

SAFETY DATA SHEET

Sulfuric Acid, Spent 70-80%

SECTION 1

PRODUCT AND COMPANY IDENTIFICATION

Product Name: Spent Sulfuric Acid

Identified Uses: Chemical intermediate, pH neutralizer, fertilizer

Company Information:

INEOS KOH.

Ashtabula, Ohio 44004

Phone: (440) 997-5221

Fax: (440) 998-0286

24-hour Emergency Phone: CHEMTREC: (800) 424-9300

SECTION 2

HAZARDS IDENTIFICATION

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

GHS label elements, including precautionary statements:

Signal Word: **Danger**

Pictogram(s):



Hazard Statements

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye
H318	damage. Causes serious eye damage.
H402	Harmful to aquatic life.

Precautionary Statements

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/eye protection/face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361+ P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse SKIN with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310	Immediately call a POISON CENTER or doctor/physician.
P321	Specific treatment (see supplemental first aid instructions on this label).
P390	Absorb spillage to prevent material damage.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P406	Store in corrosive resistant stainless steel container with a resistant inner liner.
P501	Dispose of contents/container in accordance with local/state/national regulations.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms:

CHEMICAL NAME: Sulfuric Acid Solution (Aqueous)
 TRADE NAME: Spent Sulfuric Acid, Dilute Sulfuric Acid
 SYNONYMS: Oil of vitriol, hydrogen sulfate solution

C.A.S: 7664-93-9
 WHMIS: D1A, D2B, E

CHEMICAL FORMULA: H₂SO₄
 CHEMICAL FAMILY: Mineral Acid

SECTION 4 FIRST AID MEASURES

Description of first aid measures:

Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled:

If breathed in, move person into fresh air. If breathing is difficult, give humidified air. Give oxygen but only by a certified physician. If breathing stops, provide artificial respiration. Get medical attention immediately.

In case of skin contact:

Immediately take off all contaminated clothing. Wash off IMMEDIATELY with plenty of water for at least 15-20 minutes. Get medical attention. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes.

In case of eye contact:

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

If ingested:

Never give anything by mouth to an unconscious person. Rinse mouth with water. Give plenty of water to drink. Consult a physician.

SECTION 5 FIRE FIGHTING MEASURES

Flash Point:	None.
Extinguishing Media:	Nonflammable, Dry Chemical, Foam, Carbon Dioxide
Auto Ignition Temp:	Non-combustible.
Special Fire Fighting Procedures:	Hazardous in fire area. Water contact will cause heat, fuming of corrosive vapors and reactivity with normally suitable storage materials.
Unusual Fire/Explosion Hazards:	Firefighters must wear approved self-contained breathing apparatus and full protective clothing. When diluted with water this acid can react with many metals to liberate flammable hydrogen.
Additional Information:	Water added to acid can cause uncontrollable splashing and boiling. Decomposition can generate sulfur oxides.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Environmental Precautions:

Avoid discharge into drains, water courses or onto the ground. Contact local authorities in case of spillage to drain/aquatic environment.

Containment and Cleaning:

Follow preplanned emergency procedures. Clean up personnel must wear full body protection and approved self-contained breathing apparatus. Contain spillage in as small an area as possible (dike or dam) to enable recovery, dilution, or neutralization. Minor leaks or spills can be diluted with much water and neutralized with soda ash or lime. Follow federal, state, and local regulations. Do not allow drainage to sewers, streams, or storm conduits. Run off to sewers may cause generation of hydrogen gas. Provide ventilation for spills in enclosed area. Sand can be used to cover spill areas followed by cautious neutralization with soda ash. Do not use combustible absorbents.

SECTION 7 HANDLING AND STORAGE

Precautions to be taken for handling and storage:

Avoid body contact. Wear approved eye, skin and foot protective clothing. Do not breathe in vapors. NEVER add water to acid. Dilution reaction is violent and will generate large amounts of heat and chemical mists. Storages must be vented and protected from water sources. This material is corrosive to most metals as it picks up moisture.

