

## CuSCRUB 4F-9.1

### An Acidified, Amorphous Silicon Pumice Scrub

#### Product Description

CuSCRUB 4F-9.1 is an acidified pumice scrub designed to promote cleaning and micro-roughening of copper laminate. CuSCRUB 4F-9.1 is formulated with 4F Grade, friable pumice and contains antioxidant components to inhibit cupric oxide formation after the cleaning cycle. During use, fractured particles from friable pumice continue to present sharp cutting edges rather than rounding off, thereby assuring a long and consistent operating life. CuSCRUB 4F-9.1 also exhibits a low concentration of free silica, and is therefore safer to work with than traditional pumice.

CuSCRUB 4F-9.1 is specially formulated and packaged in 22# containers for use with *IS*<sup>TM</sup> abrasive cleaning systems.

#### Performance Features

- CuSCRUB 4F-9.1 is mildly acidified, thereby chemically stripping light oxides from the copper surface while producing a uniform micro-roughened copper surface.
- CuSCRUB 4F-9.1 contains anti-oxidants to protect the cleaned copper.
- CuSCRUB 4F-9.1 is formulated with friable 4F Grade pumice, assuring a continued source of sharp edges as the material fractures during use.
- CuSCRUB 4F-9.1 contains a low concentration of free silica, promoting a safe working environment.

#### Physical Specifications

Physical state.....	solid
Appearance.....	gray-white free flowing powder
Odor.....	none
Freeze/thaw stability.....	stable
Specific gravity.....	2.2 g/cm <sup>3</sup>
Flash point.....	non-flammable
pH (1% slurry).....	< 5

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## **Equipment Requirements**

CuSCRUB 4F-9.1 is chemically compatible with all types of plastic, elastomers, quartz, titanium, teflon, steel and stainless steel alloys. Because CuSCRUB 4F-9.1 is an abrasive cleaner, the wear resistance of mechanical parts such as pumps, and manifold plumbing including spray nozzles, should be verified with the equipment manufacturer.

## **Product Make-up**

CuSCRUB 4F-9.1 may be used dry or mixed with water to form a slurry past of the desired consistency for application. For applications employing *IS*<sup>TM</sup> equipment, a slurry containing one pound of CuSCRUB 4F-9.1 per gallon is recommended.

## **Operating Parameters**

CuSCRUB 4F-9.1 may be applied by hand brushing, mechanical brushing, or mechanized spray.

## **Control and Replenishment**

Eventually, the particle size of the pumice will diminish, reducing its effectiveness. Additionally, the anti-oxidant components will become depleted, and a noticeable increase in the tendency for copper oxidation may be observed. It is recommended users experiment to determine the optimum dump frequency of static baths.

## **Safety and Handling**

CuSCRUB 4F-9.1 should be handled with adequate ventilation. Precautionary measures including eye and face shields, and rubber gloves, boots, and aprons should be worn when handling this material. It is strongly recommended that contact lenses not be worn when working with chemicals because they may contribute to the severity of an eye injury. In case of external exposure, flush the effected area with plenty of water. Contact a physician if any irritation persists.

## **Waste Treatment**

Spent slurry solutions may contain copper fines and should handled accordingly. Consult Circuit Research Corporation if you have specific questions.

## **Ordering Information**

CuSCRUB 4F-9.1 is available in 22# pails and 400# drums.