

Scientific Documentation

Sulfuric Acid, FCC

Not appropriate for regulatory submission.

Please visit www.spectrumchemical.com or contact Tech Services for the most up-to-date information contained in this information package.

Spectrum Chemical Mfg Corp
769 Jersey Avenue
New Brunswick, NJ 08901
Phone 732.214.1300



Table of Contents

Product Specification
Certificate of Analysis
Safety Data Sheet (SDS)
Certification of Current Good Manufacturing Practices (cGMP)
Technical Statements
General Label Information – Sample Label
Kosher Certification

Specification for Sulfuric Acid, FCC (S1736)

Item Number	S1736
Item	Sulfuric Acid, FCC
CAS Number	7664-93-9
Molecular Formula	H ₂ SO ₄
Molecular Weight	98.08
MDL Number	
Synonyms	

Test	Specification	
	Min	Max
APPEARANCE		
ASSAY	95.0	98.0 %
ARSENIC (As)		3 mg/kg
CHLORIDE (Cl)		0.005 %
IRON (Fe)		0.02 %
LEAD (Pb)		5 mg/kg
NITRATE (NO ₃)		10 mg/kg
REDUCING SUBSTANCES (as SO ₂)		TO PASS TEST
SELENIUM (Se)		0.002 %
IDENTIFICATION		TO PASS TEST
CERTIFIED KOSHER		
EXPIRATION DATE		
DATE OF MANUFACTURE		

Spectrum Chemical Mfg Corp

Corporate Headquarters:	West Coast Facility:
769 Jersey Ave.	14422 S. San Pedro St.
New Brunswick, NJ 08901	Gardena, CA 90248
732.214.1300	310.516.8000

Certificate Of Analysis

Item Number	S1736	Lot Number	2MD0236
Item	Sulfuric Acid, FCC	CAS Number	7664-93-9
Molecular Formula	H ₂ SO ₄	Molecular Weight	98.08

TEST	SPECIFICATION		RESULT
	MIN	MAX	
APPEARANCE			CLEAR COLORLESS LIQUID
ASSAY	95.0	98.0 %	96.3 %
ARSENIC (As)		3 mg/kg	<0.01 mg/kg
CHLORIDE (Cl)		0.005 %	<0.00002 %
IRON (Fe)		0.02 %	<0.00001 %
LEAD (Pb)		5 mg/kg	<0.01 mg/kg
NITRATE (NO ₃)		10 mg/kg	<0.5 mg/kg
REDUCING SUBSTANCES (as SO ₂)		TO PASS TEST	PASSES TEST
SELENIUM (Se)		0.002 %	<0.000001 %
IDENTIFICATION		TO PASS TEST	PASSES TEST
CERTIFIED KOSHER			CERTIFIED KOSHER
EXPIRATION DATE			13-FEB-2024
DATE OF MANUFACTURE			13-FEB-2022
MONOGRAPH EDITION			(FCC) 13

Certificate of Analysis Results Entered By:

HBERMUDEZ
Hernan Bermudez
23-MAY-23 10:47:57

Spectrum Chemical Mfg Corp
755 Jersey Avenue
New Brunswick 08901 NJ



Certificate of Analysis Results Approved By:

JAMAYA
Javier Amaya
23-MAY-23 11:57:30

All pharmaceutical ingredients are tested using current edition of applicable pharmacopeia.

Read and understand label and SDS before handling any chemicals. All Spectrum's chemicals are for manufacturing, processing, repacking or research purposes by experienced personnel only. It is the customer's responsibility to provide

adequate hazardous material training and ensure that appropriate Personal Protective Equipment (PPE) is used before handling any chemical.

SAFETY DATA SHEET

Preparation Date: 2/18/2014

Revision date 8/16/2019

Revision Number: G5

1. IDENTIFICATION

Product identifier

Product code: S1736
Product Name: SULFURIC ACID, FCC

Other means of identification

Synonyms: Oil of Vitriol
 Hydrogen Sulfate
 Dihydrogen Sulfatesulfurique (French)
 Ácido sulfuric (Spanish)
CAS #: 7664-93-9
RTECS # WS5600000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Fertilizer compositions. Echant. Laboratory reagent.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Tom Tyner (USA - West Coast)
Contact Person: Ibad Tirmiz (USA - East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Inhalation (Gases)	Category 2
Acute toxicity - Inhalation (Vapors)	Category 2
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Label elements

Danger

Hazard statements

Fatal if inhaled
 Causes severe skin burns and eye damage

Product code: S1736

Product name: SULFURIC ACID,
 FCC

Page 1 / 14



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

May be harmful if swallowed

Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

Wash face, hands and any exposed skin thoroughly after handling

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

Precautionary Statements - Response

Immediately call a POISON CENTER or physician

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 physician.

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

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

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

Store locked up

Precautionary Statements - Disposal

Dispose of contents and container to an approved waste disposal plant in accordance with local, regional, national and international regulations as applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
Sulfuric Acid	7664-93-9	100

4. FIRST AID MEASURES

First aid measures

General Advice:

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect

himself.

Skin Contact:	Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician immediately.
Eye Contact:	Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.
Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Call a physician immediately.
Ingestion:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If victim is conscious, give water or milk. Follow with Milk of Magnesia or egg whites beaten with water. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

Symptoms	Severe skin and eye irritation or burns
-----------------	---

Indication of any immediate medical attention and special treatment needed

Notes to Physician:	Treat symptomatically.
----------------------------	------------------------

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:	The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.
--------------------------------------	--

Unsuitable Extinguishing Media:	No information available.
--	---------------------------

Specific hazards arising from the chemical

Hazardous combustion products	No information available.
--------------------------------------	---------------------------

Specific hazards	Contact with metals may evolve flammable hydrogen gas. Metal acetylides (Monocesium and Monorubidium), and carbides ignite with concentrated sulfuric acid. White Phosphorous + boiling Sulfuric acid or its vapor ignites on contact. May ignite other combustible materials. May cause fire when sulfuric acid is mixed with Cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous (III) oxide, and oxidizing agents such as chlorates, halogens, permanganates. Mixtures of sulfuric acid and any of the following can explode: p-nitrotoluene, pentasilver trihydroxydiaminophosphate, perchlorates, alcohols with strong hydrogen peroxide, ammonium tetrahydroxychromate, mercuric nitrite,
-------------------------	--

potassium chlorate, potassium permanganate with potassium chloride, carbides, nitro compounds, nitrates, carbides, phosphorous, iodides, picratres, fulminates, dienes, alcohols (when heated) Nitramide decomposes explosively on contact with concentrated sulfuric acid. 1,3,5-Trinitrosohexahydro-1,3,5-triazine + sulfuric acid causes explosive decomposition. Containers may explode when heated or if contaminated with water. Reaction with water may generate much heat which will increase the concentration of fumes in the air.

Special Protective Actions for Firefighters

Specific Methods:

No information available

Special Protective Equipment 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:

Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk.

Methods for cleaning up

Neutralize with Sodium carbonate or Sodium bicarbonate. Dilute with water. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Use only in area provided with appropriate exhaust ventilation. Do not allow contact with water. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. May corrode metallic surfaces. Do not store in uncoated metallic containers. Store in a segregated and approved area. Do not store near combustible materials. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents
 Reducing agents
 Organic materials
 Combustible materials
 Bases
 Amines
 Metals
 Water
 Acids

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**National occupational exposure limits****United States**

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Sulfuric Acid	7664-93-9	1 mg/m ³ TWA	1 mg/m ³ TWA	0.2 mg/m ³ TWA thoracic particulate matter	None

Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Sulfuric Acid	7664-93-9	1 mg/m ³ TWA 3 mg/m ³ STEL	0.2 mg/m ³ TWA thoracic	None	1 mg/m ³ TWAEV 3 mg/m ³ STEV

Australia and Mexico

Component	CAS No	Australia	Mexico
Sulfuric Acid	7664-93-9	3 mg/m ³ STEL 1 mg/m ³ TWA	0.2 mg/m ³ TWA

Appropriate engineering controls**Engineering measures to reduce exposure:**

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

Individual protection measures, such as personal protective equipment**Personal Protective Equipment**

Eye protection: Face-shield.

