

## Sulfuric Acid

### **Process:**

Sulfuric Acid for cleaning solutions etches and metal polishing,

### **Materials:**

Sulfuric Acid (98%), sometimes diluted with water.

### **Incompatible Materials:**

No Oxidizers (such as Hydrogen Peroxide or Nitric Acid) without specific training. Be cautious of splattering due to heating if etching metals or combustibles.

### **Hazards:**

Destructive on contact with human tissues. Though typically apparent immediately, burns may take minutes to become apparent. Leaves difficult to notice hazardous residues that persist for many months to years in a cleanroom environment.

**Exposure Actions:** Do what's below, and then notify CNM2 staff within a few hours. For advice, call CNM2 staff.

**Eyes:** Hold eyes open in running eyewash station for 15 minutes and call 911 as soon as possible.

**Skin:** Remove splashed clothing, wash for 15 minutes and seek medical aid if irritation persists.

### **Personal Protective Equipment:**

Wear goggles, face shield, heavy chemical gloves (blue disposable Nitridex)<sup>1</sup>, and a heavy chemical apron. The blue disposable 'Nitridex' nitrile gloves are only splash resistant to concentrated (>40%) Sulfuric Acid, meaning gloves should be rinsed upon exposure because it takes only 30 seconds for the acid to start leaking through the blue gloves- So keep watch for splashes and spills.

### **Acceptable Locations For Use:**

Wet process stations 2, 3, 8, 9, 11, 12, 13, acid & base fume hood<sup>2</sup>. If hotter than a simmer, only acid & base fume hood.

### **Additional Process Notes:**

If dilution is needed measure water, add Sulfuric Acid, then stir<sup>3</sup>. Sulfuric acid has a particular tendency to spatter when mixed in reverse order. Heat only after mixing is complete if greater than ambient temperature is desired<sup>4</sup>. Sulfuric acid is especially difficult to mix into water, so allow 20 seconds to completely mix. Sulfuric acid is transparent and difficult to completely rinse away with water, so be diligent when cleaning work station<sup>2</sup>.

### **Disposal:**

Allow to cool, then decant or aspirate to neutralizer. Heavy metal bearing solutions should instead be disposed of in the "Ordinary Acids" bottle.