1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier
Product Name: Sulfuric Acid 93%

Other means of identification
Item#: 1984
Synonyms: None

Recommended use of the chemical and restrictions on use
Recommended use: Acidic product for mineral scale removal, Restricted to professional users
Uses advised against: No information available

Details of the supplier of the safety data sheet
Supplier: DeLaval Cleaning Solutions
11100 N. Congress Ave.
Kansas City, MO 64153

Emergency Telephone Number
Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification
Skin Corrosion/Irritation: Category 1 Sub-category A
Serious eye damage/eye irritation: Category 1
Carcinogenicity: Category 1A

Sulfuric acid and other mineral acids mist statement
The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

Corrosive to metals: Category 1

Label Elements

Emergency Overview

Hazard Statements
Causes severe skin burns and eye damage
May cause cancer
May be corrosive to metals
Appearance | Clear Colorless | Physical state | Liquid | Odor | No information available
---|---|---|---|---|

Precautionary Statements - Prevention
- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response
- Immediately call a POISON CENTER or doctor/physician
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- Immediately call a POISON CENTER or doctor/physician
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Immediately call a POISON CENTER or doctor/physician
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage
- Store locked up

Precautionary Statements - Disposal
- Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Other Information
- May be harmful if swallowed
- Unknown Acute Toxicity
- 7% of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid</td>
<td>7664-93-9</td>
<td>90 - 100%</td>
<td>*</td>
</tr>
</tbody>
</table>

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

### 4. FIRST AID MEASURES

**FIRST AID MEASURES**

**Eye contact**
- Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician immediately.

**Skin contact**
- Wash off immediately with plenty of water for at least 15 minutes. Call a physician immediately.

**Inhalation**
- Move to fresh air.

**Ingestion**
- Do not induce vomiting. Drink 1 or 2 glasses of water. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects**
- According to our experience and to the information provided to us, the product does not have any harmful effects if it is used and handled as specified.

**Indication of any immediate medical attention and special treatment needed**
Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
No information available.

Specific hazards arising from the chemical
The product causes burns of eyes, skin and mucous membranes.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Avoid contact with skin, eyes and clothing. Use personal protective equipment.

Environmental Precautions
Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Handling
Avoid contact with skin, eyes and clothing. When diluting, always add the product to water. Never add water to the product.

Conditions for safe storage, including any incompatibilities
Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials
bases, light metals, organic materials

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Keep out of the reach of children

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>TWA: 0.2 mg/m³</td>
<td>TWA: 1 mg/m³</td>
<td>15 mg/m³</td>
</tr>
</tbody>
</table>

Appropriate engineering controls
Engineering Controls
Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment
Eye/face Protection
Safety glasses with side-shields.

Skin and body protection
Wear protective gloves and protective clothing.

Respiratory Protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved
respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations**
Handle in accordance with good industrial hygiene and safety practice.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks/ Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear Colorless</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.84</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>soluble</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Viscosity of Product</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

**Other information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Softening Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>No information available</td>
</tr>
<tr>
<td>VOC Content</td>
<td>No information available</td>
</tr>
<tr>
<td>Density</td>
<td>No information available</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>No information available</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Reactivity**
No data available

**Chemical Stability**
Stable under normal conditions. Reacts violently with water.

**Possibility of hazardous reactions**
Gives off hydrogen by reaction with some metals (e.g. aluminum).

**Conditions to Avoid**
Extremes of temperature and direct sunlight.

**Incompatible Materials**
bases, light metals, organic materials
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation  
No data available.

Eye contact  
No data available.

Skin contact  
No data available.

Ingestion  
No data available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>= 2140 mg/kg (Rat)</td>
<td>-</td>
<td>= 510 mg/m³ (Rat) 2 h</td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms  
No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization  
No information available.

Mutagenic effects  
No information available.

Carcinogenicity  
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)  
A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)  
Group 1 - Carcinogenic to Humans

Sulfuric acid and other mineral acids mist statement  
The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen. (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

Reproductive Effects  
No information available.

STOT - single exposure  
No information available.

STOT-repeated exposure  
No information available.

Aspiration Hazard  
No information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity  
7% of the mixture consists of ingredient(s) of unknown toxicity.
The following values are calculated based on chapter 3.1 of the GHS document.

12. ECOLOGICAL INFORMATION

Ecotoxicity  
7% of the mixture consists of component(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Microtox</th>
<th>Waterflea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric acid 7664-93-9</td>
<td>-</td>
<td>LC50 42 mg/l 96 h</td>
<td>-</td>
<td>EC50 42.5 mg/L 48 h</td>
</tr>
</tbody>
</table>

Persistence and degradability  
No information available.

Bioaccumulation/Accumulation  
No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method
Dispose of in accordance with local regulations. Should not be released into the environment.

Contaminated Packaging
Empty containers should be taken for local recycling, recovery or waste disposal.

14. TRANSPORT INFORMATION

DOT

<table>
<thead>
<tr>
<th>UN-No</th>
<th>1830</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>Sulfuric acid with not more than 51 percent acid</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>8</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>TSCA</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>DSL/NDSL</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Complies</td>
</tr>
<tr>
<td>ENCS</td>
<td>Complies</td>
</tr>
<tr>
<td>CHINA</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
<tr>
<td>PICCS</td>
<td>Complies</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
</tr>
</tbody>
</table>

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
---------------|-----------------------------|------------------------|---------------------------|---------------------------|
Sulfuric acid  | 1000 lb                     | -                      | -                         | X                         |

State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.
U.S. EPA Label information
EPA Pesticide registration number Not applicable

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Preparation Date: 07-Jun-2007
Revision Date: 27-May-2015
Revision Note
No information available

Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS