SAFETY DATA SHEET

According to 29 CFR 1910.1200

SULFURIC ACID

Date of issue: July 01, 2009 **Revision date:** September 01, 2023 **Version No.** 5

SECTION 1.- IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product form Substance

Substance name Sulfuric acid (51 – 100%)

CAS No. 7664-93-9

Formula H_2SO_4

Synonyms Vitriol oil, hydrogen sulphate, acid batteries.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture According to the technical sheet of the product.

1.3 Details of the supplier of the safety data sheet

Pima Chemicals & Fertilizers, LLC
1370 Nogales, Az.
Tel. 011 52 (662) 182-0559
rgutierrez@qpima.com
www.qpima.com

Química Pima, S.A. de C.V.
Del Cobre 20, Parque Industrial Hermosillo.
Hermosillo, Sonora, México. C.P. 83297
Tel. 011 (662) 251-0010 ventas@qpima.com

1.4 Emergency telephone numbe

Emergency number CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

SECTION 2.- HAZARD IDENTIFICATION

2.1. GHS-US classification

Metal Corrosion Cat.1

Acute toxicity, oral Cat. 4

Skin corrosion/irritation Cat. 1A

Eye damage/irritation Cat. 1

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)

Signal word (GHS-US): Danger

Hazard statement (GHS-US):

H290 May be corrosive to metals

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

Precautionary statements (GHS-US):

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220 Keep/Store away from clothing/combustible materials.
P234 Keep only in original container.
P260 Do not breathe dust, fume, gas, mist, vapours or spray.
P264 Wash exposed skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 If on skin (of hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a poison center or doctor.
P390 Absorb spillage to prevent material-damage.
P405 Store locked up.
P406 Store in a corrosion resistant container with a resistant inner liner.
P501 Dispose of contents/container in accordance with local/regional/national/ international regulations.

2.3. Other hazards Not available.

2.4 Unknown acute toxicity (GHS-US) Not available.

SECTION 3.- COMPOSICION / INFORMATION OF INGREDIENTS

3.1 Mixture Not applicable

3.2 Substance

Name	*Product identifier*	*%*	*GHS-US classification*
Sulfuric Acid	(CAS No.) 7664-93-9	51-100	Metal Corr. 1; H290 Acute Tox. Oral 4, H302 Skin Corr. 1A, H314 Eye Dam. 1, H318

SECTION 4.- FIRST AID MEASURE

4.1. Description of first air measure

First-aid measures general IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after eye contact Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Seek medical attention immediately if exposure is severe. Obtain medical attention if irritation develops or persists.

First-aid measures after skin contact Remove/Take off immediately all contaminated clothing. Rinse immediately with plenty of water (for at least 15 minutes). Seek medical attention immediately if exposure is severe. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse..

First-aid measures after Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest

inhalation	and in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Seek immediate medical advice. Symptoms may be delayed.
First-aid measures after ingestion	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	Causes severe respiratory irritation if inhaled. Symptoms may include burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum.
Symptoms/injuries after skin contact	Contact may cause immediate severe irritation progressing quickly to chemical burns.
Symptoms/injuries after eye contact	Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.
Symptoms/injuries after ingestion	May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms	Repeated or prolonged inhalation may damage lungs. Prolonged and repeated contact will eventually cause permanent tissue damage.

4.3. Indications of any immediate medical attention and special treatment needed

If medical advice is needed, have product container or label at hand.

SECTION 5.- FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media	Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	Do not get water inside containers. Do not apply water stream directly at source of leak. Do not use a heavy water stream. A direct water stream will cause violent splattering and generation of heat.

5.2. Special hazard arising from the substance or mixture

Fire hazard	Not flammable. Under conditions of fire this material may produce: Sulphur oxides.
Explosion hazard	Product is not explosive.
Reactivity	Reacts with water.

5.3. Advice for firefighters

Precautionary measures fire	Not available
Firefighting instructions	Keep upwind. Use water spray or fog for cooling exposed containers.
Protection during firefighting	Firefighters must use full bunker gear including NIOSH-approved positive-pressure self-contained breathing apparatus to protect against potential hazardous combustion and decomposition products.
Hazardous combustion products	Sulphur oxides.
Other information	Do not allow run-off from firefighting to enter drains or water courses.

