Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product identifier: **SULFURIC ACID**
Synonyms: Hydrogen Sulfide, Battery Acid, Drying acid, Oil of Vitriol, Dihydrogen Sulfate, Electrolyte Acid
Intended use: Water treatment, Chemical intermediate, pH neutralizer, Fertilizer, Processing mineral ores, Metal refining

Uses Advised Against: None known.

Company Identification

DPC Industries, Inc.
DPC Enterprises, LP
DXI Industries, Inc.
DX Terminals
PO Box 24600
Houston , TX 77229-4600

Emergency
CHEMTREC (USA) (800) 424-9300
24 hour Emergency Telephone No. (281) 457-4888
www.dxgroup.com

2. Hazard identification of the product

Physical hazards	Corrosive to metals.	Category 1
Health hazards	Causes severe skin burns and eye damage. Causes serious eye damage May cause respiratory irritation	Category 1A Category 1 Category 3
Environmental hazards	Hazardous to the aquatic environment.	Category 3

Label elements
Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

Signal Word	**Danger**
Hazard Statements	Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation. May cause cancer. May be corrosive to metals.
Precautionary Statements	
Prevention	Avoid breathing dust / fume / gas / mist / vapors / spray. Wash thoroughly after handling. Use only outdoors or in a well ventilated area. Wear protective gloves / eye protection / face protection.
Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Remove contaminated clothing and wash before re-use. Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor / physician if you feel unwell. IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing. Immediately call a POISON CENTER or doctor / physician..
Storage	Store in a well ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container.
Disposal	Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

Substance classified with a health or environmental hazard. Substance with a workplace exposure limit.
Synonyms: Hydrogen Sulfide, Battery Acid, Drying acid, Oil of Vitriol, Dihydrogen Sulfate, Electrolyte Acid

Ingredient	CAS Number:	Weight %
Sulfuric acid	7664-93-9	30 - 93

4. First Aid Measures

General	Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Inhalation	Move victim to fresh air. Call emergency medical care. Apply artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one- way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult.
Eyes	Immediately flush eyes with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing. Immediately call a POISON CENTER or doctor / physician.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Ingestion	If the person is conscious, have them drink water or milk. Contact a physician immediately. Rinse mouth thoroughly. Do NOT induce vomiting.
Most important symptoms and effects, both acute and delayed	
Overview	Contact with this material will cause burns to the skin, eyes and mucous membranes.
Indication of immediate medical attention and special treatment needed	May cause respiratory irritation. Causes serious eye damage. Causes severe skin burns and eye damage. Provide general supportive measures and treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

Recommended Extinguishing media	Dry chemical. Foam. Carbon dioxide (CO2).
Unsuitable extinguishing media	Avoid direct contact with water. Do not use water jet as an extinguisher, as this will spread the fire.
Special hazards arising from the substance or mixture	Oxides of Sulfur at high temperatures. Avoid breathing dust / fume / gas / mist / vapors / spray.
Advice for fire-fighters	Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. TOXIC; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death. Reaction with water or moist air may release toxic, corrosive or flammable gases. Reaction with water may generate much heat that will increase the concentration of fumes in the air. Fire will produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. **ERG Guide No. 157**

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Prevent liquid from entering sewers and waterways.
Environmental precautions	Do not allow spills to enter drains or watercourses.
Methods and material for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Neutralize with lime, limestone, sodium carbonate (soda ash), sodium bicarbonate, and dilute sodium hydroxide. Prevent entry into waterways, sewer, basements or confined areas. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use.

7. Handling and storage

Precautions for safe handling	Provide adequate ventilation. Do not breathe mist/vapors. Wear appropriate personal protective equipment. Avoid direct contact. Wash hands thoroughly after handling. When using do not eat, drink or smoke . Do not add water to contents while in container because of violent reaction. NEVER add water to acids. ALWAYS add acids to water.
Conditions for safe storage, including any incompatibilities	Keep away from possible contact with water because violent reaction may occur. Store in a well-ventilated place. Store away from incompatible materials. Store in containers designed for this product. Keep away from heat, sparks and open flame.

8. Exposure controls and personal protection

Control parameters

Exposure

CAS No.	Material	Source	Value
7664-93-9	Sulfuric acid	OSHA	TWA 1 mg/m3
		ACGIH	TWA: 0.2 mg/m3
		NIOSH	TWA 1 mg/m3

Individual protection measures, such as personal protective equipment

Respiratory	Use NIOSH/MSHA approved respirator, following manufacturer's recommendations when concentrations exceed permissible exposure limits.
Eyes	Wear safety glasses with side shields or goggles to protect the eyes. An eye wash station is suggested as a good workplace practice.
Skin	Chemical resistant clothing such as coveralls/apron boots should be worn. Chemical resistant gloves. Emergency eyewash station should be in close proximity.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

9. Physical and chemical properties

Appearance:	Clear to amber liquid.
Odor:	Pungent
Odor threshold:	Not Measured
pH:	<1
Melting point / freezing point:	34 F (1 C)
Initial boiling point and boiling range:	212 F (100 C)
Flash Point:	Not Applicable
Evaporation rate (Ether = 1):	Not measured
Flammability (solid, gas):	Not Applicable
Upper/lower flammability or explosive limits:	**Lower Explosive Limit:** Not Applicable
	Upper Explosive Limit: Not Applicable
Vapor pressure (mmHg):	< 0.3 mmHg
Vapor Density:	>1
Specific Gravity:	1.26
Solubility in Water:	Complete
Partition coefficient n-octanol/water (Log Kow):	Not Measured
Auto-ignition temperature (°C):	Not Measured
Decomposition temperature:	644 F (340 C)
Viscosity (cSt):	Not Measured
VOC %:	Not Measured
Other information:	No other relevant information.