Skin and body protection: Chemical resistant protective suit
 Gloves
 Boots

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid	Appearance: Viscous. Oily.	Color: Colorless.
Odor: Odorless, but has a choking odor when hot.	Taste Strong. Acid.	Formula H ₂ SO ₄
Molecular/Formula weight (g/mole): 98.08	Flammability (solid, gas) no data available	Flashpoint (°C/°F): No information available
Flash Point Tested according to: Not available	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): No information available	Decomposition temperature(°C/°F): 340 °C/644 °F
Boiling point/range(°C/°F): 270-337 °C/518/638.6 °F	Bulk density: No information available	Density (g/cm³): No information available
Specific gravity: 1.823-1.84	pH No information available	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: 3.4	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available	Viscosity: No information available
Miscibility: No information available	Solubility: Easily soluble in cold water Sulfuric acid is soluble in water with liberation of much heat Soluble in Ethanol	

10. STABILITY AND REACTIVITY

Reactivity

Reacts violently with water

It reacts with alcohols and amines

Incompatible (can react explosively or dangerously) with the following: ACETIC ACID, ACRYLIC ACID, AMMONIUM HYDROXIDE, CRESOL, CUMENE, DICHLOROETHYL ETHER, ETHYLENE CYANOHYDRIN, ETHYLENEIMINE, NITRIC ACID, 2-NITROPROPANE, PROPYLENE OXIDE, SULFOLANE, VINYLIDENE CHLORIDE, DIETHYLENE GLYCOL MONOMETHYL ETHER, ETHYL ACETATE, ETHYLENE CYANOHYDRIN, ETHYLENE GLYCOL MONOETHYL ETHER ACETATE, GLYOXAL, METHYL ETHYL KETONE, dehydrating agents, organic materials, moisture (water), Acetic anhydride, Acetone, cyanohydrin, Acetone+nitric acid, Acetone + potassium dichromate, Acetonitrile, Acrolein, Acrylonitrile, Acrylonitrile+water, Alcohols + hydrogen peroxide, ally compounds such as Allyl alcohol, and Allyl Chloride, 2-Aminoethanol, Ammonium hydroxide, Ammonium triperchromate, Aniline, Bromate + metals, Bromine pentafluoride, n-Butyraldehyde, Carbides, Cesium acetylene carbide, Chlorates, Cyclopentanone oxime, chlorinates, Chlorates + metals, Chlorine trifluoride, Chlorosulfonic acid, 2-cyano-4-nitrobenzenediazonium hydrogen sulfate, Cuprous nitride, p-chloronitrobenzene, 1,5-Dinitronaphthlene + sulfur, Diisobutylene, p-dimethylaminobenzaldehyde, 1,3-Diazidobenzene, Dimethylbenzylcarbinol + hydrogen peroxide, Epichlorohydrin, Ethyl alcohol + hydrogen peroxide, Ethylene diamine, Ethylene glycol and other glycols, , Ethenimine, Fulminates, hydrogen peroxide, Hydrochloric acid, Hydrofluoric acid, Iodine heptafluoride, Indane + nitric acid, Iron, Isoprene, Lithium silicide, Mercuric nitride, Mesityl oxide, Mercury nitride, Metals (powdered), Nitromethane, Nitric acid + glycerides, p-Nitrotoluene, Pentasilver trihydroxydiaminophosphate, Perchlorates, Perchloric acid, Permanganates + benzene, 1-Phenyl-2-methylpropyl alcohol + hydrogen peroxide, Phosphorus, Phosphorus isocyanate, Picrates, Potassium tert-butoxide, Potassium chlorate, Potassium Permanganate and other permanganates, halogens, amines, Potassium Permanganate + Potassium chloride, Potassium Permanganate + water, Propiolactone (beta)-, Pyridine, Rubidium acetylene carbide, Silver permanganate, Sodium, Sodium carbonate, sodium hydroxide, Steel, styrene monomer, toluene + nitric acid, Vinyl acetate, Thallium (I) azidodithiocarbonate, Zinc

chlorate, Zinc Iodide, azides, carbonates, cyanides, sulfides, sulfites, alkali hydrides, carboxylic acid anhydrides, nitriles, olefinic organics, aqueous acids, cyclopentadiene, cyano-alcohols, metal acetylides
Evolves flammable hydrogen gas on contact with metals
Concentrated sulfuric acid oxidizes, dehydrates, or sulfonates most organic compounds

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Incompatible materials. Exposure to water.