SECTION 6.- ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.
Emergency procedures	Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area. Keepupwind.

6.1.2. For emergency responders

Protective equipment	Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.
Emergency procedures	Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area.

6.2. Environmental precautions

If spill could potentially enter any waterway, including intermittent dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC at 800-424-9300 (in USA) or CANUTEC at 613-996-6666 (in Canada). In other countries call CHEMTREC at (International code) +1-703-527-3887.

6.3. Methods and material for containment and cleaning up.

Method for containment	Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	Ventilate area. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Collect absorbed material and place into a sealed, labeled container for proper disposal. Practice good housekeeping - spillage can be slippery on smooth surface either wet or dry. Liquid spill: neutralize with powdered limestone or sodium bicarbonate.
Other information	Dispose of materials or solid residues at an authorized site.

6.4 Reference to other sections

For further information refer to section 8: Exposure-controls/personal protection.

SECTION 7.- HANDLING AND STORAGE

7.1. Precautions for safe handling

Precautions for safe handling	Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Avoid raising dust. Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.
Hygiene measures	Do not drink, eat or smoke in the workplace. Always wash hands after handling the product. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	Keep only in the original container in a cool, well-ventilated place away from incompatible materials. Keep container closed when not in use.
Incompatible materials	Reducing agents. Organic materials. Alkalis. Moisture.
Heat-ignition	KEEP SUBSTANCE AWAY FROM: heat sources.
Storage area	Store in a dry area. Store at room temperature. Keep container in a well-ventilated place. Meet the legal requirements.

7.3 Specific end use(s) Industrial use.

SECTION 8.- EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	*ACGIH TLV*	*OSHA PEL*	*NIOSH IDLH*
Sulfuric acid 7664-93-9	TWA: 1.0 mg/m³ 8 hours STEL: 3 mg/m³ 15 minutes	TWA: 1 mg/m³ 8 hours	IDLH: 80 mg/m³

8.2. Exposure controls

Appropriate engineering controls	Ensure good ventilation of the work station. Extraction to remove dust at its source. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Personal protective equipment	Face shield. Gas mask at concentration in the air > > TLV. Corrosionproof clothing.
Material for protective clothing	GIVE GOOD RESISTANCE: Acid-resistant clothing. butyl rubber. Neoprene. Rubber. GIVE POOR RESISTANCE: natural fibers.
Hand protection	Impermeable protective gloves.
Eye protection	Face shield.
Skin and body protection	Wear suitable protective clothing. Chemical resistant suit. Rubber apron, boots.
Respiratory protection	Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.
Environmental exposure controls	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

SECTION 9.- PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	Liquid.	**Appearance:**	Liquid, oily.
Odor:	Acre	**Color:**	Colorless to Amber.

Molecular mass	164.10 g/mol
Odor threshold	No data available.
pH	< 1
Relative evaporation rate (butyl acetate=1)	No data available.
Melting point	10.56°C (51.08°F)
Freezing point	-11.2°C (-11.6°F)@77%; -29.5°C(-21.1°F)@93%; -1.0°C (30.0°F) @98%
Boiling point	290°C (554°F)
Flash point	No data available.
Self-ignition temperature	No data available.
Decomposition temperature	No data available.
Flammability (solid, gas)	No data available.
Vapor pressure	0.00027-0.16 kPa at 25°C (77°F)
Relative vapor density at 20°C	3.4
Relative density	1.40 (51%) - 1.83 (98%) @ 20°C

Solubility	Water: Miscible.
Log Pow	Not applicable (inorganic substance).
Log Kow	No data available.
Viscosity, kinematic	No data available.
Viscosity, dynamic	No data available.
Explosive properties	Not expected to present an explosion hazard
Oxidizing properties	No data available.
Explosive limits	No data available.

9.2 Other information

No additional information available.

SECTION 10.- STABILITY AND REACTIVITY

10.1 Reactivity	Reacts with water.
10.2 Chemical stability	Stable at standard temperature and pressure.
10.3 Possibility of hazardous reactions	Hazardous polymerization can occur in contact with certain incompatible materials.
10.4 Conditions to avoid	Protect from moisture.
10.5 Incompatible materials	Avoid contact with most metals, carbides, hydrogen sulfide, turpentine, organic acids, combustibles (wood, paper, cotton) and other organic and readily oxidized materials.
10.6 Hazardous decomposition products	Under conditions of fire this material may produce: Sulphur oxides.

