



Industrial Cleaning and Descaling Solution

- Scaleva® by Arkema is a powerful new generation acid for efficient derusting and descaling of HVAC/refrigeration coils, cooling towers, hot water boilers and heat exchangers.
- In CIP and blast-in-place (BIP) systems, Scaleva® acid helps reduce cleaning time and waste treatment costs.
- Scaleva® contains no phosphorus and nitrogen, two water pollutants that cause eutrophication (dense growth of aquatic plants leading to the death of animal life from lack of oxygen) in rivers, lakes and other bodies of water.

CUSTOMER BENEFITS OF USING SCALEVA® ACID

- **Strong acidity**
Promotes rapid attack on carbonate and oxide scales
- **High solubility of Scaleva® acid salts**
Faster dissolution and removal of salts – potential for reduction in rinse water volume
- **Non-foaming and slightly hydrotropic**
Readily formulated with various surfactants
- **Stable with oxidizing agents**
Safely and easily formulated with hydrogen peroxide or peracetic acid
- **Non-oxidizing**
Minimized degradation of components in the formulation
- **Low corrosivity compared to other acids**
Less damaging to pipes, fixtures and vessels
- **Low toxicity and eco-toxicity**
Biodegradable. Dilute solutions are safe for discharge to water treatment facilities*
*Using recommended disposal methods



ELEMENTS OF PERFORMANCE

Descaling applications include cooling towers, evaporative coolers, hot water boilers, processing equipment and more.

Scaleva® by Arkema efficiently removes scale and rust similar to HCl, but is less corrosive to carbon steel, stainless steels and aluminum and thus can extend equipment life.

Scaleva® acid in descaling offers an outstanding chance to enhance sustainability goals by lowering the phosphates and nitrates in effluent water.

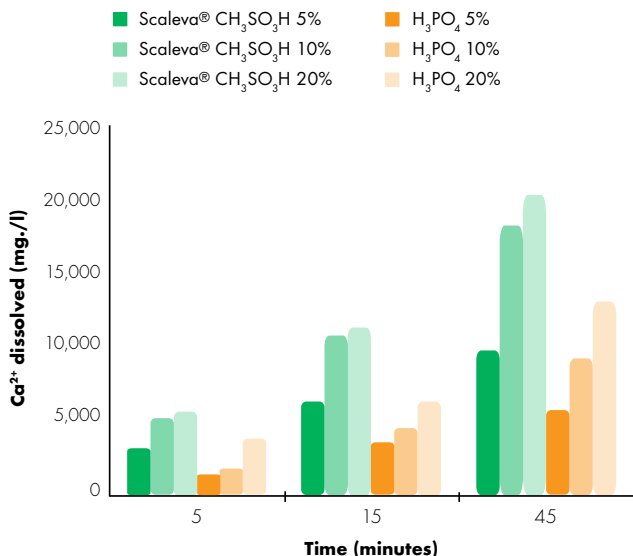
Scaleva® can be formulated with a number of products to further augment its intrinsic high efficiency. This could reduce the number of cleaning steps involved, time required, and potentially the amount of water used.

Arkema's sulfonys team is ready to support your development of Scaleva® acid-based formulations.

DESCALING AND DERUSTING EFFICACY OF SCALEVA® ACID

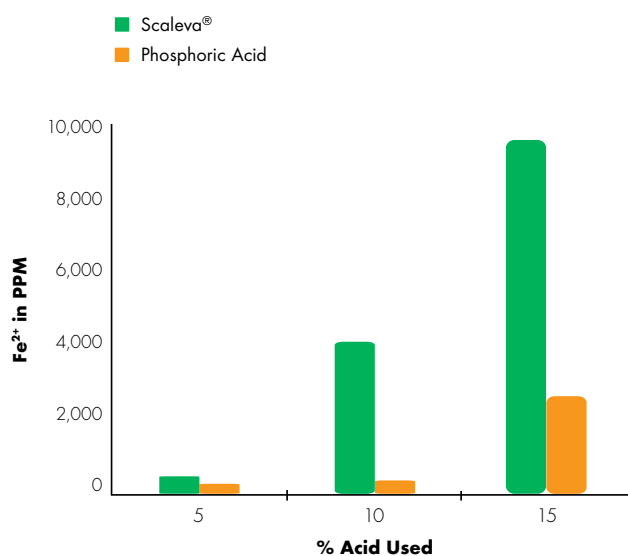
Scaleva® acid outperforms phosphoric acid at all concentrations and contact times tested. Scaleva® at 10% and 20% strength does a better job in 15 minutes than 45 minutes of phosphoric treatment at 5% or 10% concentrations.

Comparing Scaleva® Acid vs. Phosphoric Acid at Ambient Temperature



Test conditions: 6 grams of powder in 100 ml of 5%, 10% and 20% acid solution at 20°C

(Fe₂O₃) Iron Scale Dissolution by Scaleva® Acid vs. Phosphoric Acid



COMPARATIVE CORROSIVITY OF AQUEOUS ACIDS TO VARIOUS METALS (μM/YEAR AT 40°C)

ACID	CARBON STEEL XC18	STAINLESS STEEL 316L	ALUMINUM A14G5	COPPER
Scaleva®	1867	0.4	1620	140
Phosphoric	2034	0.6	1413	105
Sulfamic	3766	0.4	3501	
Hydrochloric	5099	246	4682	

Test conditions: Steel coupons immersed for 7 days, in solution of 10g/l, static conditions, 100ml closed reactor, per ASTM methods (G31). Coupon dimensions: 60 x 10 x 1 mm.

FOR MORE INFORMATION

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