Incompatible Materials:

- Oxidizing agents
- Reducing agents
- Organic materials
- Combustible materials
- Bases
- Amines
- Metals
- Water
- Acids

Hazardous decomposition products: Sulfur oxides.

Other Information

Corrosivity:

- Extremely corrosive in presence of aluminum
- Extremely corrosive in presence of copper
- Extremely corrosive in the presence of stainless steel (316)
- Highly corrosive in the presence of stainless steel (304)
- Minor corrosive effect on bronze
- Non-corrosive to lead and mild steel
- No corrosion data on brass

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Skin. Inhalation. Ingestion.

Acute Toxicity

Component Information

Sulfuric Acid	
CAS No	7664-93-9

LD50/oral/rat = 2140 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = 347 ppm 1 h
420 ppm 1 h

510 mg/m³ Inhalation LC50 Rat 2h
85-103 mg/m³ 1 h
LC50/inhalation/mouse = 320 mg/m³ 2 h
Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat =
Value - Acute Toxicity = 2140 mg/kg

LD50/oral/mouse =
Value - Acute Tox = No information available

LD50/dermal/rabbit
Value - Acute Toxicity = No information available

LD50/dermal/rat
VALUE - Acute Tox = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = 347 ppm (1-hr)
VALUE-Dust/Mist = 510 mg/m³ (1-hr)

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = 320 mg/m³ 2 h

Symptoms

Skin Contact: Severe skin irritation. Causes skin burns.

Eye Contact: Severe eye irritation. Causes eye burns.

Inhalation Fatal if inhaled. Causes severe irritation of the respiratory tract and mucous membranes with sore throat, coughing, sneezing, shortness of breath, and delayed lung edema. Can cause chemical burns (corrosive action) to the respiratory tract and mucous membranes. Inhalation may be fatal as a result of bronchospasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. May affect cardiovascular system (hypotension, depressed cardiac output, bradycardia). Circulatory shock/collapse with clammy skin, weak and rapid pulse, shallow respiration, and scanty urine may follow. Ischemic liver and heart lesions, kidney failure may occur several hours after unchecked circulatory collapse. Circulatory shock is often the immediate cause of death. May also affect teeth(changes in teeth and supporting structures - erosion, discoloration).

Ingestion May be harmful if swallowed. Causes digestive or gastrointestinal tract burns. Corrosive to the mouth, throat, and stomach. May cause permanent damage to the digestive tract. May cause perforation of the digestive tract. May cause gastritis. May cause abdominal pain. Ingestion may cause nausea, vomiting. Vomit may resemble "coffee grounds". May cause metabolic acidosis.

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity

Inhalation: Prolonged or repeated inhalation may affect behavior (muscle contraction or spasticity), urinary system (kidney damage), and respiratory system/lungs (pulmonary edema, lung damage/changes in lung function with chronic bronchitis and emphysema), teeth (dental discoloration, erosion). Skin: Prolonged or repeated skin contact may cause dermatitis. Eyes: Conjunctivitis is also a common finding with chronic exposure.

Sensitization:

No information available.

Mutagenic Effects:

No information available

Carcinogenic effects:

May cause cancer. However, evidence is inconclusive. Cancer Status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC Group 1). However, this classification applies only to mists containing sulfuric acid generated during an industrial process and not to (almost) pure sulfuric acid or sulfuric acid solutions; The ACGIH has classified "strong inorganic acid mists containing sulfuric acid" as a suspected human carcinogen (ACGIH Group A2). However, this classification applies only to mists containing sulfuric acid generated during an industrial process and not to (almost) pure sulfuric acid or sulfuric acid solutions.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Sulfuric Acid	7664-93-9	Group 1 - Monograph 54 [1992] occupational exposure to mists and vapours from sulfuric acid and other strong inorganic acids	A2 Suspected Human Carcinogen (contained in strong inorganic acid mists)	Not listed	Present	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity

No data is available

Reproductive Effects:

No information available

Developmental Effects:

No information available

Teratogenic Effects:

