

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS product identifier

Product Name 4N Sulfuric Acid Solution

Other means of identification

Product Code(s) OCDUS933040

UN-Number UN2796

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Stop solution for Microelisa assays

Uses advised against No information available

Supplier's details

Supplier Address

Ortho-Clinical Diagnostics, Inc.
1001 US Highway 202
Raritan, NJ 08869

Customer Service Telephone

US/Mexico –
English: 1 (800) 828-6316
Spanish: 1 (800) 828-6316

Canada -
English: 1 (800) 616-9000
French: 1 (800) 211-4911

Emergency telephone number

English: 1 (800) 421-3311
Spanish: 1 (800) 421-3311
French: 1 (800) 421-3311

Transportation Emergency Telephone

US/Canada: 1 (800) 424-9300
International and Maritime: +1 (703) 527-3887

2. HAZARDS IDENTIFICATION

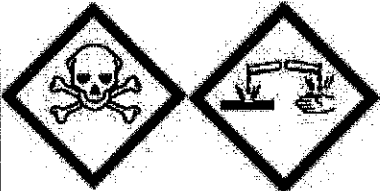
Classification

Acute Inhalation Toxicity - Vapors	Category 3
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Acute Inhalation Toxicity - Dusts and Mists	Category 4
Skin Corrosion/Irritation	Category 1 Subcategory 1A
Serious Eye Damage/Eye Irritation	Category 1

Label Elements

Emergency Overview

Signal Word	Danger
Hazard Statements	
<ul style="list-style-type: none"> • Toxic if inhaled • Causes severe skin burns and eye damage 	
	
Appearance Clear, Colorless.	Physical State Liquid.
	Odor Odorless.

Precautionary Statements

Prevention

- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Wash face, hands and any exposed skin thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection

General Advice

- Immediately call a POISON CENTER or doctor/physician.

Eyes

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a POISON CENTER or doctor/physician.

Skin

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

Inhalation

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a POISON CENTER or doctor/physician.

Ingestion

- IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Storage

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

Disposal

- Dispose of contents/container to an approved waste disposal plant.

Physical and Health Hazards Not Otherwise Classified

Not applicable.

Other Information

Corrosive by inhalation. Harmful if swallowed.

0% of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Sulfuric acid	7664-93-9	17.57	-	-

4. FIRST AID MEASURES

Description of necessary first-aid measures

- Eye Contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician or Poison Control Center immediately.
- Skin Contact** Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Call a physician immediately.
- Inhalation** Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician or Poison Control Center immediately. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.
- Ingestion** If swallowed: Call a physician or Poison Control Center immediately. If victim is conscious, rinse mouth and give 4-8 ounces of water or milk to dilute. Do NOT induce vomiting. Do not leave victim unattended. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects Corrosive

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media

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

Unsuitable Extinguishing Media

Do not scatter spilled material with high pressure water streams.

Specific Hazards Arising from the Chemical

Contact with metals may evolve flammable hydrogen gas. The product causes burns of eyes, skin and mucous membranes. May ignite combustibles (wood paper, oil, clothing, etc.). May re-ignite after fire is extinguished.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Ensure adequate ventilation Wear protective gloves/clothing and eye/face protection. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental Precautions

Environmental Precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not allow material to contaminate ground water system. See Section 12 for additional Ecological Information.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Ensure adequate ventilation. Wear personal protective equipment. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place, Store according to label instructions.

Incompatible Products Incompatible with strong acids and bases. Incompatible with oxidizing agents. Contact with metals (aluminum, zinc, tin) may release hydrogen gas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m ³ thoracic particulate matter	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 15 mg/m ³ TWA: 1 mg/m ³

Chemical Name	Alberta	British Columbia	Ontario	Quebec
Sulfuric acid	TWA: 1 mg/m ³ STEL: 3 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³	TWA: 1 mg/m ³ STEL: 3 mg/m ³

Appropriate engineering controls

Engineering Measures Showers
 Eyewash stations
 Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles. Face-shield.
Skin and Body Protection Long sleeved clothing. Chemical resistant apron. Impervious gloves. Boots.
Respiratory Protection Use only with adequate ventilation If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid.	Appearance	Clear, Colorless.
Odor	Odorless.	Odor Threshold	No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks/ - Method</u>
pH	0.3	None known
Melting Point/Range	No data available	None known
Boiling Point/Boiling Range	99.9 °C	None known
Flash Point	Not determined.	None known
Evaporation rate	< 1	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
upper flammability limit	No data available	
lower flammability limit	No data available	
Vapor Pressure	1mm Hg at 146C	None known
Vapor Density	Not applicable	None known
Specific Gravity	1.12	None known
Water Solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	No data available	None known

Flammable Properties	Not flammable
Explosive Properties	No data available
Oxidizing Properties	No data available

Other information

VOC Content (%) No data available

10. STABILITY AND REACTIVITY

Reactivity Water reactive.

