1. Identification of the substance/mixture and of the company/undertaking

Product name: Sulfuric Acid

Product code: EK6235930725

Supplier: Carestream Health, Inc., 150 Verona Street, Rochester, New York 14608; Carestream Health Canada Company, 6 Monogram Place, Suite 200, Toronto, Ontario, M9R 0A1

For Emergency Health Information call, (800) 424-9300

For other information contact 800-328-2910.

Synonyms: None.

Product Use: Film or paper manufacturing chemical

2. Hazards identification

DANGER!
POISON
MAY BE FATAL OR HARMFUL IF SWALLOWED
DUST, MIST OR VAPOUR EXTREMELY IRRITATING TO THE EYES AND RESPIRATORY TRACT
CAUSES SEVERE SKIN AND EYE BURNS
HARMFUL IF INHALED
REACTS VIOLENTLY WITH WATER
CONTENTS MAY DEVELOP PRESSURE IF EXPOSED TO WATER
REACTS WITH METALS.

HMIS II Hazard Ratings:
Health - 3, Flammability - 0, Reactivity (Stability) - 2

NFPA Hazard Ratings:
Health - 3, Flammability - 0, Instability - 2

NOTE: HMIS II and NFPA hazard indexes involve data review and interpretation that may vary among companies. They are intended only for rapid, general identification of the magnitude of the potential hazards. An asterisk (*), in the HMIS II health field, designates potential chronic or target organ hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

3. Composition/information on ingredients

Weight %	Components (CAS-No.)
100	Sulphuric acid (7664-93-9)

4. First aid measures

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Eyes: Rinse immediately with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes.

Ingestion: Do NOT induce vomiting. Give victim a glass of water. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products. USE WATER WITH CAUTION. Material reacts with water. Water may be ineffective.

Hazardous Combustion Products: None (noncombustible) (see also Hazardous Decomposition Products section).

Unusual Fire and Explosion Hazards: Reacts violently with water. Contact with moisture or water may generate sufficient heat to ignite nearby combustible materials.

6. Accidental release measures

Methods for cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.

7. Handling and storage

Personal precautions: Do not breathe mist. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: Keep from any contact with water. Do not allow water to get into container because of violent reaction. Keep from any contact with metals.

Storage: Store in original container. Keep container tightly closed and dry. Contents may develop pressure if exposed to water. Do not store in metal containers. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls / personal protection

Occupational exposure controls

Chemical Name	Regulatory List	Value Type	Value
Sulphuric acid	OSHA Z1	PEL:	1 mg/m3
	ACGIH	Time Weighted Average (TWA):	0.2 mg/m3
		Form of exposure: Thoracic fraction.	

Ventilation: Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels to an acceptable level. Controls should be sufficient so that applicable occupational exposure limits are not exceeded.

Respiratory protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: full-face cartridge respirator; acid gas with dust/mist prefilter. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR 1910.134.

Eye protection: If a full-face respirator is not worn, wear safety glasses with side shields or goggles.

Skin and body protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

Recommended Decontamination Facilities: Safety shower, eye wash, washing facilities as appropriate to condition of use.

9. Physical and Chemical Properties

Physical form: liquid

Colour: colourless

Odour: No data available

Specific gravity: 1.83

Vapour pressure (at 146.0 °C (294.8 °F)) : 1.33 mbar (1.0 mm Hg)

Vapor density (air = 1): No data available

Volatile fraction by weight: No data available

Boiling point/range: 315.0 °C (599.0 °F)

Melting point/range: 10.0 °C (50.0 °F)

Water solubility: Decomposes in contact with water.

pH: acidic

Flash point: none, noncombustible liquid

10. Stability and reactivity

Stability: Stable.

Incompatibility: water, bases, reducing agents, combustible material, potassium permanganate, carbides, chlorates, fulminates, nitrates. Reacts violently with water. Pressure may develop in container if contents are exposed to water. Contact with metals may liberate hydrogen gas which can cause a flash fire.

