

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : Sulfuric Acid 98%
 Product code : M16030

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Industrial

1.3. Supplier

JR Simplot Company
 P.O. Box 70013
 Boise, ID 83707
 T 1-208-336-2110

1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Corrosive to metals, Category 1	H290	May be corrosive to metals.
Skin corrosion/irritation, Category 1A	H314	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage.
Carcinogenicity, Category 1A	H350	May cause cancer (Inhalation).
Hazardous to the aquatic environment — Acute Hazard, Category 3	H402	Harmful to aquatic life

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) :

- H290 - May be corrosive to metals.
- H314 - Causes severe skin burns and eye damage.
- H318 - Causes serious eye damage.
- H350 - May cause cancer (Inhalation).
- H402 - Harmful to aquatic life

Precautionary statements (GHS US) :

- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P234 - Keep only in original container.
- P260 - Do not breathe mist, spray, or vapours.
- P264 - Wash hands, forearms and face thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P273 - Avoid release to the environment.
- P280 - Wear protective clothing, eye protection, face protection, and protective gloves.
- P284 - [In case of inadequate ventilation] wear respiratory protection.
- P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
- P303+P361+P353 - If on skin (or 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.
- P308+P313 - If exposed or concerned: Get medical attention
- P310 - Immediately call a doctor or a POISON CENTER
- P320 - Specific treatment is urgent (see supplemental first aid instruction on this label).
- P321 - Specific treatment (see supplemental first aid instruction on this label)
- P363 - Wash contaminated clothing before reuse.

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P390 - Absorb spillage to prevent material damage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P406 - Store in corrosive resistant container with a resistant inner liner.
P501 - Dispose of contents/container to ...in accordance with local/regional/national regulations

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
sulfuric acid	(CAS-No.) 7664-93-9	98	Skin Corr. 1A, H314

*Strong inorganic acid aerosols/mists containing this substance are carcinogenic to humans via inhalation. Under normal conditions of use this route of exposure is not expected.
Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
First-aid measures after skin contact	: Immediately call a POISON CENTER/doctor. Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Immediately call a POISON CENTER/doctor. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: May cause cancer by inhalation.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Sand. Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid contact during pregnancy/while nursing. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures : Wash hands, forearms and face thoroughly after handling. Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use. Store in corrosive resistant container with a resistant inner liner. Keep only in original container. Store locked up. Store in a well-ventilated place. Keep cool.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight. Metals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sulfuric Acid 98%		
ACGIH	ACGIH TWA (mg/m ³)	0.2
ACGIH	ACGIH TWA (ppm)	0.0498 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	1
OSHA	OSHA PEL (TWA) (ppm)	0.25

sulfuric acid (7664-93-9)

Not applicable

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8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Corrosionproof clothing. Face shield. Gas mask at concentration in the air > > TLV. Gloves. Protective goggles. Head/neck protection.

Materials for protective clothing:

Condition	Material
Excellent resistance:	Chlorosulfonated polyethylene, Polyvinylchloride (PVC), Viton
Good resistance:	neoprene/butyl rubber, Neoprene/viton®
Poor resistance:	Butyl rubber, Neoprene, Nitrile rubber, Tyvek®

Hand protection:

Protective gloves made of PVC. A face shield is required when cleaning equipment

Eye protection:

Chemical goggles or face shield. Safety glasses

Skin and body protection:

Wear suitable protective clothing. Corrosion-proof clothing

Type
apron, Chemically resistant protective gloves, Face shield, Goggles

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. [In case of inadequate ventilation] wear respiratory protection.

Device	Filter type	Condition
Full face mask, Powered Air-Purifying Respirator (PAPR)	Gas/vapour filter	Gas protection, If conc. in air > exposure limit, Vapour protection
Self-contained breathing apparatus (SCBA), Supplied-Air Respirator (SAR)		Long term exposure

Personal protective equipment symbol(s):



Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Colour : Colourless
Odour : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: Almost odourless
Odour threshold : No data available
pH : No data available
Melting point : Not applicable
Freezing point : No data available

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Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Soluble.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

10.2. Chemical stability

Stable. Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases. metals.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Sulfuric Acid 98%	
LD50 oral rat	> 5000 mg/kg
LC50 inhalation rat (mg/l)	18 - 420 mg/m ³
ATE US (vapours)	0.018 mg/l/4h
ATE US (dust,mist)	0.018 mg/l/4h

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer (Inhalation).

sulfuric acid (7664-93-9)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	Known Human Carcinogens

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Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: May cause cancer by inhalation.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. Harmful to aquatic life.

