

MANUFACTURED IN GERMANY

# SCALE-OVER<sup>™</sup>

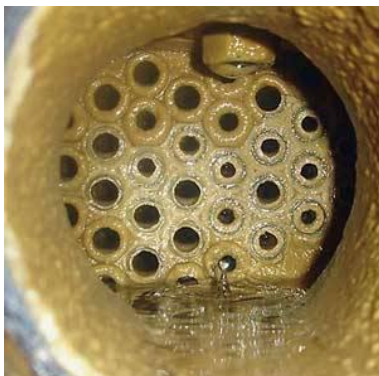
(LIQUID)

The Fastest De-scaling Solution for Water Treatment Industry

## Cleaning + Disinfecting Industrial Water Systems

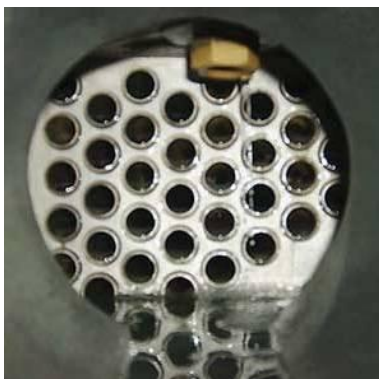
including

## Cooling Water and Boiler Water Systems



Scale is a huge problem in water treatment system operations. Scale formation in

- Membranes (any)
- Pipelines (any)
- Heating Systems
- Heat Exchangers
- Boilers
- Cooling Towers
- Chillers, pumps
- All Beverage equipments

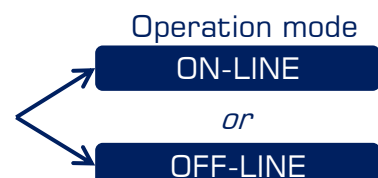


This results in reduced flows, increased energy costs, decreased heating and cooling efficiency and costly downtime for cleaning and scale removal. Using the right chemistry scale formation can be greatly reduced by appropriate use of WATCH<sup>®</sup> I-SOFT<sup>®</sup> and added antiscalant, oxygen-scavengers, biocides and descalers. Sooner or later nearly everyone is going to use SOLID-INSTANT-CHEMISTRY.

- No **Phosphates** or **Phosphonates**
- Disinfect the system from microbial growth
- 100% **Biodegradable** formulation
- Prevents bio-film development



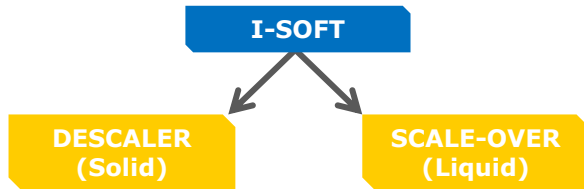
Method of simultaneous  
Cleaning and Disinfection



## SCALE-OVER

is the fastest and safest  
Biodegradable-DESCALER

### Introduction:



With every scale minerals are amenable to acid cleaning and with any traditional strong or weak acid cleaning it is very dangerous to work (HCl or H<sub>2</sub>SO<sub>4</sub>).

**SCALE-OVER** is a product well suited to this application as it is a really strong acid, dissociating completely fastest results than any other organic acid, whilst being less Corrosive and Safer to handle than traditional mineral acids.

The primary area of application is the Safe and efficient removal of scale from the Coffee machines with no sign of corrosion on the machine itself. There may also be another 1000 areas of application such as domestic and any commercial, industrial subject to appropriate SAFETY procedures.

### Benefits of **SCALE-OVER**:

**SCALE-OVER** is a high purity grade of Green Acid, manufactured by Watch Water's Chemical Division. This proprietary technology offers a number of significant benefits over any traditional acids, which doesn't contain any chloride ions. The presence of chloride is all other scale removal products significantly increase corrosiveness.

**Chemical Stability:** **SCALE-OVER** is a non-oxidizing acid which makes it safer for Handling and suitable for scale and corrosion removal including all Bio-fouling in any system. It is formulated with corrosion inhibitor and a 100% Biodegradable chelate to provide optimal performance in de-scaling any sensitive alloy.

**Oxidation resistant:** **SCALE-OVER** can be used in strongly oxidizing environments and in the presence of oxidizing agents without decomposition.

***SCALE-OVER is now available***

***to the Water Treatment Industry!***



Bio-fouling inside a Cooling Tower

### Highest Chemical Benefits:

**SCALE-OVER** increases solubility of Calcium phosphate or sulfate. This offers more flexibility to suit any application. Stronger solutions can be used to increase reaction rates without precipitating out salts such as gypsum and apatite. **SCALE-OVER** can dissolve more scale into solution than any other de-scaler in the world.

