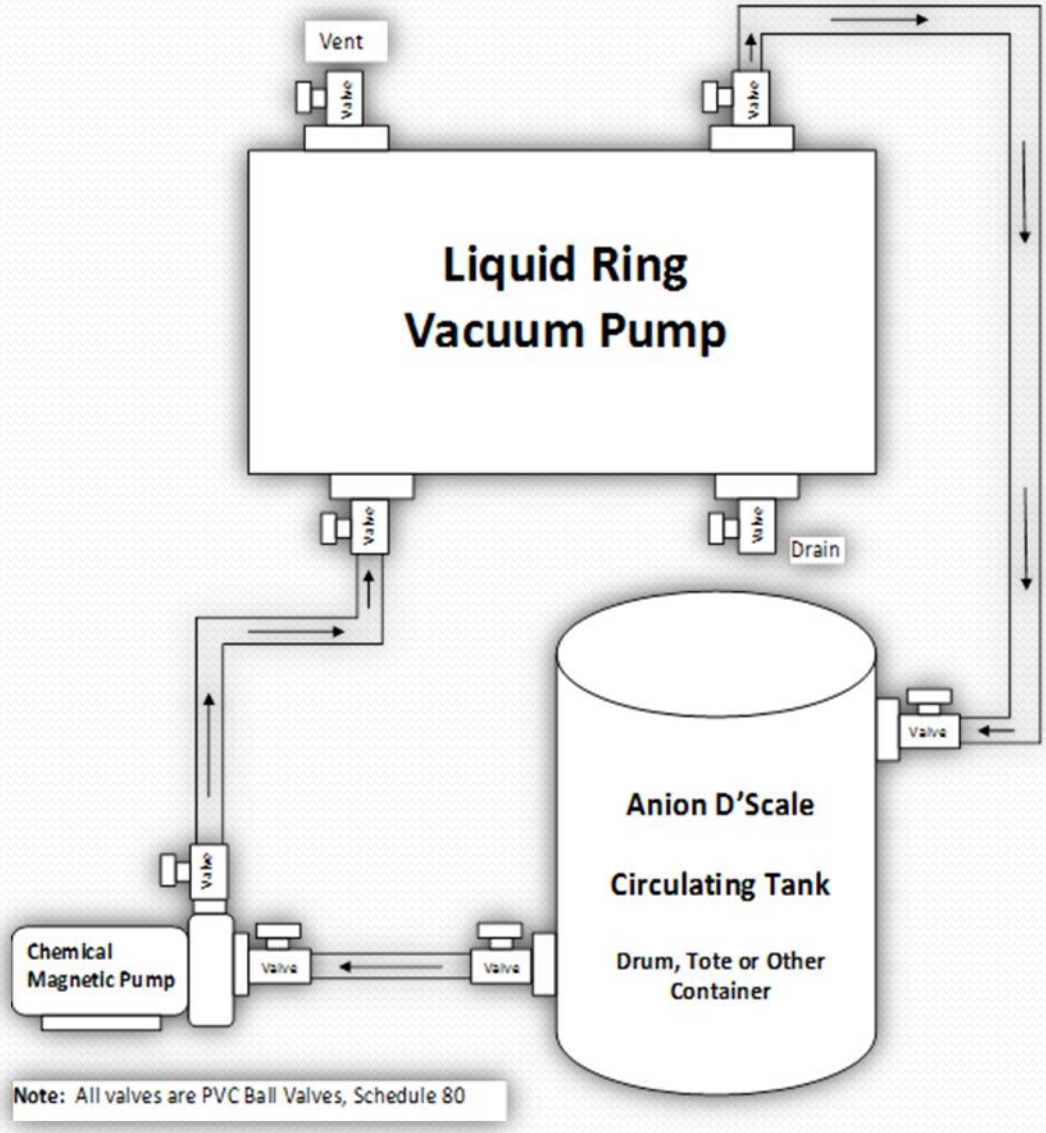


Table of Prescribed Volumes & Circulation Times:

Nash Pump Model Examples	HP of Any Manufacturer	100% Anion D'Scale Cap. (GALS)	Circulation Time (HRS)
CL- 1000	<60	100	2-4
CL-1500	<70	110	2-4
CL- 2000	<125	120	2-4
CL-3000	<175	160	2-4
CL- 4000	<225	180	2-4
H- 10	<250	230	2-4
CL- 6000	<325	330	2-4
CL- 9000	<500	480	2-4
904-P,L,M	<500	480	2-4
904-R	<600	580	2-4
L-10	<650	640	2-4
904-S	<700	880	2-4
904-T	<750	1020	2-4
CL-14000	>700	1500	2-4
904-U	>700	1650	2-4

Air Compressors

Just simply remove the water in/out connection from each part and circulate Anion D'Scale for the recommended amount of time. After the circulation, flush with water and connect the water in/out connections back to the proper location.

