

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **SULFURIC ACID**

**Other means of identification**

**CAS number** 7664-93-9

**Recommended use** General purpose solvent.

**Recommended restrictions** Use in accordance with manufacturer's recommendations.

### Manufacturer/Importer/Supplier/Distributor information

**Company Name** Greenfield Global USA Inc.

**Address** 1101 Isaac Shelby Drive  
Shelbyville, KY 40065  
USA

**Telephone** 502.232.7600

**Fax** 502.633.6100

**Company Name** Greenfield Global USA Inc.

**Address** 58 Vale Road  
Brookfield, CT 06804  
USA

**Telephone** 203.740.3471

**Fax** 203.740.3481

**Emergency phone number**

**USA** CHEMTREC: 1.800.424.9300 (CCN 17213)

**International** CHEMTREC: +1.703.527.3887 (CCN 17213)

## 2. Hazard(s) identification

**Physical hazards** Corrosive to metals Category 1

**Health hazards** Skin corrosion/irritation Category 1A

Serious eye damage/eye irritation Category 1

Specific target organ toxicity, single exposure Category 3 respiratory tract irritation

**Environmental hazards** Hazardous to the aquatic environment, acute hazard Category 3

Hazardous to the aquatic environment, long-term hazard Category 3

**OSHA defined hazards** Not classified.

### Label elements



**Signal word** Danger

**Hazard statement** May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation. Harmful to aquatic life with long lasting effects.

### Precautionary statement

#### Prevention

Keep only in original container. Do not breathe mist/vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

<b>Response</b>	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Absorb spillage to prevent material damage.
<b>Storage</b>	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Substances

Chemical name	Common name and synonyms	CAS number	%
Sulfuric acid		7664-93-9	100

**Composition comments** All concentrations are in percent by weight unless otherwise indicated.

### 4. First-aid measures

<b>Inhalation</b>	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.
<b>Skin contact</b>	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
<b>Most important symptoms/effects, acute and delayed</b>	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Foam. Powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	The product reacts with water and will generate heat.
<b>Specific hazards arising from the chemical</b>	Contact with metals may evolve flammable hydrogen gas. During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. 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. For personal protection, see section 8 of the SDS.
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**Methods and materials for containment and cleaning up**

Should not be released into the environment. Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

**7. Handling and storage**

**Precautions for safe handling**

Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

**8. Exposure controls/personal protection**

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Material	Type	Value
Sulfuric acid (CAS 7664-93-9)	PEL	1 mg/m3

**US. ACGIH Threshold Limit Values**

Material	Type	Value	Form
Sulfuric acid (CAS 7664-93-9)	TWA	0.2 mg/m3	Thoracic fraction.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Material	Type	Value
Sulfuric acid (CAS 7664-93-9)	TWA	1 mg/m3

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Wear chemical goggles and face shield.

**Skin protection**

**Hand protection**

Wear appropriate chemical resistant gloves. Butyl rubber or Viton® gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

**Skin protection**

**Other**

Wear appropriate chemical resistant clothing.

**Respiratory protection**

Chemical respirator with organic vapor cartridge and full facepiece.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties**

**Appearance**

<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid. Clear. Oily liquid.
<b>Color</b>	Colorless.
<b>Odor</b>	Characteristically pungent.
<b>Odor threshold</b>	Not available.
<b>pH</b>	< 1
<b>Melting point/freezing point</b>	-31 - 50 °F (-35 - 10 °C)
<b>Initial boiling point and boiling range</b>	249.8 - 518 °F (121 - 270 °C) at 760 mmHg
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	< 1 mmHg
<b>Vapor density</b>	3.4 Air = 1
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Completely soluble in water.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Bulk density</b>	12.3 - 15.3 lb/gal
<b>Dynamic viscosity</b>	6.8 - 23 cps (68 °F (20 °C))
<b>Explosive properties</b>	Not explosive.
<b>Molecular formula</b>	H2-O4-S
<b>Molecular weight</b>	98.07 g/mol
<b>Oxidizing properties</b>	Not oxidizing.

## 10. Stability and reactivity

<b>Reactivity</b>	Reacts violently with strong alkaline substances. This product may react with reducing agents. May be corrosive to metals.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Contact with incompatible materials. Do not mix with other chemicals.
<b>Incompatible materials</b>	Bases. Reducing agents. Metals.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
<b>Skin contact</b>	Causes severe skin burns.
<b>Eye contact</b>	Causes serious eye damage.