10. Stability and reactivity

Reactivity	Hazardous polymerization will not occur.
Chemical stability	Stable under normal circumstances.
Possibility of hazardous reactions	Keep away from any possible contact with water, because of violent reaction and possible flash fire.
Conditions to avoid	Contact with metal may release flammable hydrogen gas. Contact with incompatible materials. Do not mix with other chemicals Excessive heat and open flame.
Incompatible materials	Bases, amines, metals, organic compounds, chlorates, nitrates, oxidizers, reducing agents. Hazardous gases evolved on contact with chemicals such as cyanides, sulfides, and carbides.
Hazardous decomposition products	Sulfur Oxides at high temperatures.

11. Toxicological information

Acute toxicity

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation LC50, mg/L/1hr
Sulfuric acid (7664-93-9)	2140, Rat	No data available	347, Rat

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

11. Toxicological information
Acute toxicity (Cont.)

Item	Hazard
Acute Toxicity (mouth)	Not applicable.
Acute Toxicity (skin)	Not applicable.
Acute Toxicity (inhalation)	Harmful if inhaled.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Eye damage/irritation	Causes serious eye damage.
Sensitization (respiratory)	Not Applicable
Sensitization (skin)	Not Applicable
Germ toxicity	Not Applicable
Carcinogenicity	Considered a suspected/known carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive Toxicity	None anticipated.
Specific target organ systemic toxicity (single exposure)	May cause respiratory irritation.
Specific target organ systemic Toxicity	Prolonged exposure may have adverse effects on the respiratory tract.
Aspiration hazard	Not Applicable

12. Ecological information
Toxicity

Aquatic Ecotoxicity

Ingredient	LC50/96hr fish, mg/l	EC50/48hr crustacea, mg/l	EC50/72hr algae, mg/l
Sulfuric acid (7664-93-9)	42 Gambusia affinis	42.50 Pandalus montagui	> 100 Desmodesmus subspicatus

Persistence and degradability:	There is no data available on the preparation itself.
Bioaccumulative potential:	The product has no potential for bioaccumulation.
Mobility in soil:	No data available.
Results of PBT and vPvB assessment:	This product contains no PBT/vPvB chemicals.
Other adverse effects:	None expected.

13. Disposal considerations

Waste treatment methods:	Neutralize with lime, soda ash, sodium hydroxide, ect. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Waste from material:	D002; however, the waste determination should be made in discussion between the user and the waste disposal company**.**
Container Management:	Empty containers or liners may retain some product residues. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

UN number:	UN2796 (with not more than 51% acid) UN1830 (with more than 51% acid)
UN proper shipping name:	Sulfuric Acid
Transport hazard class(es)	
DOT (Domestic Surface Transportation)	
DOT Proper Shipping Name:	Sulfuric Acid
DOT Hazard Class **DOT Label:**	8 8
UN / NA Number:	UN2796 (with not more than 51% acid) UN1830 (with more than 51% acid)
DOT Packing Group:	II
CERCLA/DOT RQ:	1000-lbs
Environmental hazards:	IMDG Marine Pollutant: No
Special precautions for user:	Not Applicable

15. Regulatory information

Regulatory Overview:	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented. All ingredients of this product are listed on the TSCA (Toxic Substance Control Act) Inventory.			
WHMIS Classification:	D2B E			
OSHA REGULATORY STATUS:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)			
US EPA Tier II Hazards:	**Fire:**	No	**Immediate (Acute):**	Yes
	Sudden Release of Pressure:	No	**Delayed (Chronic):**	Yes
	Reactive:	Yes		
SARA 302 Extremely Hazardous Substance / RQs (lbs) :	Yes (1000-lbs)			
SARA 311/312 Chemicals and RQs (lbs) (>0.1%) :	Yes (1000-lbs)			
SARA 313 (TRI)	Yes			
OSHA PSM (29 cfr 1910.119):	No			
TSCA:	Sulfuric Acid			

State Regulations:	**N.J. RTK Substances (>1%)**	Listed	**Penn RTK Substances (>1%)**	Listed	**California Prop 65**	Listed

16. Other information

Revision Information: This is the first revision of this SDS format, changes from previous revision not applicable.

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THE USER IS CAUTIONED TO PERFORM HIS OWN HAZARD EVALUATION AND TO RELY ON HIS OWN DETERMINATIONS.