

SAFETY DATA SHEET

According to 29 CFR 1910.1200 Hazard Communication Standard 2012 (HazCom 2012)

SECTION 1: 1	dentification
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محمد معالي موقعة المعتد مال		
manufacturer.		
R-8023A To be used in accordance with manufacturer instructions or under the direct guidance of the		

If inhaled

Sulfuric acid

Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

7664-93-9

SECTION 4: First-aid measures

Hydrogen sulfate

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In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical attention if irritation develops. Chemical burns must be treated by a physician.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

If swallowed

Call a physician or poison control center immediately. Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed

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 person under observation. Symptoms may be delayed.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures

Extinguishing media Suitable extinguishing media	Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	Do not use a heavy water stream. Use of heavy stream of water may spread fire.
Specific hazards arising from the substance or mixture Fire hazard	Not flammable
Explosion hazard	Not explosive
Reactivity	May be corrosive to metals
Hazardous combustion products	Sulfur oxides
Advice for firefighters	
Precautionary measures	Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instructions	Use water spray or fog for cooling exposed containers.
Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	Refer to section 9 of the SDS for flammability properties.
CTION C. Assidantal rala	

SECTION 6: Accidental release measures

Personal precautions, protective equipment, and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. 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 protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for reuse. Dilute acid with water and neutralize with dilute base. If not recoverable, dilute with water or flush to holding area and neutralize. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage

Personal precautions, protective equipment, and emergency procedures

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Store in corrosive-resistant container with a corrosive-resistant inner liner. Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store locked up. Store away from incompatible materials (refer to section 10 of the SDS).

CTION 8: Exposure co Occupational exposure limi	-	protection		
ACGIH Threshold Limit Valu				
Components		Туре	Value	Form
Sulfuric acid (CAS 7664-93	5-9)	TWA	0.2 mg/m ³	Thoracic function
NIOSH: Pocket Guide to Ch	emical Hazards		5	
Components		Туре	Value	Form
Sulfuric acid (CAS 7664-93-9)		TWA	1 mg/m ³	Not applicable
OSHA Table Z-1 Limits for A	Air Contaminants (29	9 CFR 1910.1000)		
Components		Туре	Value	Form
Sulfuric acid (CAS 7664-93	5-9)	PEL	1 mg/m ³	Not applicable
Biological limit values	No biological exposure limits noted for the ingredient(s)			
Exposure controls Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates shound 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. Eyewash facilities and emergency shower must be available when handling this product.			
Personal protective equipment				
Eye/face protection	Wear appropriate chemical safety goggles if contact is likely to occur.			
Skin protection	Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.			
Body protection	Wear appropriate protective clothing.			
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.			

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

and chemical properties	
Physical state	Liquid
Form	Liquid
Color	Clear, colorless or nearly colorless
Odor	Odorless
Odor threshold	No data available
рН	1.1
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	212°F (100°C)
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapor pressure	17 mm Hg
Relative vapor density	0.6
Solubility	Soluble in all proportions

Partition coefficient (n-octanol/water)	No data available		
Viscosity	No data available		
Explosive properties	No data available		
Oxidizing properties	No data available		
SECTION 10: Stability and r	eactivity		
Reactivity	May be corrosive to	metals	
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS)		
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use		
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.		
Incompatible materials	Metal compounds, n	itromethane, oxidizin	g agents, sugars
SECTION 11: Toxicological	information		
Information on toxicological effects			
Inhalation	May cause irritation	to the respiratory sys	tem
Skin contact	Causes severe skin	burns	
Eye contact	Causes serious eye	-	
Ingestion	Causes digestive tra		
Most important symptoms/effects, acute and	Direct skin contact may cause corrosive skin burns, deep ulcerations, and possibly permanent scarring.		
delayed	Direct contact with concentrated solutions may be corrosive to the eyes and may cause damage, including blindness. Symptoms may include stinging, tearing, redness, swelling vision.		
	Inhalation of mists can cause severe respiratory irritation. Symptoms may include coughing, chokir and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.		ulmonary edema (fluid accumulation). Symptoms of
			oral cavity, upper airway, esophagus, and possibly the dominal pain, vomiting, burns, perforations, bleeding.
Acute toxicity	This product is not classified as an acute toxicity hazard. See below for individual ingredient acute toxicity data.		
Components		Species	Test Results
Sulfuric acid (CAS 7664-93-9)			
Acute			
Inhalation			
LC ₅₀		Rat	510 mg/m ³ , 2 hours
Oral			
LD ₅₀		Rat	2140 mg/kg
Respiratory or skin sensitization	No data available		
Germ cell mutagenicity	No data available		
Carcinogenicity	No data available		
Reproductive toxicity	No data available		
Specific target organ toxicity (single exposure)	No data available		
Specific target organ toxicity (repeated exposure)	No data available		
Aspiration hazard	No data available		
SECTION 12: Ecological inf	ormation		

This product is not classified as environmentally hazardous; however, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT	
UN number	UN2796
UN proper shipping name	Sulphuric acid
Transport hazard class(es)	
Class	8
Subsidiary risk	Not listed
Label(s)	8
Packing group Special precautions for user	 Dead actaty instructions, CDC, and amarganay procedures before bandling
Special provisions	Read safety instructions, SDS, and emergency procedures before handling. A3, A7, B15, IB2, N6, N34, T8, TP2, TP12
Packaging exceptions	154
Packaging, non-bulk	202
Packaging, bulk	242
IATA	
UN number	UN2796
UN proper shipping name	Sulphuric acid
Transport hazard class(es)	·
Class	8
Subsidiary risk	Not listed
Packing group	II
Environmental hazards	Not listed
ERG code	8L
Special precautions for user Other information	Read safety instructions, SDS, and emergency procedures before handling.
Passenger and cargo	Allowed
aircraft	Allowed
Cargo aircraft only	Allowed
IMDG	
UN number	UN2796
UN proper shipping name	Sulphuric acid
Transport hazard class(es)	
Class	8
Subsidiary risk	Not listed
Packing group	I
Environmental hazards	
Marine pollutant	Not listed
EmS	F-A, S-B
Special precautions for user	
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	This substance/mixture is not intended to be transported in bulk.
	A
DOT	

IATA; IMDG



SECTION 15: Regulatory information

U.S. federal regulations

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

CERCLA Hazardous Substance (40 CFR 302.4)

Sulfuric acid (CAS 7664-93-9)

SARA 302 Extremely Hazardous Substance Sulfuric acid (CAS 7664-93-9)

SARA 304 Emergency Release Notification Sulfuric acid (CAS 7664-93-9)

SARA 313 (TRI Reporting) Sulfuric acid (CAS 7664-93-9)

U.S. state regulations

Massachusetts Right-to-Know Act Sulfuric acid (CAS 7664-93-9)

New Jersey Worker and Community Right-to-Know Act Sulfuric acid (CAS 7664-93-9)

Pennsylvania Worker and Community Right-to-Know Act Sulfuric acid (CAS 7664-93-9)

Rhode Island Right-to-Know Act Sulfuric acid (CAS 7664-93-9)

SECTION 16: Other information

NFPA Rating	
Health hazard	1
Fire hazard	0
Reactivity	0
Specific	N/A

Disclaimer

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