Hazardous decomposition products: sulphur oxides.

Hazardous Polymerization: Hazardous polymerisation does not occur.

11. Toxicological information

Effects of Exposure

General advice: International Agency for Research on Cancer (IARC) has determined that occupational exposure to strong inorganic mists or vapours containing sulfuric acid is carcinogenic to humans. Acute overexposure to extremely high airborne concentrations of respiratory irritants has been associated with development of an asthma-like reactive airways syndrome (RADS) in susceptible individuals.

Inhalation: Harmful if inhaled. Airborne dust/mist/vapor extremely irritating.

Eyes: Causes severe eye burns.

Skin: Causes severe skin burns.

Ingestion: May be fatal or harmful if swallowed. May cause burns of the gastrointestinal tract if swallowed.

Acute Toxicity Data:

- Dermal LD50: > 20 mL/kg

12. Ecological information

Data for this substance have been used to estimate its environmental impact.

Potential Toxicity:

Fish LC50:	10 - 100 mg/l
Daphnid EC50:	10 - 100 mg/l
Potential Bioaccumulation:	log Pow -2.2
COD (approximate):	0.0 g/g
BOD (approximate):	0.0 g/g

13. Disposal considerations

Discharge, treatment, or disposal is subject to national, state, provincial, or municipal laws. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

The information given below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions. Please consult the product packaging for further details.

US DOT:	UN Number:	UN1830
	Proper shipping name:	Sulfuric acid
	Class:	8
	Packaging group:	II
IMDG:	UN Number:	UN1830
	Proper shipping name:	SULPHURIC ACID
	Class:	8
	Packaging group:	II
IATA:	UN Number:	UN1830
	Proper shipping name:	Sulphuric acid
	Class:	8
	Packaging group:	II

For more transportation information, go to: http://ship.carestreamhealth.com.

15. Regulatory information

U.S. California Prop. 65: Sulphuric acid (strong inorganic acid mists containing sulfuric acid)

Carcinogenicity Classification (components present at 0.1% or more):

International Agency for Research on Cancer (IARC): Sulphuric acid: 1 (strong inorganic mists or vapours containing sulfuric acid; human carcinogen)
American Conference of Governmental Industrial Hygienists (ACGIH): Sulphuric acid: Group A2 (contained in strong inorganic acid mists; suspected human carcinogen)
U.S. National Toxicology Program (NTP): Sulphuric acid (strong inorganic acid mists containing sulfuric acid; known carcinogen)
U.S. Occupational Safety and Health Administration (OSHA): none

Chemical(s) subject to the reporting requirements of U.S. Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372:
none

16. Other information

US/Canadian Label Statements:

DANGER!
POISON
MAY BE FATAL OR HARMFUL IF SWALLOWED

DUST, MIST OR VAPOUR EXTREMELY IRRITATING TO THE EYES AND RESPIRATORY TRACT
CAUSES SEVERE SKIN AND EYE BURNS
HARMFUL IF INHALED
REACTS VIOLENTLY WITH WATER
CONTENTS MAY DEVELOP PRESSURE IF EXPOSED TO WATER
REACTS WITH METALS.

Do not breathe mist.
Do not get in eyes, on skin, or on clothing.
Keep container tightly closed and dry.
Do not allow water to get into container because of violent reaction.
Avoid all contact with metal.
Use only with adequate ventilation.
Wash thoroughly after handling.

FIRST AID: If swallowed, do NOT induce vomiting. Give victim a glass of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. If inhaled, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes and skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes.

Keep out of reach of children.

Do not handle or use until safety precautions in Material Safety Data Sheet (MSDS) have been read and understood.

Additional hazard precautions for containers greater than 1 gallon of liquid or 5 pounds of solid:

Since emptied containers retain product residue, follow label warnings even after container is emptied.

IN CASE OF FIRE: USE WATER WITH CAUTION. Material reacts with water. Do not add water to a closed container.