Developmental effects and Teratogenicity: According to the Registry of Toxic Effects of Chemical Substances (RTECS reference - Murry et al, "Embryotoxicity of Inhaled Sulfuric Acid Aerosol in Mice and Rabbits", Journal of Environmental Science and Health, Part C, Vol. 13, pages 251-266, 1979), musculoskeletal developmental abnormalities were found in rabbits at a dose of 20 mg/m³ for 7 hrs. However, REPROTOX and Shepard's Catalog of Teratogenic Agents, citing this same study, stated that inhalation of sulfuric acid fumes did not increase congenital anomalies in the offspring of treated pregnant mice or rabbits. Furthermore, the Hazard Substance Data Bank (HSDB) also stated that in a developmental toxicity study conducted under a method similar to OECD test

Guideline 414 that no significant effects on mean numbers of implants/dam, live fetuses/litter or resorptions/litter were observed in mice and rabbits exposed by inhalation to sulfuric acid aerosol at 5 and 20 mg/m³ during gestation and therefore could not be considered embryotoxic, or fetotoxic.

Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: Skin. Eyes. Respiratory system. Teeth.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Sulfuric Acid - 7664-93-9

Fish LC50: >500mg/L (96h, Brachydanio rerio)
Crustacea EC50: 29mg/L (24h, Daphnia magna)

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility in soil No information available
Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Sulfuric Acid	7664-93-9	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN1830
Proper Shipping Name: Sulfuric acid
Hazard Class 8
Subsidiary Class No information available
Packing group: II
Emergency Response Guide Number 137
Marine Pollutant No data available
DOT RQ (lbs): No information available
Special Provisions A3, A7, B3, B83, B84, IB2, N34, T8, TP2

Symbol(s): [DOT]: (R4) - Identifies a material that is a hazardous substance that has a reportable quantity (RQ) of 1000 pounds (454 Kilograms).
Description: UN1830, Sulfuric acid, 8, II

TDG (Canada)

UN-No: UN1830
Proper Shipping Name: Sulfuric acid
Hazard Class 8
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant No Information available
Description: UN1830, Sulfuric acid, 8, II

ADR

UN Number UN1830
Proper Shipping Name: Sulphuric acid
Transport hazard class(es) 8
Packing group II
Subsidiary Risk: No information available
Description: UN1830, Sulphuric acid, 8, II

IMDG

UN-No: UN1830
Proper Shipping Name: Sulfuric acid
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant No information available
EMS: F-A
Description UN1830, Sulphuric acid, 8, II

RID

UN Number UN1830
Proper Shipping Name: Sulphuric acid
Transport hazard class(es) 8
Subsidiary Risk: 8
Packing group II
Description: UN1830, Sulphuric acid, 8, II

ICAO (air)

UN-No: UN1830
Proper Shipping Name: Sulphuric acid
Hazard Class 8
Subsidiary Risk: No information available
Packing Group: II
Description: UN1830, Sulphuric acid, 8, II

IATA

UN Number UN1830
Proper Shipping Name: Sulphuric acid
Transport hazard class(es) 8
Subsidiary Risk: No information available
Packing group II
Precautionary Statements - Response 8L
Special Provisions No information available
Description: UN1830, Sulphuric acid, 8, II

15. REGULATORY INFORMATION

International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
Sulfuric Acid	7664-93-9	PresentACTIVE	Present KE-32570	Present	Present (1)-430	Present	Present	Present 231-639-5

U.S. Regulations

Sulfuric Acid

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: 1761

New Jersey (EHS) List: 1761 500 lb TPQ

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

Minnesota - Hazardous Substance List: Present

New York Release Reporting - List of Hazardous Substances:

1000 lb RQ

100 lb RQ

Louisiana Reportable Quantity List for Pollutants: 1000lbfinal RQ

454kgfinal RQ

California Directors List of Hazardous Substances: Present

FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1095

FDA - 21 CFR - Total Food Additives 172.560, 172.892, 173.385, 176.170, 176.180, 176.210, 177.2800, 178.1010, 179.45,

