

# TETRA-CHEM INDUSTRIES LTD.

271 INGERSOLL ST. S. INGERSOLL, ONTARIO CANADA N5C 3J7

TEL: (519) 485-4370 TOLL FREE: (888) 658-5515 FAX: (855) 762-4446 EMAIL: info@tetra-chem.com WEB SITE: www.tetra-chem.com

SPECIALTY CHEMISTRY

WASTE MANAGEMENT

**APPLICATION TECHNOLOGY** 

INNOVATIVE ENGINEERING

## **Product Application Presentation**

**Product Identifier:** 

TCI 233 H.D.

Process Identifier: Anhydrous citric acid for 300 Series stainless steel passivation USP

#### **Product Presentation**

TCI 233 H.D. is a concentrated anhydrous citric acid powder. A 10% solution in deionized water is used at elevated temperatures to passify 300 series stainless steel. Certified Kosher, GMO Free, BP/USP/FCC/E330 standards followed ISO9001, ISO14001, HACCP.

PACKAGING AND PRODUCT CODE: 25 KG.....233-025

### **Process Specificity**

The concept of passivation of stainless steel with citric acid is not new. It was developed years ago in the liquid beverage industry in Germany, where it was necessary to provide containers that were free of iron on the inside contact surface. Iron causes a bad taste in the beverage, and the nitric acid passivation systems could not provide the degree of passivation required.

#### **Process Introduction**

TCI 233 H.D. is a ready to use formulation for the passivation of 300 series stainless steel.

The exposure time is pH, time, and concentration dependent. For regular passivation on a scheduled program use the minimum requirements of: 4–10 w% Citric Acid, 140–160°F, 4 Minutes; 4–10 w% Citric Acid, 120–140°F, 10 Minutes; 4–10 w% Citric Acid, 70–120°F, 20 Minutes. at pH of 2.5.



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