

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Sulphuric Acid 93%

SU300-93

SECTION 01: PRODUCT INFORMATION AND COMPANY INFORMATION

MANUFACTURER: Same as above
PREPARED BY: Production Department
VERSION DATE: 02-Feb-16
TELEPHONE NO.: (519) 451-1614
EMERGENCY PHONE NO.: (613) 996-6666
CHEMICAL FAMILY: Inorganic
CHEMICAL FORMULA: Not Applicable
MOLECULAR WEIGHT: Not Applicable
MATERIAL USE: Industrial applications: Battery acid. Fertilizers. Pickling agent. Dehydrating agent. Waste water treatment
SYNONYMS: Sulphuric Acid, Hydrogen Sulphate, Oil of Vitriol, Battery Acid.

SECTION 02: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredients	Conc. Approx. %	C.A.S. #	LD/50 (RTE/SPEC)	LC/50 (RTE/SPEC)	TLV
Sulfuric acid	50-100	007664939	2140 mg/kg (Rat/Oral)	347 ppm (Rat)	
Water	Balance	N.Av.	N.Av.	N.Av.	N.Av.

SECTION 03: HAZARD IDENTIFICATION

ROUTE OF ENTRY

Eyes: Corrosive to eye tissue and may cause severe damage and blindness. Inflammation of the eye is characterized by redness, watering, and itching.

Skin: Corrosive! Effects on the skin may be delayed and damage may occur without the onset of pain. Causes burns, and brownish or yellow stains. Concentrated solutions may cause second or third degree burns with severe necrosis and may cause permanent scarring. Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin.

Inhalation: Inhalation of the mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. May be fatal if inhaled.

Ingestion: Harmful if swallowed. Causes burns to the mouth, throat and stomach.

SECTION 04: FIRSTAID

Skin Contact: Flush affected skin with gently flowing water for 20-60 minutes and remove contaminated clothing while rinsing. Obtain medical attention immediately. Do not transport victim until the recommended flushing period is completed, unless flushing can be continued during transport. Remove contaminated clothing and discard. Remove contaminated shoes and discard.

Eye Contact: Immediately flush eyes with copious quantities of water for at least 20 minutes holding lids apart to ensure flushing of the entire surface. Seek immediate medical attention. Do not transport victim until the recommended flushing period is completed, unless flushing can be continued during transport.

Inhalation, Acute: If symptoms are experienced, remove source of contamination or move victim to fresh air. If symptoms persist, get medical attention. If the affected person is not breathing, apply artificial

respiration. If breathing is difficult, give oxygen. In situations where administering oxygen is appropriate, first aiders must be trained in the safe use and handling of oxygen. It is preferable to administer oxygen under a doctor's supervision or advice. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately. Immediate medical assistance is required.

Ingestion: If conscious, wash out mouth with water. Seek immediate medical attention. Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Administer artificial respiration if breathing has stopped. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately.

Notes to physician: Aspiration may cause severe lung damage. Evacuate stomach in a way which avoids aspiration. If ingestion has occurred less than 2 hours earlier, carry out careful gastric lavage; use endotracheal cuff if available, to prevent aspiration. Observe patient for respiratory difficulty from aspiration pneumonitis. Give artificial resuscitation and appropriate chemotherapy if respiration is depressed. Following exposure the patient should be kept under medical review for at least 48 hours as delayed pneumonitis may occur. DO NOT attempt to neutralize the acid with weak bases since the reaction will produce heat that may extend the corrosive injury.

SECTION 05: FIRE EXPLOSION HAZARD AND FIRE FIGHTING MEASURES

FLAMMABLE?	No
IF YES, UNDER WHICH CONDITIONS?	N. Av.
FLASH POINT (TCC) (C):	Not Available
FLAMMABLE LIMITS:	LEL(% BY VOL.): Not Available UEL(% BY VOL.): Not Available
AUTO IGNITION TEMPERATURE (C)	Not Available
EXTINGUISHING MEDIA	Use DRY chemicals, CO2, alcohol foam or water spray. Fire fighters must wear full face, positive pressure, self- contained breathing apparatus and appropriate protective clothing.
SPECIAL PROCEDURES:	Strong dehydrating agent, which may cause ignition of finely divided combustible materials on contact. Reacts violently with water with the evolution of heat. It can react explosively with organic materials. Reacts with metals to generate flammable hydrogen gas. Reacts violently with water with the evolution of heat. It can react explosively with organic materials. Reacts with many metals to liberate hydrogen gas that 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
HAZARDOUS COMBUSTION PRODUCTS:	Oxides of sulfur.
UNUSUAL FIRE AND EXPLOSION HAZARDS	
SENSITIVITY TO STATIC DISCHARGE	Not Available
SENSITIVITY TO MECHANICAL IMPACT:	Not Available

SECTION 06: ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedure: Personal Precautionary Measures: Restrict access to unprotected personnel. Wear appropriate protective equipment.
Environmental Precautionary Measures: Prevent entry into sewers or streams, dike if needed. Consult local authorities.
Procedure for Clean Up: Isolate hazard area and restrict access. Stop leak only if safe to do so. Eliminate all ignition sources. Handling equipment must be grounded. Ventilate area. Contain spill with sand or other inert materials. Neutralize with lime slurry, limestone, or soda ash. Absorb with an inert dry material and place in an appropriate waste disposal container.