- List Sourced from EAFUS 184.1095, 73.85

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

WARNING: This product contains a chemical known to the State of California to cause cancer. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Sulfuric Acid	7664-93-9	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Sulfuric Acid	7664-93-9	1000 lb final RQ 454 kg final RQ	1000 lb EPCRA RQ	None	None	1.0 % de minimis concentration

U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Sulfuric Acid	7664-93-9	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
Sulfuric Acid
7664-93-9 (100)

WHMIS 2015 Hazard Classification
Corrosive to Metals - Category 1: H290 May be corrosive to metals. (85% (30.8); potentially corrosive to metals; the supplier should be contacted for more information); Acute toxicity - Inhalation - Category 2: H330 Fatal if inhaled. (85% (30.8)); Acute toxicity - Inhalation - Category 3: H331 Toxic if inhaled. (50% (14.2 N)); Health Hazard Not Otherwise Classified - Category 1: Causes severe damage to the respiratory tract (2% (0.4 N)); Skin corrosion/irritation - Category 1: H314 Causes severe skin burns and eye damage. (50% (14.2 N)); Skin corrosion/irritation - Category 1A: H314 Causes severe skin burns and eye damage. (2% (0.4 N)); Serious Eye Damage/Eye Irritation - Category 1: H318 Causes serious eye damage. (2% (0.4 N))

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Sulfuric Acid	7664-93-9	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Sulfuric Acid	7664-93-9	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Sulfuric Acid	7664-93-9	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Sulfuric Acid	7664-93-9	Skin corrosion/irritation - Skin Corr. 1A: H314 Causes severe skin burns and eye damage.016-020-00-8 Skin corrosion/irritation - Skin Corr. 1A: H314 Causes severe skin burns and eye damage. (C >= 15 %); Skin corrosion/irritation - Skin Irrit. 2: H315 Causes skin irritation. (5 % <= C <15 %); Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation. (5 % <= C <15 %)016-020-00-8

EU - CLP (1272/2008)

R-phrases(s)

R35 - Causes severe burns

S -phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S30 - Never add water to this product

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

Product code: S1736

Product name: SULFURIC ACID,
FCC

Page 13 / 14

S 1/2 - Keep locked up and out of the reach of children.

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Sulfuric Acid	7664-93-9	C; R35	15%≤C C; R35 5%≤C<15% Xi; R36/38	S: (1/2)-26-30-45

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

C - Corrosive

C



16. OTHER INFORMATION

Preparation Date: 2/18/2014
Revision date 8/16/2019
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet



Certification of Compliance with current Good Manufacturing Practices

Dear Valued Customer:

Spectrum Chemical Mfg Corp certifies that the following product(s) is produced, processed, packaged and held in compliance with current Good Manufacturing Practices (cGMP) in accordance with the applicable parts of 21 CFR, parts 210 and 211 of the Code of Federal Regulations.

Catalog Number	Product Name
S1736	Sulfuric Acid, FCC

Spectrum is an FDA registered and inspected Drug Establishment. Our United States Food and Drug Administration (USFDA) Registration numbers are as follows:

Spectrum-Gardena, CA: 2020632
Spectrum-New Brunswick, NJ: 2246824

Thank you for your interest in Spectrum products. If we may be of further assistance, please feel free to contact the Quality Assurance department at 310-516-8000 or via email at qualityassurance@spectrumchemical.com

Sincerely,

A handwritten signature in black ink, appearing to read "Oralia Chavez", written in a cursive style.

Oralia Chavez
Quality Assurance Specialist

S1736, Sulfuric Acid, FCC

Source Statement

The above mentioned catalog item is manufactured by chemical synthesis. No animal or plant derived products are used in the manufacturing process.

BSE/TSE Statement

The above mentioned catalog item does not contain nor is manufactured using any animal derived products and is therefore, BSE/TSE free.

Allergen Statement

The above mentioned catalog item does not contain any of the following:

- Milk
- Egg
- Fish
- Shellfish
- Tree Nuts
- Wheat
- Peanuts
- Soy
- Cereals containing Gluten
- Celery
- Mustard
- Sesame Seed
- Corn
- Latex
- Sulfites > 10 ppm

EU Fragrance Allergen Statement

The above mentioned catalog item does not contain any of the 26 EU fragrance allergens listed in Annex III lines 67-92. These substances are not intentionally added to the following chemical and therefore are not expected to be present.

