



# Material Safety Data Sheet

<b>NFPA</b>  	<b>HMIS</b>  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; border: 1px solid black;">3</td> </tr> <tr> <td style="background-color: #FFCCCC;">Fire Hazard</td> <td style="text-align: center; border: 1px solid black;">0</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; border: 1px solid black;">0</td> </tr> </table>	Health Hazard	3	Fire Hazard	0	Reactivity	0	<b>Personal Protective Equipment</b>    See Section 15.
Health Hazard	3							
Fire Hazard	0							
Reactivity	0							

Section 1. Chemical Product and Company Identification		Page Number: 1
<b>Common Name/Trade Name</b>	<b>Sulfuric Acid, 36%</b>	<b>Catalog Number(s).</b> YY026
<b>Manufacturer</b>	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	<b>CAS#</b> Mixture.
<b>Commercial Name(s)</b>	Not available.	<b>RTECS</b> Not applicable.
<b>Synonym</b>	Not available.	<b>TSCA</b> TSCA 8(b) inventory: Sulfuric acid; Water
<b>Chemical Name</b>	Not applicable.	<b>CI#</b> Not applicable.
<b>Chemical Family</b>	Acid.	<b>IN CASE OF EMERGENCY</b> <a href="tel:8004249300">CHEMTREC (24hr) 800-424-9300</a>  CALL (310) 516-8000
<b>Chemical Formula</b>	Not applicable.	
<b>Supplier</b>	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

Section 2. Composition and Information on Ingredients					
Name	CAS #	Exposure Limits			% by Weight
		TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	CEIL (mg/m <sup>3</sup> )	
1) Water	7732-18-5				64-66
2) Sulfuric acid	7664-93-9	1			34-36
<b>Toxicological Data on Ingredients</b>	<b>Sulfuric acid:</b> ORAL (LD50): Acute: 2140 mg/kg [Rat]. VAPOR (LC50): Acute: 510 mg/m <sup>3</sup> 2 hours [Rat]. 320 mg/m <sup>3</sup> 2 hours [Mouse]. 347 ppm 1 hours [Rat].				

Section 3. Hazards Identification	
<b>Potential Acute Health Effects</b>	Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (corrosive), of eye contact (corrosive). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

**Potential Chronic Health Effects**

**CARCINOGENIC EFFECTS:** Classified 1 (Proven for human.) (for strong-inorganic-acid mists containing sulfuric acid) by IARC [Sulfuric Acid]. Classified A2 (Suspected for human.) (for strong-inorganic-acid mists containing sulfuric acid) by ACGIH [Sulfuric acid].

**MUTAGENIC EFFECTS:** Not available.

**TERATOGENIC EFFECTS:** Not available.

**DEVELOPMENTAL TOXICITY:** Not available.

The substance is toxic to lungs, mucous membranes.

Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

**Section 4. First Aid Measures****Eye Contact**

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

**Skin Contact**

If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical got on the victim's exposed skin, such as the hands : Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

**Serious Skin Contact**

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

**Inhalation**

Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

**Serious Inhalation**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**Ingestion**

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

**Serious Ingestion**

Not available.

**Section 5. Fire and Explosion Data**

**Flammability of the Product** Non-flammable.

**Auto-Ignition Temperature** Not applicable.

**Flash Points** Not applicable.

**Flammable Limits** Not applicable.

**Products of Combustion** Not available.

**Fire Hazards in Presence of Various Substances** Not applicable.

**Explosion Hazards in Presence of Various Substances** Risks of explosion of the product in presence of mechanical impact: Not available.  
Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions** Not applicable.

**Special Remarks on Fire Hazards** Not available.

**Special Remarks on Explosion Hazards** Not available.

**Section 6. Accidental Release Measures**

<b>Small Spill</b>	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: <b>Neutralize the residue with a dilute solution of sodium carbonate.</b>
<b>Large Spill</b>	Corrosive liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. <b>Neutralize the residue with a dilute solution of sodium carbonate.</b> Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

**Section 7. Handling and Storage**

<b>Precautions</b>	Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapour/spray. Never add water to this product in case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as organic materials, metals, acids, alkalis, moisture.  May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package.
<b>Storage</b>	May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package. Corrosive materials should be stored in a separate safety storage cabinet or room.

**Section 8. Exposure Controls/Personal Protection**

<b>Engineering Controls</b>	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
<b>Personal Protection</b>	Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.
<b>Personal Protection in Case of a Large Spill</b>	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
<b>Exposure Limits</b>	<b>Sulfuric acid</b> TWA: 1 STEL: 3 (mg/m <sup>3</sup> ) from ACGIH  Consult local authorities for acceptable exposure limits.

