



GREENSOLV inc.

## TECHNICAL BULLETIN

### G-CLEAN 249

### PASSIVATING AGENT FOR STAINLESS STEELS (CITRIC ACID)

#### *For Food Plant Use*

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#### 1) PRODUCT DESCRIPTION

**G-CLEAN 249** is a very efficient water and citric acid based passivating agent that dissolves free iron ions on all stainless steel surfaces. This product was developed to meet ASTM A 967 – 05 passivating standards. **G-CLEAN 249** is very efficient at cleaning inorganic contaminants such as free iron ions, rust & oxidation on all metals. It is compatible with almost any surface : metals, plastics, concrete, masonry and glass. **G-CLEAN 249** is normally used pure (no dilution) for the passivation of stainless steel parts. It can be used diluted for some specific applications

#### Typical Applications

Stainless steel passivation  
Rust cleaning  
Parts cleaning by soaking

#### Concentration of G-CLEAN 249 in water

pure  
pure – 1 :1  
1:1 – 1:4

#### 2) ADVANTAGES

Based on an elaborate blend of organic acid and surfactants, **G-CLEAN 247** has a very low toxicity and advantageously replaces the nitric acid based passivating agents.

#### Features and benefits:

- Dissolves the free iron ions
- Highly effective
- Water & citric acid based
- Biodegradable
- 0% VOC (Volatile Organic Components)
- Efficient on all stainless steel types
- Low toxicity
- **Approved by CFIA - Canadian Food Inspection Agency**





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### 3) PHYSICAL PROPERTIES

Appearance.....	translucid liquid
Odour.....	almost odourless (citric)
pH (Sol. 1%).....	2.5 – 3.5
Rinseability.....	excellent
Flash point.....	Not flammable
Specific gravity.....	1.05 – 1.06
VOC (Volatile Organic Components).....	0% (0 g/L)
Biodegradability.....	good

### 4) DIRECTIONS FOR USE

*Note: For best results, when using G-CLEAN 249 on heavy contamination, follow these instructions:*

- *Mechanical agitation with a brush, a rag or other will greatly improve the cleaning efficiency*
- *Use warm or hot water when rinsing or diluting G-CLEAN 249 if applicable.*

### STAINLESS STEEL PASSIVATING

Note : Depending on stainless steel type, contact time and temperature will vary considerably. Consult your representative for a detailed procedure.

- Degrease the surface to be passivated with an alkaline cleaner such as **G-MAX 328** diluted with water at a ratio of 1:2 to 1:4 (20 to 33%);
- Apply **G-CLEAN 249** on the surface to be passivated for 30 to 120 minutes at room temperature (23°C), or according to the recommendations of your representative (the martensitic steels are more sensitive to acid cleaning than the austenitic steels). Make sure that the surface remains sufficiently wet with **G-CLEAN 249** during the whole passivation process.
- Rinse well with water containing less than 200ppm solids – *NOTE : do not use water with high concentration of iron to avoid contaminating the surface once again;*
- After the passivation with **G-CLEAN 249**, neutralize the surface with an alkaline cleaner such as **G-MAX 328** diluted with water at a ratio of 1:2 to 1:4 (20 to 33%); (let work for a minimum of 10 to 15 minutes) – **NOTE: this step is not required when passivating austenitic stainless steel (ex: 304 & 316)**
- Proceed to a passivation test as per ASTM A 967-05 to confirm passivation.



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## RUST CLEANING

- Apply pure or diluted on the surface to be cleaned (see recommended dilutions)
- Let work for 10 to 20 minutes
- Use mechanical agitation (brush, rag or other) if required
- Rinse with water.

## 5) PERSONAL PROTECTION

When using **G-CLEAN 249**, it is recommended to wear the following safety equipments:

- Safety glasses or goggles
- Chemical resistant gloves
- Chemical protecting suit (if used in a shower when passivating big parts)

## 6) STORAGE

Store **G-CLEAN 249** at a controlled temperature of 0° C to 30° C (50° F to 104° F) in a plastic container. The product could freeze below 0°C (32°F). Store in a closed plastic container when not in use. The shelf life of the product has been determined to be three (3) years.

## 7) PACKAGING

- Pails (20 Litres/ 5 Gallons)
- Drums (205 Litres / 55 Gallons)

Version : 2

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