SECTION 07: HANDLING AND STORAGE

Handling Procedures and Storage Requirements

Handling: For industrial use only. Handle and open containers with care. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid inhalation of chemical. Empty containers may contain hazardous product residues. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment. 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. Use corrosion-resistant transfer equipment when transferring acid.

Storage: Store above freezing point. Elevated temperatures will increase the corrosion rate of most metals as well as cause build-up of pressure due to sulfur dioxide generation. Store packaged acid in a dry, well-ventilated location. Avoid storage with incompatible materials. Storage tanks should be protected from water getting in, be well ventilated, and maintained structurally in a safe and reliable condition. Sulfuric 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 08: PERSONAL PROTECTIVE EQUIPMENT / EXPOSURE CONTROLS

GLOVES/TYPE:	Neoprene gloves. PVC gloves. Butyl rubber gloves.
RESPIRATOR/TYPE:	A NIOSH/MSHA approved air-purifying respirator equipped with acid gas/fume, dust, mist cartridges for concentrations up to 10 mg/m ³ . An air-supplied respirator if concentrations are higher or unknown.
EYE/TYPE:	Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes.
OTHER/TYPE:	Ensure that eyewash stations and safety showers are proximal to the work-station location.
ENGINEERING CONTROL	Use process enclosure, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Electrical installations should be protected against the corrosive action of acid vapors.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE/APPEARANCE:	Liquid. (Oily liquid).		
ODOUR:	Odourless	ODOUR THRESHOLD:	>1 ppm
VAPOUR PRESSURE (mm Hg @ 20C):	<0.3	VAPOUR DENSITY (Air=1):	3.4
EVAPORATION RATE (Ether = 1):	<1	SPECIFIC GRAVITY:	1.40- 1.84
BOILING POINT (C):	190-279	FREEZING POINT (C)	-35 C
Ph (% SOLUTION):	0.3	% VOLATILE (WT):	<1%
SOLUBILITY IN WATER (% W/W)	Easily soluble.		

SECTION 10: STABILITY AND REACTIVITY

CHEMICALLY STABLE? Yes

IF NO, UNDER WHICH CONDITIONS? Excessive heat, sparks and open flames.

INCOMPATIBILITY WITH OTHER SUBSTANCES Yes

IF YES, WITH WHICH ONES: 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. Reducing agents. Alkalis. Moisture.

SPECIAL REACTIVITY AND UNDER WHAT CONDITIONS When diluting, add acid to water. DO NOT add water to the acid. Sulfuric acid can be corrosive to most metals, depending on such factors as acid concentration, temperature and impurities. Concentrated sulfuric acid (containing more than 90% H₂SO₄) can be safely handled using carbon steel, cast iron, and certain stainless steel alloys. The resistance of alloys to sulfuric acid corrosion generally increases with increasing chromium, molybdenum, copper and silicon content.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes. Sulfuric acid. Oxides of sulfur.

SECTION 11: TOXICOLOGICAL INFORMATION

EXPOSURE LIMIT OF MATERIAL	See Sec. 2
LC 50 OF MATERIAL, SPECIES AND ROUTE	See Sec. 2
LD 50 OF MATERIAL, SPECIES AND ROUTE	See Sec. 2
CARCINOGENICITY OF MATERIAL	N. Av.
REPRODUCTIVE EFFECTS:	N. Av.
IRRITANCY OF MATERIAL	N. Av.
SENSITIZING CAPABILITY OF MATERIAL	N. Av.
SYNERGISTIC MATERIALS	N. Av.

SECTION 12: ECOLOGICAL INFORMATION

AQUATIC TOXICITY Harmful to aquatic life at low concentrations.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Disposal of Waste Method: Disposal of all wastes must be done in accordance with municipal,

provincial and federal regulations.
Contaminated Packaging: Empty containers should be recycled or disposed of through an approved waste management facility.

SECTION 14: TRANSPORT INFORMATION

TDG CLASSIFICATION Class 8, Sulphuric Acid

UN NUMBER: 1830

PACKING GROUP: II

Special Provisions for Transport No additional remark.

SECTION 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION D-1A; D2A, E

D1A VERY TOXIC MATERIALS

D2A VERY TOXIC MATERIALS

E CORROSIVE MATERIAL

SECTION 16: OTHER INFORMATION

ABBREVIATIONS USED: N.Av. = Not Available

N.App. / N.Ap. = Not Applicable

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SOURCES: Supplier MSDS

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