<b>Ingestion</b>	Causes digestive tract burns.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.
<b>Information on toxicological effects</b>	
<b>Acute toxicity</b>	Not known.
<b>Skin corrosion/irritation</b>	Causes severe skin burns and eye damage.
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	Risk of cancer cannot be excluded with prolonged exposure.
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>	
Sulfuric acid (CAS 7664-93-9)	1 Carcinogenic to humans.
<b>NTP Report on Carcinogens</b>	
Sulfuric acid (CAS 7664-93-9)	Known To Be Human Carcinogen.
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)</b>	
Not listed.	
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	May cause respiratory irritation.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

## 12. Ecological information

<b>Ecotoxicity</b>	Harmful to aquatic life with long lasting effects. Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.
<b>Persistence and degradability</b>	No data is available on the degradability of this substance.
<b>Bioaccumulative potential</b>	No data available.
<b>Mobility in soil</b>	This product is water soluble and may disperse in soil. Expected to be mobile in soil.
<b>Other adverse effects</b>	The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

## 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. 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.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

UN number	UN1830
UN proper shipping name	Sulfuric acid
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	
Marine pollutant	No
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	A3, A7, B3, B83, B84, IB2, N34, T8, TP2, TP12
Packaging exceptions	154
Packaging non bulk	202
Packaging bulk	242

### IATA

UN number	UN1830
UN proper shipping name	Sulphuric acid
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

### IMDG

UN number	UN1830
UN proper shipping name	SULPHURIC ACID
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### **TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

### **CERCLA Hazardous Substance List (40 CFR 302.4)**

Sulfuric acid (CAS 7664-93-9) Listed.

### **SARA 304 Emergency release notification**

SULFURIC ACID (CAS 7664-93-9) 1000 LBS

### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

**Toxic Substances Control Act (TSCA)** This substance is on the TSCA 8(b) inventory and is designated "active".

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 302 Extremely hazardous substance**

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Sulfuric acid	7664-93-9	1000	1000		

**SARA 311/312 Hazardous chemical**

<b>Classified hazard categories</b>	Yes Corrosive to metal Skin corrosion or irritation Serious eye damage or eye irritation Specific target organ toxicity (single or repeated exposure)
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**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Sulfuric acid	7664-93-9	100

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Sulfuric acid (CAS 7664-93-9)

**Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)**

Hazardous substance

**Safe Drinking Water Act (SDWA)**

Not regulated.

**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

Sulfuric acid (CAS 7664-93-9) 6552

**Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))**

Sulfuric acid (CAS 7664-93-9) 20 %WV

**DEA Exempt Chemical Mixtures Code Number**

Sulfuric acid (CAS 7664-93-9) 6552

**Food and Drug Administration (FDA)**Total food additive  
Direct food additive  
GRAS food additive**US state regulations****US. Massachusetts RTK - Substance List**

Sulfuric acid (CAS 7664-93-9)

**US. New Jersey Worker and Community Right-to-Know Act**

Sulfuric acid (CAS 7664-93-9)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Sulfuric acid (CAS 7664-93-9)

**US. Rhode Island RTK**

Sulfuric acid (CAS 7664-93-9)

**California Proposition 65****WARNING:** This product can expose you to Sulfuric acid, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).**California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Sulfuric acid (CAS 7664-93-9) Listed: March 14, 2003

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Sulfuric acid (CAS 7664-93-9)

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

<b>Issue date</b>	18-June-2019
<b>Revision date</b>	-
<b>Version #</b>	01
<b>HMIS® ratings</b>	Health: 3 Flammability: 0 Physical hazard: 4
<b>Disclaimer</b>	This product is subject to Greenfield Global USA Inc.'s terms and conditions, which can be found at <a href="http://www.greenfield.com/tc-po-us/">http://www.greenfield.com/tc-po-us/</a> . Greenfield cannot anticipate all conditions under which this information and this product, or the products of other manufacturers in combination with this product, may be used. The user is responsible for the proper and safe use, handling, storage and disposal of the product, and assumes liability for any loss, injury, damage or expense arising from any failure to do so. The data in this sheet is based on information and experience available at the time of writing.