## Much More Benefits of SCALE-OVER

### Safety and Handling Benefits:

#### No Toxic Vapors:

Due to its low vapor pressure **SCALE-OVER** doesn't produce toxic vapor pressure and is safer and simpler to handle than acids such as hydrochloric acid, sulfuric acid, phosphoric acid and nitric acid.

**Odor free:** The low vapor pressure of **SCALE-OVER** means that unlike some organic acids it is odor free.

**Non-flammable:** Unlike all other organic acids such as acetic acid, **SCALE-OVER** is non-flammable.

**Ultra low VOC content:** **SCALE-OVER** has a very low vapor pressure and unlike carboxylic acids such as acetic acid and glycolic acid it is virtually free of volatile organic carbon (VOC) content.

### SCALE-OVER Highlights

- Fastest descaling process in industry!
- Comes with color indicator
- Vast application area in water treatment
- No **Phosphates** or **Phosphonates**
- 100% **Biodegradable** formulation
- Prevents bio-film development
- No VOC
- Very low COD
- Halogen free
- Very low toxicity
- Non-corrosive to metal and galvanized pipes and equipments

### Typical solution Strength

**SCALE-OVER** is a concentrated **Green Acid**. To achieve the best results **SCALE-OVER** is usually utilized as a 5 – 10 % solution as the active **Green Acid**. **SCALE-OVER** is a 20% active solution as supplied.

- ❖ A dilution factor of 2 gives a 10% active solution.
- ❖ A dilution factor of 4 gives a 5% active solution.

### Environmental Benefits

#### Low toxicological risk potential:

While this unique **SCALE-OVER** is a very strong acid, the lack of halogens, nitrogen and phosphorous give it a lower eco-toxicity potential than all other acids.

**Halogen Free:** Unlike hydrochloric acid and all other brands of scale removal produced by chloro-oxidation route. **SCALE-OVER** is halogen free, has absolute no corrosiveness and does not contribute chlorine ions or phosphate ions to the environment.

**Part of the natural cycle:** **Green Acid** is formed in nature by photochemical oxidation of dimethylised in atmosphere before returning in rainfall, where it is metabolized by bacteria in soil and sediments. The **Green Acid** is thus a part of natural cycle.

**Biodegradability:** **SCALE-OVER** is readily biodegradable according to OECD Guidelines 301 and 306 forming carbon dioxide, sulfate, water and biomass degradation products.

#### Very Low Chemical Oxygen Demand (COD):

**SCALE-OVER** (**Green Acid**) has the lowest oxygen demand for degradation of any other acid. Due to its resistance to oxidation, it also has lower COD than readily oxidized organic acids such as acetic acid.

#### **MOST IMPORTANT!**

**Does not contribute to eutrophication and algal growth:** As **SCALE-OVER** contains no phosphates, phosphonates, phosphorous or EDTA and NTA it does not contribute eutrophication to environment or aquatic eco-systems.

Lower solution strengths will require extended contact time as dissolution rates decrease with decreasing acid concentration. Reaction rates are like to be very rapid which cleans the system in short time. **SCALE-OVER** has the ability to dissolve approximately 2 kg of scale per 4 liters in concentrated form. So **0.5 kg** of Scale in **one liter** of concentrate.



## Contact Time

Adequate contact time between the Green Acid and the Scale is required in any descaling application. As with any chemical reaction, factors such as concentration, temperature and surface area of the solid will all influence the reaction rate. An additional factor which may be overlooked in many applications, scale is often impure and these impurities in scale is coming from anions like

- Phosphates
- Hydroxides
- Silicates and
- Sulfates

The impurities are trapped in the scale and these inclusions can reduce the surface area

available for the **SCALE-OVER** to attack thus reducing the reaction rate.

For Calcium carbonate scale and specific conditions the required contact time may vary from a few minutes to a few hours.

### Packaging:

- 500 ml bottle – 6 in a box
- 3 liters canister – 4 in a box
- 10 liter canister – 20, 40, 60 or 80 on a pallet
- 30 liters canister – 18 on a pallet
- 1000 liters container IBC

## Applications > Simply any piece of equipment that is water used

Great! **Color Change Says Spent!**

**SCALE-OVER** comes in a light red color that changes to a deep yellowish color when it is spent. There are important benefits to this color change sequence.

SCALE-OVER Description	
Color	Red
Green Acid	20 %
Corrosion Inhibitor	1 %
Wetting Agent	2 %
Degreasing Comp.	2 %
Dispersant	5 %
Total Strength	30 %

- You don't waste time circulating a depleted solution
- You know when the **SCALE-OVER** solution is spent and when it should be dissolved
- The color change occurs at a pH of 6 to 7 which is well within the safe disposal range specified by all governmental waste water regulations
- **Important:** if the equipment is neat and clean and **SCALE-OVER** has not changed the color, you can save it and use it again!
- Safe for your cleaning crews

### Distributed by:

Address:

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Email:

### Manufactured by:



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