GMO Statement

The above mentioned catalog item is manufactured without the use of genetically modified organisms and is therefore GMO free.

Melamine Statement

The above mentioned catalog does not use or add melamine to the manufacturing process and is considered melamine-free.

Nitrosamine Statement

Based on knowledge of the manufacturing process, nitrosamine impurities are not known or suspected to be present in this material.

Animal Testing Statement

The above mentioned catalog item has not been tested on animals.

Organic Compliance Statement

The above mentioned catalog item has not been produced using GMOs, irradiation, ethylene oxide (EtO) or sewage sludge.

Shelf Life Statement

The above mentioned catalog item is typically assigned a shelf life of 24 months from the date of manufacture. The actual assigned shelf life for any specific lot should be referenced on the Certificate of Analysis.




Other Chemicals Statement

Spectrum does not have any reason to suspect the above mentioned catalog item contains any of the following chemicals. This product does not come into contact with these chemicals during packaging or storage:

- | | |
|---------------------|-----------------|
| • Aflatoxins | • Parabens |
| • Antibiotics | • Pesticides |
| • Bisphenol A (BPA) | • Phthalates |
| • CMR Substances | • Preservatives |

Label Information

The Spectrum label presents technical and safety information in an easily understood format. Our technical specialists stay abreast of the latest requirements of the Globally Harmonized System for Classification and Labelling of Chemicals (GHS), as well as the Occupational Safety and Health Administration (OSHA), the Food and Drug Administration (FDA) and other government regulatory agencies in order to ensure compliance, accuracy and concise hazard communication. Below you will find a typical label example for this catalog item.

	 			H_2SO_4	F.W. 98.08
	DANGER	S1736	S1736	Assay	95.0-98.0%
	<ul style="list-style-type: none"> Causes severe skin burns and eye damage Fatal if inhaled May be corrosive to metals May be harmful if swallowed Reacts violently with water. 		SIZ SY	MAXIMUM LIMITS	
	<ul style="list-style-type: none"> Wear respiratory protection, eye protection, face protection, protective gloves, protective clothing Do not breathe mist or vapors Use only outdoors or in a well-ventilated area Wash face, hands and any exposed skin thoroughly after handling Keep only in original container Absorb spillage to prevent material damage. 		Sulfuric Acid	Arsenic (as As)	3 mg/kg
	FIRST AID: Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. If conscious, give large quantities of water or milk. Follow with Milk of Magnesia or egg whites beaten with water. Never give anything by mouth to an unconscious person.		FCC	Chloride	0.005%
		CAS 7664-93-9		Iron	0.02%
				Lead	5 mg/kg
				Nitrate	10 mg/kg
				Reducing Substances (as SO_2)	To pass test
				Selenium	0.002%
				WARNING: Cancer and Reproductive Harm- www.P65Warnings.ca.gov	
				Lot No. XQ####	
				W 9/H5GHS ?	
				<div> DOT: UN1830, Sulfuric acid, 8, PG II </div> <div> Chemical Emergency: (800)424-9300 </div> <div> www.SpectrumChemical.com </div>	
				KEEP FROM CHILDREN	

Spectrum Chemical Mfg Corp

Corporate Headquarters:

769 Jersey Ave.
New Brunswick, NJ 08901
732.214.1300

West Coast Facility:

14422 S. San Pedro St.
Gardena, CA 90248
310.516.8000



KOSHER SUPERVISION OF AMERICA

בס"ד
Feb 26, 2024

The following product(s) prepared by the named company are certified kosher with the stated requirements:

Spectrum Laboratory Products, Inc.

S-0032

14422 South San Pedro Street,
Gardena, CA 90248
755-769 Jersey Ave.
New Brunswick NJ 08901
USA

Product Name S1736, Sulfuric Acid, FCC

Brand Spectrum

UKD-ID KSAV3-C3I5Y25

D/P/M P

Symbol Required KSA

Special Conditions

This certificate expires on
Feb 01, 2025

Rabbi Binyomin Lisbon
Kashrus Administrator

Placing the KSA logo on products not listed above constitutes an un-authorized use of the KSA symbol, which is a federally registered trademark.