# IMPORTANT

## MATERIAL SAFETY DATA SHEET

**Read Carefully Before Using Chemical**

OSHA requires that this form be kept on file.

**Product No.** KM 1093-M

**Product Name** SULFURIC ACID, 95-98%

Principal Hazardous Component(s)

* Sulfuric Acid

<table>
<thead>
<tr>
<th>Chemical Synonyms</th>
<th>Oil of Vitriol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>H₂SO₄</td>
</tr>
<tr>
<td>C.A.S. No.</td>
<td>7664-93-9</td>
</tr>
</tbody>
</table>

### Melting Point (°F)

<table>
<thead>
<tr>
<th>Melting Point</th>
<th>6°F</th>
</tr>
</thead>
</table>

### Boiling Point (°F)

<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>590°F</th>
</tr>
</thead>
</table>

### Vapor Pressure (mm Hg)

<table>
<thead>
<tr>
<th>Vapor Pressure</th>
<th>1 @ 146°C</th>
</tr>
</thead>
</table>

### Flash Point (Method Used)

<table>
<thead>
<tr>
<th>Flash Point (Method Used)</th>
<th>N/A</th>
</tr>
</thead>
</table>

### Flammable Limits in Air % by Volume

<table>
<thead>
<tr>
<th>Flammable Limits in Air</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
</table>

### Extinguisher Media

Dry chemical, foam or carbon dioxide. Water spray may be used to cool exposed containers.

### Special Firefighting Procedures

In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

### Unusual Fire and Explosion Hazards

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Reacts with most metals releasing flammable, potentially explosive hydrogen gas.

### Threshold Limit Value

1 mg/m³ (TWA)

### Effects of Overexposure

Inhalation: Inhalation produces damaging effects on the mucous membranes and upper respiratory tract. May cause lung edema. Symptoms may include irritation of the nose and throat, and labored breathing.

Ingestion: Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach, leading to death. Can cause sore throat, vomiting, diarrhea. Skin Contact: Symptoms of redness, pain, and severe burn can occur. Eye Contact: Splashes can cause blurred vision, redness, pain and severe tissue burns.

### Emergency and First Aid Procedures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion: Do not induce vomiting. Give large quantities of water or milk if available. Call a physician immediately. Never give anything by mouth to an unconscious person.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Eye Contact: Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

### Stability

<table>
<thead>
<tr>
<th>Stability</th>
<th>Conditions to Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable</td>
<td>N/A</td>
</tr>
<tr>
<td>Unstable</td>
<td></td>
</tr>
</tbody>
</table>

### Incompatibility (Materials to Avoid)

Water, bases, organic materials, halogens, metal nitrates, oxides, and hydrides, strong oxidizing and reducing agents and many other reactive substances.

### Hazardous Decomposition Products

Toxic fumes of oxides of sulfur. Will react with water or stream to produce toxic and corrosive fumes. Reacts with carbides to generate carbon dioxide gas, and with cyanides and sulfides to form poisonous hydrogen cyanide and hydrogen sulfide respectively.

### Hazardous Polymerization

<table>
<thead>
<tr>
<th>May Occur</th>
<th>Will Not Occur</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Steps to Be Taken in Case Material is Released or Spilled

Dike and cover leaking or spilled liquid with dirt, vermiculite or other inert absorbent. Cover spill with sodium bicarbonate or soda ash and mix. Clean-up personnel require protective clothing and respiratory protection from vapors and mists. Flush area of spill with diluted soda ash solution and discard to sewer.

### Waste Disposal Method

Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of small-quantity only. Neutralized waste may be containerized and disposed in a RCRA approved waste disposal facility.

### Respiration Protection (Specify Type)

NIOSH approved respirator if TLV exceeded.

### Ventilation

Local Exhaust | X |
Mechanical (General) | Special |
Other | ..... |

### Protective Gloves

Impervious gloves
Eye Protection
Goggles and facemask

### Other Protective Equipment

Impervious protective clothing

### Precautions to be Taken in Handling & Storing

Keep container tightly closed when not in use.
Store in a cool, dry, ventilated storage area. Keep out of direct sunlight and away from heat, water and incompatible materials.

### Other Precautions

Read label on container before using. Do not wear contact lenses when working with chemicals.

When diluting, always add the acid to water; never add water to the acid.

**Approved by** Steven C. Quandt

**Effective Date** 10/31/94

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.