**Section 9. Physical and Chemical Properties**

<b>Physical state and appearance</b>	Liquid.	<b>Odor</b>	Odorless.
<b>Molecular Weight</b>	Not applicable.	<b>Taste</b>	Not available.
<b>pH (1% soln/water)</b>	2 [Acidic.]	<b>Color</b>	Clear Colorless.
<b>Boiling Point</b>	The lowest known value is 100°C (212°F) (Water). Weighted average: 166.5°C (331.7°F)		
<b>Melting Point</b>	May start to solidify at 10.49°C (50.9°F) based on data for: Sulfuric acid.		
<b>Critical Temperature</b>	Not available.		
<b>Specific Gravity</b>	Weighted average: 1.19 (Water = 1)		
<b>Vapor Pressure</b>	The highest known value is 17.535 mm of Hg (@ 20°C) (Water). Weighted average: 11.4 mm of Hg (@ 20°C)		
<b>Vapor Density</b>	The highest known value is 3.4 (Air = 1) (Sulfuric acid). Weighted average: 1.59 (Air = 1)		
<b>Volatility</b>	Not available.		
<b>Odor Threshold</b>	Not available.		
<b>Water/Oil Dist. Coeff.</b>	The product is much more soluble in water.		
<b>Ionicity (in Water)</b>	Not available.		
<b>Dispersion Properties</b>	See solubility in water.		

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<b>Solubility</b>	Easily soluble in cold water, hot water. Insoluble in methanol, diethyl ether, n-octanol.
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### Section 10. Stability and Reactivity Data

<b>Stability</b>	The product is stable.
<b>Instability Temperature</b>	Not available.
<b>Conditions of Instability</b>	Not available.
<b>Incompatibility with various substances</b>	Extremely reactive or incompatible with alkalis. Highly reactive with metals. Reactive with organic materials, acids. Slightly reactive to reactive with oxidizing agents, reducing agents, combustible materials.
<b>Corrosivity</b>	Extremely corrosive in presence of aluminum, of zinc. Highly corrosive in presence of steel, of copper. Slightly corrosive to corrosive in presence of stainless steel(304), of stainless steel(316). Non-corrosive in presence of glass.
<b>Special Remarks on Reactivity</b>	Reacts violently with water especially when water is added to the product. (Sulfuric acid)
<b>Special Remarks on Corrosivity</b>	Not available.
<b>Polymerization</b>	No.

### Section 11. Toxicological Information

<b>Routes of Entry</b>	Dermal contact. Eye contact. Inhalation. Ingestion.
<b>Toxicity to Animals</b>	Acute oral toxicity (LD50): 6114 mg/kg (Rat) (Calculated value for the mixture).
<b>Chronic Effects on Humans</b>	The substance is toxic to lungs, mucous membranes.
<b>Other Toxic Effects on Humans</b>	Very hazardous in case of skin contact (irritant), of ingestion, Inhalation. Hazardous in case of skin contact (corrosive), of eye contact (corrosive).
<b>Special Remarks on Toxicity to Animals</b>	Not available.
<b>Special Remarks on Chronic Effects on Humans</b>	Reproductive effects and Teratogenicity: According the the Registry of Toxic Effects of Chemical Substances (RTECS reference - Murry et al, "Embryotoxicity of Inhaled Sulfuric Acid Aerosol in Mice and Rabbits", Journal of Environmental Science and Health, Part C, Vol. 13, pages 251-266, 1979), musculoskeletal developmental abnormalities were found in rabbits at a dose of 20 mg/m <sup>3</sup> for 7 hrs. However, REPROTOX and Shepard's Catalog of Teratogenic Agents, citing this same study, stated that inhalation of sulfuric acid fumes did not increase congenital anomalies in the offspring of treated pregnant mice or rabbits. Furthermore, the Hazard Substance Data Bank (HSDB) also stated that in a developmental toxicity study conducted under a method similar to OECD test Guideline 414 that no significant effects on mean numbers of implants/dam, live fetuses/liter or resorptions/litter were observed in mice and rabbits exposed by inhalation to sulfuric acid aerosol at 5 and 20 mg/m <sup>3</sup> during gestation and therefore could not be considered embryotoxic, or fetotoxic. May cause cancer. However, evidence is inconclusive. Cancer Status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC Group 1). However, this classification applies only to mists containing sulfuric acid generated during an industrial process and not to (almost) pure sulfuric acid or sulfuric acid solutions; The ACGIH has classified "strong inorganic acid mists containing sulfuric acid" as a suspected human carcinogen (ACGIH Group A2). However, this classification applies only to mists containing sulfuric acid generated during an industrial process and not to (almost) pure sulfuric acid or sulfuric acid solutions. (Sulfuric acid)
<b>Special Remarks on other Toxic Effects on Humans</b>	Acute Potential Health Effects: Skin: Corrosive. Causes severe skin irritation and burns. Continued contact can cause tissue necrosis. Eye: Corrosive. Causes severe eye irritation and burns. May cause irreversible eye injury. Ingestion: Corrosive. Harmful if swallowed. May cause permanent damage to the digestive tract. Causes digestive/gastrointestinal tract (mouth, throat, stomach) burns, nausea, vomiting (vomit resembling "coffee grounds"), severe gastritis and epigastric pain. May also cause perforation of the stomach, GI bleeding, edema of the glottis, necrosis and scarring, and sudden circulatory shock/ collapse(similar to acute inhalation). It may also cause systemic toxicity with acidosis. Inhalation: Causes severe irritation of the respiratory tract and mucous membranes with sore throat,