Air Compressor Circulation Times:

Horse Power	Low Pressure Cylinder	High Pressure Cylinder	Intercooler	Aftercooler	Total
30	6 -- 2	6 -- 2	3 -- 1	2 -- 1	17--2
50	10 -- 2	8 -- 2	7 -- 1	5 -- 1	30 -- 2
100	14 -- 3	10 -- 3	11 -- 1	7 -- 1	42 -- 3
125	18 -- 3	13 -- 3	15 -- 1	9 -- 2	55 -- 3
150	26 -- 3	16 -- 3	19 -- 1	11 -- 1	72 -- 3
200	30 -- 3	20 -- 3	27 -- 2	17 -- 1	94 -- 4
250	34 -- 4	22 -- 4	35 -- 2	21 -- 2	112 -- 4
300	38 -- 4	24 -- 4	41 -- 2	25 -- 2	128 -- 4
500	42 -- 4	28 -- 4	44 -- 2	29 -- 2	143 -- 4
700	50 -- 4	35 -- 4	48 -- 2	33 -- 2	166 -- 4
1000	62 -- 5	47 -- 5	60 -- 3	45 -- 3	214 -- 5
* Gallons/ Hours of Circulation					

Cooling Tower and Closed Circuit Cooler Sizing Chart

TONNAGE	AMOUNT OF ANION D'SCALE
10	3 Gallons
15	4.5 Gallons
20	6 Gallons
25	7.5 Gallons
30	9 Gallons
50	15 Gallons
75	22.5 Gallons
100	30 Gallons
125	37.5 Gallons
150	45 Gallons
200	60 Gallons
250	75 Gallons
300	90 Gallons
400	120 Gallons
500	150 Gallons
750	225 Gallons
1000	300 Gallons
2000	600 Gallons
3000	900 Gallons
4000	1200 Gallons

Cooling Towers and Closed Circuit Coolers are sometimes hard to determine the amount of scale build-up that has been accumulated in a period of time.

It might be a case where you have a 500-ton Cooling Tower and you will need more than the Recommended amount, which is 150 gallons of Anion D'SCALE. The amounts on this chart are just for the cooling tower and the closed circuit cooling only, not for the Entire system (Pump piping and all the associated equipment that is using the cooling water).

MATERIAL SAFETY DATA SHEET
Updated May 3, 2011

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Anion D'Scale

Manufactured by:
Anion Performance Chemicals
P.O. Box 487
Oakwood, GA 30566
Phone: 1-877-264-0131
Fax: 1-877-264-0132
International: 770-287-8140
For chemical emergency, call Infotrac at 1-800-535-5053 (outside U.S. and Canada, call collect 1-352-323-3500)

SECTION 2: HAZARDS IDENTIFICATION

Components:

Specific Chemical Identity	CAS	% Weight	OSHA PEL	ACGIH TLV	Other Limits
Aqueous Hydrogen Chloride	7647-01-0	9.0	5 ppm (ceiling)	2 ppm (ceiling)	N/A

Health Hazards: If used as directed, should not be considered hazardous. Not a carcinogen.
NFPA: Health-1, Flammability-0, Reactivity-1

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Cleaning Descaling Compound
Formula: Proprietary

SECTION 4: FIRST AID MEASURES

Eye contact: Flush eyes immediately with large quantities of water for at least 15 minutes holding eyelids apart to ensure flushing of the entire surface. Washing eyes within one (1) minute is necessary to achieve maximum effectiveness. If irritation persists, get medical attention.
Skin contact: Wash with plenty of water for 15 minutes. Remove contaminated clothing and wash before reuse. Seek medical attention if symptoms are present.
Ingestion: Never give anything by mouth to an unconscious person. If swallowed, do not induce vomiting. Give large quantities of water or milk of magnesia; if available, several glasses of milk.
Inhalation: Remove to fresh air. If person is not breathing, administer mouth-to-mouth resuscitation. Seek medical attention if loss of consciousness occurs or breathing stops. Seek medical attention if irritation persists.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: N/A **Flammable Limits:** N/A
Extinguishing Media: Water spray, foam, CO_2
Special Fire Fighting Procedures: Use NIOSH/MSHA approved self-contained breathing apparatus in areas where this material is involved in a fire. This product is nonflammable.
Unusual Fire Fighting and Explosion Hazards: Protective clothing for skin and eye protection should be worn.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is spilled or released: This material is biodegradable. Use appropriate protection—rubber gloves, goggles or safety glasses. Contain spill. Neutralize with copious amounts of water. Slowly add a soda ash mixture to the residue. This mixture should be 10 pounds of soda ash to 5 gallons of water. This should bring the spill residue within normal pH range of 6-8.

SECTION 7: HANDLING AND STORAGE

This product has a wide temperature storage range (-15°C to 82°C). Make sure containers are sealed in storage when not used. Shelf life is 4 (four) years.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: None require under normal conditions with adequate general ventilation.
Protected Clothing: Rubber may be used.
Ventilation: Mechanical (general).
Eyes: Safety glasses, goggles.
Other Protective Clothing or Equipment: Standard work clothes should be worn. Wash soiled clothing in soap and water and dry before reuse. Eyewash facilities should be accessible.