Sulfuric Acid 98%	
LC50 fish 1	42 - 500 mg/l
EC50 Daphnia 1	28 - 88 mg/l
sulfuric acid (7664-93-9)	
LC50 fish 1	42 mg/l (96 h; Gambusia affinis)
EC50 Daphnia 1	29 mg/l (24 h; Daphnia magna)
LC50 fish 2	49 mg/l (48 h; Lepomis macrochirus)
TLM fish 1	42 mg/l (96 h; Gambusia affinis)
Threshold limit other aquatic organisms 1	6900 mg/l (24 h; Pseudomonas fluorescens)

12.2. Persistence and degradability

Sulfuric Acid 98%	
Persistence and degradability	Not established.
sulfuric acid (7664-93-9)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Sulfuric Acid 98%	
Bioaccumulative potential	Not established.
sulfuric acid (7664-93-9)	
Log Pow	-2.2 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

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SECTION 13: Disposal considerations

13.1. Disposal methods

- Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
- Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
- Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

- Transport document description : UN1830 Sulfuric acid, 8, II
- UN-No.(DOT) : UN1830
- Proper Shipping Name (DOT) : Sulfuric acid
- Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
- Packing group (DOT) : II - Medium Danger
- Hazard labels (DOT) : 8 - Corrosive



- DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
- DOT Packaging Bulk (49 CFR 173.xxx) : 242
- DOT Special Provisions (49 CFR 172.102) : A3 - For combination packagings, if glass inner packagings (including ampoules) are used, they must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings.
A7 - Steel packagings must be corrosion-resistant or have protection against corrosion.
B3 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks and DOT 57 portable tanks are not authorized.
B83 - Bottom outlets are prohibited on tank car tanks transporting sulfuric acid in concentrations over 65.25 percent.
B84 - Packagings must be protected with non-metallic linings impervious to the lading or have a suitable corrosion allowance for sulfuric acid or spent sulfuric acid in concentration up to 65.25 percent.
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.
T8 - 4 178.274(d)(2) Normal..... Prohibited
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: t_r is the maximum mean bulk temperature during transport, t_f is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (t_f) and the maximum mean bulk temperature during transportation (t_r) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d_{15} and d_{50} are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
TP12 - This material is considered highly corrosive to steel.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 154
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L
- DOT Vessel Stowage Location : C - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel.
- Transport/Additional information : 14 - For metal drums, stowage permitted under deck on cargo vessels
- Other information : No supplementary information available.

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Transportation of Dangerous Goods

Transport by sea

Transport document description (IMDG)	: UN 1830 SULPHURIC ACID, 8, II
UN-No. (IMDG)	: 1830
Proper Shipping Name (IMDG)	: SULPHURIC ACID
Class (IMDG)	: 8 - Corrosive substances
Packing group (IMDG)	: II - substances presenting medium danger
Limited quantities (IMDG)	: 1 L

Air transport

Transport document description (IATA)	: UN 1830 Sulphuric acid, 8, II
UN-No. (IATA)	: 1830
Proper Shipping Name (IATA)	: Sulphuric acid
Class (IATA)	: 8 - Corrosives
Packing group (IATA)	: II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Sulfuric Acid 98%

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

sulfuric acid	CAS-No. 7664-93-9	98%
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sulfuric acid (7664-93-9)

CERCLA RQ	1000 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb

15.2. International regulations

CANADA

sulfuric acid (7664-93-9)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

sulfuric acid (7664-93-9)

Listed as carcinogen on NTP (National Toxicology Program)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

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Component	State or local regulations
sulfuric acid(7664-93-9)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 11/22/2019
Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Other information : None.

Full text of H-statements:

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H350	May cause cancer.
H402	Harmful to aquatic life

SDS US (GHS HazCom 2012)

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