Chemical stability Stable under recommended storage conditions.

Possibility of hazardous reactions None under normal processing.

- Hazardous Polymerization** Hazardous polymerization does not occur.
- Conditions to avoid** Avoid acids, alkalis, high temperatures.
- Incompatible materials** Incompatible with strong acids and bases Incompatible with oxidizing agents. Contact with metals (aluminum, zinc, tin) may release hydrogen gas.
- Hazardous decomposition products** May emit toxic fumes under fire conditions.

H. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

- Product Information**
- Inhalation** Harmful by inhalation. Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns.
 - Eye Contact** Causes serious eye damage.
 - Skin Contact** Causes severe skin burns.
 - Ingestion** Harmful if swallowed

Chemical Name	LD50 Oral	LD50 Dermal	Inhalation
Sulfuric acid	= 2140 mg/kg (Rat)	-	85 - 103 mg/m ³ (Rat) 1 h

Symptoms related to the physical, chemical and toxicological characteristics

- Symptoms** Corrosive. Skin and eye contact may include pain, impaired vision, severe local redness and tissue damage.

Delayed and immediate effects and also chronic effects from short and long term exposure

- Sensitization** No information available
- Mutagenic Effects** No information available
- Carcinogenicity** Contains no ingredients above reportable quantities listed as a carcinogen

- Reproductive Toxicity** No information available
- STOT - single exposure** No information available
- STOT - repeated exposure** No information available
- Target Organ Effects** Eyes, Respiratory system, Skin, Teeth.
- Aspiration Hazard** No information available.

Numerical measures of toxicity - Product

- The following values are calculated based on chapter 3.1 of the GHS document:*
- Acute Toxicity** 0% of the mixture consists of ingredient(s) of unknown toxicity.
 - LD50 Oral** 12180 mg/kg; Acute toxicity estimate
 - Inhalation**
 - dust/mist** 1.4 mg/L; Acute toxicity estimate
 - Vapor** 4 mg/L; Acute toxicity estimate

I. ECOLOGICAL INFORMATION

- Ecotoxicity**
The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to	Daphnia Magna (Water

		Microorganisms	Flea)
Sulfuric acid 7664-93-9		LC50 96 h: > 500 mg/L static (Brachydanio rerio)	

Persistence and Degradability No information available

Bioaccumulation No information available

Other Adverse Effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Dispose of in accordance with local regulations.

Contaminated Packaging Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT

UN-Number UN2796
 Proper shipping name Sulphuric acid
 Hazard Class 8
 Packing Group II
 Description UN2796, Sulphuric acid, 8, II
 Emergency Response Guide Number 157

TDG

UN-Number UN2796
 Proper Shipping Name Sulphuric acid
 Hazard Class 8
 Packing Group II
 Description UN2796, Sulphuric acid, 8, II

MEX

UN-Number UN2796
 Proper Shipping Name Sulphuric acid
 Hazard Class 8
 Packing Group II
 Description UN2796, Sulphuric acid, 8, II

IATA

UN-Number UN2796
 Proper Shipping Name Sulphuric acid
 Hazard Class 8
 Packing Group II
 ERG Code 8L
 Description UN2796, Sulphuric acid, 8, II

IMDG/IMO

UN-Number UN2796
 Proper Shipping Name Sulphuric acid
 Hazard Class 8
 Packing Group II
 EmS No. F-A, S-B
 Description UN2796, Sulphuric acid, 8, II

15. REGULATORY INFORMATION

International Regulations

Ozone depleting substances Not applicable
 Persistent Organic Pollutants Not applicable

Hazardous Waste

Chemical Name	Basel Convention (Hazardous Wastes)
Sulfuric acid	Y34

The Rotterdam Convention (Prior Informed Consent) Not applicable

International Convention for the Prevention of Pollution from Ships (MARPOL) Not applicable

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Sulfuric acid	7664-93-9	17.57	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sulfuric acid	1000 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sulfuric acid	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Sulfuric acid	X	X	X	X	X

16. OTHER INFORMATION

NFPA	Health Hazard 3	Flammability 0	Instability 2	Physical and Chemical Hazards W
HMIS	Health Hazard 3	Flammability 0	Physical Hazard 2	Personal Protection X

Prepared By Product Stewardship
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Revision Note Initial Release.

General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet

Ortho PRODUCT Category Transfusion Medicine
Ortho SUB-CATEGORY Class Other Reagent

