HI-VALLEY CHEMICAL
LABORATORY PRODUCTS
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Sulfuric Acid 50%

1 PRODUCT AND COMPANY IDENTIFICATION

Product Identifier:	Sulfuric Acid 50%
Synonyms:	Sulfuri acid 1400
SDS Number:	R-011
Product Code:	778377-PT, 778377-QT, 778377-1, 778377-5, 778377-15
Revision Date:	11/5/2015
Version:	1.0
CAS Number:	7664-93-9
Chemical Formula:	H2SO4
Supplier Details:	High Valley Products, Inc. 1134 West 850 North Centerville, Utah 84014
Emergency:	PERS: 800-633-8253
Phone:	801-295-9591
Email:	sales@hvchemical.com
Web:	www.hvchemical.com www.hvchemical.com

2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):

Health, Acute toxicity, 5 Oral
Health, Skin corrosion/irritation, 1 A
Health, Serious Eye Damage/Eye Irritation, 1
Environmental, Hazards to the aquatic environment - Acute, 3
Environmental, Hazards to the aquatic environment - Chronic, 3

GHS Label elements, including precautionary statements

GHS Signal Word: DANGER

GHS Hazard Pictograms:

GHS Hazard Statements:

H303 - May be harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H402 - Harmful to aquatic life
H412 - Harmful to aquatic life with long lasting effects

GHS Precautionary Statements:

P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor/physician.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas#	%	Chemical Name
7664-93-9	50%	Sulfuric acid
7732-18-5	50%	Water

4 FIRST AID MEASURES

Inhalation: If inhaled, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin Contact: Remove contaminated clothing immediately.
Wash with soap and water.
Consult a physician.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation.
Consult a physician.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5 FIRE FIGHTING MEASURES

Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special hazards arising from the substance or mixture
Sulfur oxides
Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.
Further information
No data

6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental precautions:
Do not let product enter drains.
Pick up excess with inert absorbant material and place into separate waste container.

7 HANDLING AND STORAGE

Handling Precautions: Avoid breathing vapors or mist. Avoid contact with eyes, skin, or clothing.

Storage Requirements: Keep container tightly closed. Store in cool/dry/ventilated area.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protective Equipment:

Sulfuric acid (7664-93-9) [50%]

Personal protective equipment

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of

contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact Material: Fluorinated rubber Minimum layer thickness: 0.7 mm Break through time: 480 min Material tested:Vitoject (KCL 890 / Aldrich Z677698, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0.2 mm Break through time: 30 min Material tested:Dermatril P (KCL 743 / Aldrich Z677388, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection: Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Water (7732-18-5) [50%]

Personal protective equipment

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:Dermatril (KCL 740 / Aldrich Z677272, Size M)

Splash contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:Dermatril (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Respiratory protection: No special protective equipment required.

Control of environmental exposure: Prevent product from entering drains.

Sulfuric acid (7664-93-9) [50%]

Components with workplace control parameters

TWA	0.2 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
TWA	1 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
TWA	1 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z- 1 Limits for Air Contaminants

Water (7732-18-5) [50%] : no data available

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless.
Physical State:	Liquid
Odor:	No data available
Odor Threshold:	No data available
Solubility:	soluble
Spec Grav./Density:	1.4
Viscosity:	No data available
Boiling Point:	290 °C (554 °F)
Freezing/Melting Pt.:	3 °C (37 °F
Flash Point:	No data available
Partition Coefficient:	No data available
Vapor Pressure:	1.33 hPa (1.00 mmHg) at 145.8 °C (294.4 °F)
Vapor Density:	3.39 - (Air = 1.0)
pH:	0
Evap. Rate:	No data available
Auto-Ignition Temp:	No data available
Decomp Temp:	No data available
UFL/LFL:	No data available

10 STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical Stability:	Stable under normal conditions.
Materials to Avoid:	Bases, Halides, Organic materials, Carbides, fulminates, Nitrates, picrates, Cyanides, Chlorates, alkali halides, Zinc salts, permanganates, e.g. potassium permanganate, Hydrogen peroxide, Azides, Perchlorates., Nitromethane, phosphorous, Reacts violently with:, cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous(III) oxide, Powdered metals
Hazardous Decomposition:	No data available

11 TOXICOLOGICAL INFORMATION

Sulfuric acid (7664-93-9) [50%]

Information on toxicological effects

Acute toxicity:
Oral LD50 LD50 Oral - rat - 2,140 mg/kg
Inhalation LC50 LC50 Inhalation - rat - 2 h - 510 mg/m3
Dermal LD50 no data available
Other information on acute toxicity

Skin corrosion/irritation: Skin - rabbit - Extremely corrosive and destructive to tissue.

Serious eye damage/eye irritation: Eyes - rabbit - Severe eye irritation

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:
The International Agency for Research on Cancer (IARC) has determined that occupational exposure to strong-inorganic- acid mists containing sulfuric acid is carcinogenic to humans (group 1).
IARC: 1 - Group 1: Carcinogenic to humans (Sulfuric acid)
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: Known to be human carcinogen (Sulfuric acid)
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Teratogenicity: Specific target organ toxicity - single exposure (Globally Harmonized System):

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System):
no data available

Aspiration hazard: no data available

Potential health effects: Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. Causes skin burns. Causes skin irritation. Eyes Causes eye burns. Causes severe eye burns. Causes eye irritation.

Signs and Symptoms of Exposure: Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Pulmonary edema. Effects may be delayed., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects: no data available

Additional Information:

RTECS: WS5600000

Water (7732-18-5) [50%]

Information on toxicological effects

Acute toxicity: no data available

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Additional Information:

RTECS: ZC0110000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12 ECOLOGICAL INFORMATION

Sulfuric acid (7664-93-9) [50%]

Information on ecological effects

Toxicity:
Toxicity to fish LC50 - Gambusia affinis (Mosquito fish) - 42 mg/l - 96 h.

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life with long lasting effects.

Water (7732-18-5) [50%]

Information on ecological effects

Toxicity: no data available

Persistence and degradability: not applicable

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: no data available

13 DISPOSAL CONSIDERATIONS

Sulfuric acid (7664-93-9) [50%]

Waste treatment methods

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging: Dispose of as unused product.

Water (7732-18-5) [50%]

Waste treatment methods

Product: Taking into account local regulations the product may be disposed of as waste water after neutralisation.

14 TRANSPORT INFORMATION

UN2796, Sulfuric acid with not more than 51% acid, 8, PGII

15 REGULATORY INFORMATION

Component (CAS#) [%] - CODES

RQ(1000LBS), Sulfuric acid (7664-93-9) [50%] CERCLA, CSWHS, EHS302, EPCRAWPC, MASS, NJHS, OSHAWAC, PA, SARA313, TSCA, TXAIR

Water (7732-18-5) [50%] TSCA

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Regulatory CODE Descriptions
-----------------------------------------------------------------
RQ = Reportable Quantity
CERCLA = Superfund clean up substance
CSWHS = Clean Water Act Hazardous substances
EHS302 = Extremely Hazardous Substance
EPCRAWPC = EPCRA Water Priority Chemicals
MASS = MA Massachusetts Hazardous Substances List
NJHS = NJ Right-to-Know Hazardous Substances
OSHAWAC = OSHA Workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
SARA313 = SARA 313 Title III Toxic Chemicals
TSCA = Toxic Substances Control Act
TXAIR = TX Air Contaminants with Health Effects Screening Level
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16 OTHER INFORMATION

Disclaimer:
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