

**1. Chemical Product and Company Identification**

**Product name:** Scale-Kleen™ (dry mixture of aluminum salts and weak organic acids used to dissolve lime scale in food service equipment that uses water)

Company: Everpure, Inc.	N.V. Everpure (Europe) S.A.	Everpure Japan, Inc.
660 Blackhawk Dr.	Research Park, Haasrode	1-18-19, Tsumada Kita
Westmont, IL	B-3001 Heverlee	Atsugi-Shi
60559-9005 USA	Belgium	Kanagawa 243
		Japan
Tel: (630)654-4000	32-16-401191	81-462(23)6563
Fax: (630)654-1115	32-16-402691	81-462(21)6775

Technical Service: (800)942-1153

Chemical Emergency Number (CHEMTREC®) : (800)424-9300

**2. Composition / Information on Ingredients**

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Percent by Weight</u>
Aluminum Chloride hexahydrate	7784-13-6	50
Citric Acid monohydrate	5949-29-1	50

**3. Hazards Identification**

**Emergency Overview:** Scale-Kleen is not considered toxic or corrosive, but it can be an irritant to eyes, skin and mucous membranes. Fire may produce corrosive fumes of HCl.

**Citric Acid monohydrate**

OSHA P.E.L.: 15 mg/m<sup>3</sup> total dust (nuisance dust)  
5 mg/m<sup>3</sup> respirable dust

ACGIH T.L.V.: 2 mg/m<sup>3</sup>  
LD<sub>50</sub>: 5040 mg/kg (oral, mouse)

**Aluminum Chloride hexahydrate**

OSHA P.E.L.: 2 mg/m<sup>3</sup> as Al  
LD<sub>50</sub>: 3750 mg/kg (oral, rat)

**Potential Health Effects**

EYES--irritation

SKIN--irritation

INGESTION--not likely

INHALATION--irritation

**4. First Aid**

**GENERAL**--administer normal treatment for exposure to an acid.

**EYES**--flush thoroughly with water or saline solution for 15 minutes.

**SKIN**--flush thoroughly with water, then wash with soap and water.

**INGESTION**--unlikely, but if swallowed, give milk or milk of magnesia; do NOT induce vomiting.

**INHALATION**--move to fresh air, give oxygen if needed.

**5. Fire Fighting Measures****Flammable Properties**

Not considered flammable, but can be oxidized above 1000°C to produce carbon monoxide. Fire can liberate fumes of hydrochloric acid.

Flash Point: N/A

Method Used: N/A

**Extinguishing media**

water, CO<sub>2</sub>, talc, dry chemical

**Fire Fighting Procedures**

Wear MSHA/NIOSH approved self contained breathing gear or respirator with an acid/gas canister.

**6. Accidental Release Measures**

If spilled, avoid dusting. Sweep up and discard with non-hazardous trash; dissolve remainder in water and flush to drain.

**7. Handling and Storage**

Protect from physical damage. If plastic bag is punctured or unsealed, transfer to a sealed container to prevent contact with moisture. Wet Scale-Kleen™ forms an acid. Do not touch without protective gloves.

**8. Exposure Controls and Personal Protection**

Direct contact with the material during use is not required or expected, but eye protection is always wise.

EYE PROTECTION: splash goggles recommended

SKIN PROTECTION: rubber/plastic gloves recommended

INGESTION PROTECTION: always rinse cleaned equipment before returning to service

RESPIRATION PROTECTION: use normal room ventilation

**9. Physical and Chemical Properties**

melting point: decomposition at 100 C

vapor pressure: not tested

solubility: very soluble

appearance: white/pale yellow powder

stability: chemically stable but hygroscopic  
(actively absorbs moisture)

boiling point: NA

density: 2.05 g/cm<sup>3</sup>

pH of solution: 3.0

odor: none

**10. Stability and Reactivity**

This product is stable under normal conditions. Waters of crystallization are lost at 100 C, and decomposition to CO and CO<sub>2</sub> occurs above 1000 C. Fire may produce fumes of HCl. Moisture produces acid, possibly with some HCl fumes. Incompatible with alkalis.

**11. Toxicological Information**

The components of this product are not carcinogenic, teratogenic, mutagenic, toxic to reproductive organs, or synergistic with any known toxicants. This product has not been tested for these.

**12. Ecological Information**

This product is environmentally safe in the quantities recommended for use. The working solution is as acidic as lemon juice, but normal dilution with other sewage (or rinse water if spilled) is acceptable. When neutralized, aluminum salts become innocuous solids, and citric acid is readily consumed by sewage organisms.

**13. Disposal Considerations**

If more than a handful is spilled, sweep up and dispose with non-hazardous trash. Dissolve smaller amounts with water and flush to drain.

**14. Transport Information**

No restrictions. Not regulated by DOT.

**15. Regulatory Information**

No information available.

**16. Other Information**

No other information available.

Prepared by:



William H. Beauman  
Senior Scientist