SECTION 11.-TOXICOLOGICAL INFORMATION

11. 1. Information on toxicological effects

Likely routes of exposure	Skin and eyes contact; inhalation; ingestion.
Acute toxicity	Not classified.

Name	LD_{50} oral	LD_{50} dermal	LC_{50} inhalation
Sulfuric Acid	2140 mg/kg (rat)	-	510 mg/m³ (Exposure time: 2 h) (rat)

Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/irritation	Causes serious eye damage.
Respiratory or skin sensitization	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Specific target toxicity (single exposure)	May cause respiratory irritation.
Specific target toxicity (repeat exposure)	Not classified.
Aspiration hazard	Not classified.
Symptoms/injuries after inhalation:	Causes severe respiratory irritation if inhaled. Symptoms may include burning of nose and throat, constriction of airway, difficulty breathing and shortness of breath, bronchial

	spasms, chest pain, and pink frothy sputum.
Symptoms/injuries after skin contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns.
Symptoms/injuries after eye contact:	Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.
Symptoms/injuries after ingestion:	May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms:	Repeated or prolonged inhalation may damage lungs. Prolonged and repeated contact will eventually cause permanent tissue damage.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Ecology - General	Not classified
Ecology - Air	Not classified
Ecology - Water	Not classified

12.2 Persistence and degradability Product is biodegradable.

12.3 Bioaccumulative potential Not expect to bioaccumulate.

12.4 Mobility in soil Not available.

12.5 Other adverse effects Not available.

SECTION 13.- DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste treatment methods	This material is hazardous to the aquatic environment. Keep out of sewers and waterways.
Waste disposal recommendations	Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14.- TRANSPORT INFORMATION

14.1.UN number	1830
14.2. UN proper shipping name	SULFURIC ACID, WITH MORE THAN 51 PERCENT ACID
14.3. Additional information	
Other information	Class 8; packing group II
Overland transport	No additional information available.
Transport by sea	No additional information available.
Air transport	No additional information available.

SECTION 15.- REGULATORY INFORMATION

15.1 US Federal regulations

Sulfuric acid (7664-93-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on the United States SARA Section 302
Subject to reporting requirements of United States SARA Section 313

SARA Section 311 /312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Reactive hazard
SARA Section 302 Threshold Planning Quantity (TPQ)	1000
SARA Section 313 - Emission Reporting	1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

15.2 International regulations

CANADA

Sulfuric acid (7664-93-9)	
Listed on the Canadian DSL (Domestic Substances List) inventory. Listed on the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class E - Corrosive Material Class D Division 2 Subdivision B - Toxic material causing other toxic effects
IDL Concentration 1 %	

EU-Regulations

Sulfuric acid (7664-93-9)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

15.2.2. National regulations

Sulfuric acid (7664-93-9)	No data available.

SECTION 16.- OTHER INFORMATION

NFPA	NFPA health hazard	3	NFPA fire hazard	0	NFPA instability hazard	2	NFPA Special hazard	₩
HMIS III	Health	3	Flammability	0	Physical	2	Personal Protection	H

H Goggles for splashes, gloves, apron and respirator for vapors.

Made for: Química Pima, S.A. de C.V. Del Cobre No. 20 Parque Industrial. Hermosillo, Sonora, México. 83297.

Date of issue: July 01, 2009

Revision date: September 01, 2023

Revision note:
October 14, 16. 4th version. In this latest revision is updated according to 29 CFR 1910.1200.
October 16, 17. Update 4.1 Spelling and syntax modifications were made.
January 05, 18. Update 4.2 The SARA 311/312 category was modified.
May 21, 18. Update 4.3. Section 2 and 9 were modified.
September 01, 2023. 5th version. Syntax and spelling improvements and corrections were made.

IMPORTANT NOTE: Information in this SDS is from available published sources and is believed to be accurate, but is not exhaustive and will be used only as a guide, which is based on current knowledge of the chemical substance or mixture and apply to the appropriate product for safety precautions. No warranty, express or implied, is made and Pima Chemicals & Fertilizers, LLC and Quimica Pima, S.A. de C.V. assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.

End of Safety Data Sheet