

SAFETY DATA SHEET

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

CAS Number: 7664-93-9
Product Name: Sulphuric acid 93%
Revision Date: Jun 05, 2018 **Date Printed:** Jun 06, 2018
Version: 1.0 **Supersedes Date:** N.A.
Manufacturer's Name: Thames River Chemical Corp.
Address: 5230 Harvester Road Burlington, ON, CA, L7L 4X4
Emergency Phone: CHEMTREC (800) 424-9300
Information Phone Number: 905-681-5353
Fax: 905-681-5377
Product/Recommended Uses: For laboratory or industrial use only.

SECTION 2) HAZARDS IDENTIFICATION

Classification

Acute toxicity Inhalation - Category 1
Carcinogenicity - Category 1A
Serious Eye Damage - Category 1
Skin Corrosion - Category 1

Pictograms



Signal Word

Danger

Hazard Statements - Health

Fatal if inhaled
May cause cancer.
Causes serious eye damage
Causes severe skin burns and eye damage

Precautionary Statements - General

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.

Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
In case of inadequate ventilation, wear respiratory protection.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves/protective clothing/eye protection/face protection.

Wash thoroughly/Wash hands thoroughly after handling.

Precautionary Statements - Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTER or doctor.

Specific treatment is urgent (see first-aid on the SDS).

IF exposed or concerned: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash contaminated clothing before reuse.

Specific treatment (see first-aid on the SDS).

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/national/international regulation. Waste management should be in full compliance with national, regional and local laws.

Physical Hazards Not Otherwise Classified

No Data Available

Health Hazards Not Otherwise Classified

No Data Available

SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0007664-93-9	SULFURIC ACID	93%
0007732-18-5	WATER	7%

SECTION 4) FIRST-AID MEASURES

Inhalation

Get medical advice/attention if you feel unwell or are concerned. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. Remove source of exposure or move person to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

Eye Contact

Immediately call a POISON CENTER/doctor. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 30 minutes or until medical aid is available. Take care not to rinse contaminated water into the unaffected eye or onto the face.

Skin Contact

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash contaminated clothing before re-use. Immediately call a POISON CENTER/doctor. Rinse skin with lukewarm, gently flowing water/shower for a duration of 30 minutes or until medical aid is available.

Ingestion

Do not induce vomiting. If victim is alert and not convulsing, rinse mouth and give 1/2 to 1 glass of water to dilute material. If spontaneous vomiting occurs, have victim lean forward. If vomiting occurs naturally, lie on your side, in the recovery position. Immediately call a POISON CENTER/doctor.

Most Important Symptoms and Effects, Both Acute and Delayed

No Data Available

Indication of Any Immediate Medical Attention and Special Treatment Needed

No Data Available

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing media suitable for surrounding fire.

Unsuitable Extinguishing Media

Do not use straight stream of water.

Specific Hazards in Case of Fire

Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Containers may explode in fire. Fire will produce irritating and corrosive gases. Contact with metals may evolve flammable hydrogen gas. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive fumes. Explosion Hazards: Highly reactive. Strong dehydrating agent, which may cause ignition of finely divided combustible materials on contact. Reacts violently with water and with evolution of heat can react with organic materials explosively. Reacts with many metals to liberate hydrogen gas which can form explosive mixtures with air. Hydrogen, a highly flammable gas, can accumulate to explosive concentrations inside drums, or any types of steel containers or tanks upon storage. Oxides of sulfur may be produced in fire.

Fire-fighting Procedures

Move undamaged containers from immediate hazard area if it can be done safely. Stop spill/release if it can be done safely. Cool containers with flooding quantities of water until well after fire is out. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Large Fire: Dike fire-control water for later disposal; do not scatter the material. Evacuate personnel and residents to a safe area downwind of fire. Prevent unauthorized entry to fire area. Full protective clothing should be worn and self-contained breathing apparatus if fumes or mists are present. Dike area to contain runoff and prevent contamination of water sources. Neutralize runoff with lime, soda ash or other suitable neutralizing agents. Cool containers that are exposed to flame with streams of water until fire is out.

Special Protective Actions

Wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. 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.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure

Small Spills: Cover with dry earth, sand or other non-combustible material. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.

Large Spills: Prevent liquid from entering sewers or waterways. Dike with inert material (sand, earth, etc.). Collect into plastic containers for disposal. Consider insitu neutralization and disposal. Ensure adequate decontamination of tools and equipment following clean up. Comply with Federal, Provincial and Local regulations on reporting releases.

Recommended Equipment

Wear chemical protective clothing and positive pressure self-contained breathing apparatus (SCBA). Wear liquid tight chemical protective clothing in combination with positive pressure self-contained breathing apparatus (SCBA).

Personal Precautions

DO NOT get on skin, eyes or clothing. Avoid breathing vapor or mist.

Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

Methods and Materials for Containment and Cleaning up

Ventilate area after clean-up is complete. Absorb Liquids in lime, limestone, sodium carbonate (soda ash), sodium bicarbonate, dilute sodium hydroxide, dilute aqua ammonia.

SECTION 7) HANDLING AND STORAGE

General

Precautions: Wear appropriate Personal Protective Equipment. Do not breathe sprays or mists. Do not get in eyes, on skin or on clothing. Keep ignition sources away from Sulphuric Acid storage, when handling and in transportation of equipment. Locate safety shower and eyewash station close to chemical handling area. Use extreme care when diluting with water. Always add acid to water. CAUTION: Hydrogen, a highly flammable gas, can accumulate to explosive concentrations inside drums, or any type of steel containers or tanks upon storage. Carbon steel storage tanks must be vented. People working with this chemical should be properly trained regarding its hazards and its safe use.

Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. Report ventilation failures immediately. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements

Storage Temperature: Store above freezing point. Elevated temperatures will increase the corrosion rate of most metals. Storage Requirements: Store packaged acid in a dry, well, ventilated location preferably in the original container. Protect the label and keep it visible. Keep away from combustibles, oxidizers, bases, or metallic powders. Storage tanks should be protected from water ingress, be well ventilated, and maintained structurally in a safe and reliable condition.

Other Precautions: Sulphuric Acid will attack some forms of plastics and coatings. Always add acid to water - not water to acid. If kept in upper floors of building, floors should be acid proof with drains to a recovery tank.

SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection

Wear indirect-vent, impact and splash resistant goggles when working with liquids

Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber.

Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	CANsmg	CANspmm	CANtmg	CANtppm	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA TWA (mg/m3)	OSHA TWA (ppm)	OSHA Carcinogen	OSHA Tables (Z1, Z2, Z3)	OSHA Skin designation	ACGIH STEL (mg/m3)
SULFURIC ACID	3		1				1			1		

Chemical Name	ACGIH STEL (ppm)	ACGIH TWA (mg/m3)	ACGIH TWA (ppm)	ACGIH TLV Basis	ACGIH Carcinogen	ACGIH Notations
SULFURIC ACID		0.2 (T)		Pulm func	A2	A2 (M)

(C) - Ceiling limit, (T) - Thoracic fraction, A2 - Suspected Human Carcinogen, func - Function, pulm - Pulmonary

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density	15.18 lb/gal
Specific Gravity	1.82
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Appearance	clear, colourless, oily liquid
Odor Description	odourless
Odor Threshold	N/A
pH	< 1
Melting Point	-31 °C
Low Boiling Point	279 °C
High Boiling Point	N/A
Flash Point	cannot burn
Vapor Pressure	< 0.3 mm Hg (25°C)
Vapor Density	3.4 (air = 1)
Evaporation Rate	not known
Upper Explosion Level	N/A
Lower Explosion Level	N/A
Water Solubility	soluble with generation of much heat
Coefficient Water/Oil	not known – ionizable substance
Viscosity	11 centistokes (25°C)

SECTION 10) STABILITY AND REACTIVITY

Reactivity

No Data Available

Stability

Under Normal Conditions: Stable, but reacts violently with water and organic materials with evolution of heat. Under Fire Conditions: Decomposes to form sulfur dioxide, sulfur trioxide, Sulphuric Acid vapours and hydrogen gas.

Conditions to Avoid

Keep away from heat and sources of ignition. Avoid temperatures, which may have a negative effect on the materials of construction used in equipment.

Hazardous Reactions/Polymerization

Hazardous polymerization will not occur.

Incompatible Materials

Contact with organic materials (such as alcohol, acrylonitrile, chlorates, carbides, epichlorohydrin, fulminates, isoprene, nitrates and picrates) may cause fire and explosions. Contact with metals may produce flammable hydrogen gas. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides and carbides.

Hazardous Decomposition Products

No Data Available

SECTION 11) TOXICOLOGICAL INFORMATION

Likely Route of Exposure

Inhalation, ingestion, skin absorption

Acute Toxicity

Fatal if inhaled

Aspiration Hazard

No Data Available

Carcinogenicity

May cause cancer.

Germ Cell Mutagenicity

No Data Available

Reproductive Toxicity

No Data Available

Respiratory/Skin Sensitization

No Data Available

Serious Eye Damage/Irritation

Causes serious eye damage

Skin Corrosion/Irritation

Causes severe skin burns and eye damage

Specific Target Organ Toxicity - Repeated Exposure

No Data Available

Specific Target Organ Toxicity - Single Exposure

No Data Available

0007664-93-9 SULFURIC ACID

LC50 (rat): 510 mg/m3 (2 hour-exposure) (255 mg/m3 - equivalent 4-hour exposure) (1)

LC50 (mouse): 320 mg/m3 (2-hour exposure) (160 mg/m3 - equivalent 4-hour exposure) (1)

LD50 (oral, rat): 2140 mg/kg (2)

SECTION 12) ECOLOGICAL INFORMATION

Toxicity

Ecotoxic Effects: Harmful to aquatic life in very low concentrations. May be dangerous if it enters water intake; Fish toxicity; 2.8lg/L 96 hrs
LC50 Rainbow trout, Donaldson trout.

No Data Available

Mobility in Soil

No Data Available

Bio-accumulative Potential

No Data Available

Persistence and Degradability

No Data Available

Other Adverse Effects

No Data Available

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal

Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, provincial and local laws.

SECTION 14) TRANSPORT INFORMATION

U.S. DOT Information

UN number: UN1830
Proper shipping name: Sulfuric acid with more than 51 percent acid
Hazard class: 8
Packaging group: I
Hazardous substance (RQ): No Data Available
Toxic-Inhalation Hazard: No Data Available
Marine Pollutant: No Data Available
Note / Special Provision: No Data Available

Transport Canada Information

UN number: UN1830
Proper shipping name: Sulfuric acid with more than 51 percent acid
Hazard class: 8
Packaging group: I
Marine Pollutant: No Data Available
Transport in bulk (according to Annex II of MARPOL 73/78): No Data Available
Note / Special Provision: Note / Special Provision

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
0007664-93-9	SULFURIC ACID	93%	DSL,TSCA,CA_Prop65 - California Proposition 65,EU_EC_Inventory - EC Inventory
0007732-18-5	WATER	7%	DSL,TSCA,EU_EC_Inventory - EC Inventory

SECTION 16) OTHER INFORMATION

Glossary

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CANsmg or CANspmm - Canadian Short Term Exposure Level in mg/L or in ppm; CANTmg or CANTppm - Canadian Time Weighted Average in mg/L or in ppm; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center(US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self Contained Breathing Apparatus; STEL-Short

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