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coughing, sneezing, shortness of breath, and delayed lung edema. Can cause chemical burns (corrosive action) to the respiratory tract and mucous membranes. Inhalation may be fatal as a result of bronchospasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. May affect cardiovascular system (hypotension, depressed cardiac output, bradycardia). Circulatory shock/collapse with clammy skin, weak and rapid pulse, shallow respiration, and scanty urine may follow. Ischemic liver and heart lesions, kidney failure may occur several hours after unchecked circulatory collapse. Circulatory shock is often the immediate cause of death. May also affect teeth (changes in teeth and supporting structures - erosion, discoloration).

**Chronic Potential Health Effects:**

**Inhalation:** Prolonged or repeated inhalation may affect behavior (muscle contraction or spasticity), urinary system (kidney damage), and respiratory system/lungs (pulmonary edema, lung damage/changes in lung function with chronic bronchitis and emphysema), teeth (dental discoloration, erosion).

**Skin:** Prolonged or repeated skin contact may cause dermatitis.

**Eyes:** Conjunctivitis is also a common finding with chronic exposure. (Sulfuric acid)


### Section 12. Ecological Information

<b>Ecotoxicity</b>	Not available.
<b>BOD5 and COD</b>	Not available.
<b>Products of Biodegradation</b>	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
<b>Toxicity of the Products of Biodegradation</b>	The products of degradation are more toxic.
<b>Special Remarks on the Products of Biodegradation</b>	Not available.

### Section 13. Disposal Considerations

Waste Disposal

### Section 14. Transport Information

<b>DOT Classification</b>	Class 8: Corrosive material R68-
<b>Identification</b>	UNNA: 2796 : Sulfuric acid, solution PG: II
<b>Special Provisions for Transport</b>	Not available.
<b>DOT (Pictograms)</b>	

### Section 15. Other Regulatory Information and Pictograms

<b>Federal and State Regulations</b>	<p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Sulfuric acid</p> <p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Sulfuric acid</p> <p>New York release reporting list: Sulfuric acid</p> <p>Pennsylvania RTK: Sulfuric acid</p> <p>Minnesota: Sulfuric acid</p> <p>Massachusetts RTK: Sulfuric acid</p> <p>New Jersey: Sulfuric acid</p> <p>New Jersey spill list: Sulfuric acid</p> <p>Louisiana spill reporting: Sulfuric acid</p> <p>California Director's List of Hazardous Substances: Sulfuric acid</p> <p>TSCA 8(b) inventory: Water; Sulfuric acid</p> <p>SARA 302/304/311/312 extremely hazardous substances: Sulfuric acid</p> <p>SARA 313 toxic chemical notification and release reporting: Sulfuric acid 35%</p> <p>CERCLA: Hazardous substances.: Sulfuric acid: 1000 lbs. (453.6 kg);</p>
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**California Proposition 65 Warnings**  
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Sulfuric acid  
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

**Other Regulations**  
 OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

<b>Other Classifications</b>	<b>WHMIS (Canada)</b>	CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS E: Corrosive liquid.
	<b>DSCL (EEC)</b>	R34- Causes burns.  S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

<b>HMIS (U.S.A.)</b>	<b>Health Hazard</b>	<b>3</b>	<b>National Fire Protection Association (U.S.A.)</b>		<b>Flammability</b>
	<b>Fire Hazard</b>	<b>0</b>			<b>Reactivity</b>
	<b>Reactivity</b>	<b>0</b>			<b>Specific hazard</b>
	<b>Personal Protection</b>	<b>0</b>			

**WHMIS (Canada) (Pictograms)**



**DSCL (Europe) (Pictograms)**



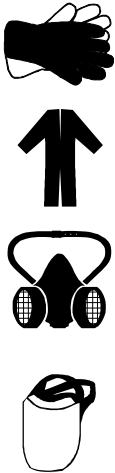
**TDG (Canada) (Pictograms)**



**ADR (Europe) (Pictograms)**



**Protective Equipment**



Gloves.  
 Full suit.  
 Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.  
 Face shield.

**Section 16. Other Information****MSDS Code** S5307**References** Not available.**Other Special Considerations** Not available.

Validated by Sonia Owen on 3/5/2013.

Verified by Sonia Owen.

Printed 3/5/2013.

CALL (310) 516-8000

**Notice to Reader**

*All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.*