Precautions for repair:

Equipment: Wash with water until acidity is absent.

Other Precautions: Eyewash stations and safety showers are required in handling areas. Storage areas must be diked and equipped with retention basins for neutralization of spills. Only trained, equipped personnel should handle this material. Inhalation of concentrated vapor of mists from "hot" acid acid can cause rapid loss of consciousness with serious damage to lung tissue. Avoid inhalation of mists or sprays and body contact. Burns are normally slow to heal.

This material will destroy clothing and wood. Contaminated material must be handled as a hazardous waste.

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

Principal Component: Sulfuric Acid (in water)

Occupational Exposure:

Component	OSHA Final PEL TWA	OSHA Final PEL STEL	OSHA Final PEL Ceiling
Sulfuric Acid 7664-93-9	---	---	1 mg/m ³

ACGIH TLV	ACGIH STEL	NIOSH IDLH
0.2 mg/m ³ TWA	3.0 mg/m ³ 15min.	15 mg/m ³ (2010)

Exposure Controls:

Eye Protection:

Chemical goggles and face shield.

Respiratory Protection:

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

Skin Protection:

Acid proof clothing and rubber boots.

Other Protection:

Eyewash fountain and safety shower are required in handling area. Plan ahead for emergencies and have required equipment available.

Ventilation Recommended:

Provide general and local ventilation to meet PEL requirement.

Glove Type Recommended:

Rubber - gauntlet.

Additional Information:

Avoid eye and body contact to avoid rapid tissue degradation or severe burns.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Appearance	Hygroscopic oily liquid, water white
Odor	Trace odor
Odor Threshold	no data available
pH	<1 (25°C / 77°F)
Melting point/freezing point	~ -20 °F (-28.89 °C)
Initial boiling point	365°F (75% solution)
Flash point	Not applicable
Auto-ignition Temp	Not applicable
Evaporation rate	Will not evaporate at ambient conditions
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	Not applicable
Relative density	>1.67 (75% solution), 1.84 (98% solution)

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Water solubility	Soluble
Molecular Weight	98.1
Density	~13.4 lb/gal (75% solution)
Vapor Density (air = 1)	No data available
Vapor Pressure	<1.33 hPa (1 mmHg) at 145.8°C
Partition Coefficient: n-octanol/water	No data available

SECTION 10 STABILITY AND REACTIVITY

Stability:	Sulfuric acid is stable under normal conditions.
Conditions to avoid:	Avoid contact with combustible materials as this strong oxidizing agent can cause ignition. This material will react with alkalis and metals that may result in generation of hydrogen. Potential contact with metallic powders, chromates, nitrates, oxidizables, chlorates, etc.
Incompatibility:	Exothermic reaction with water. Always add the acid to the water. Never add water to the acid as it can cause boiling and splattering. Can explode on contact with many materials. (i.e., acetic acid, acetone, etc.)
Hazardous decomposition products:	Flammable hydrogen can be generated by reactivity with many metals.
Polymerization:	Does not undergo hazardous polymerization.
Additional Information:	Dangerous when heated- emits toxic fumes.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Ingestion:	Causes digestive tract burns. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.
Inhalation:	Vapors and mist will irritate throat and respiratory system and cause coughing.
Skin contact:	Causes skin burns. Eye contact: Causes eye burns. Permanent eye damage or blindness could result.

Symptoms related to the physical, chemical and toxicological characteristics:

Contact with this material will cause burns to the skin, eyes and mucous membranes. Permanent eye damage including blindness could result.

Information on toxicological effects:

Acute toxicity:	Occupational exposure to the substance or mixture may cause adverse effects.
Skin corrosion/irritation:	Causes severe skin burns and eye damage.
Serious eye damage/eye Irritation:	Causes serious eye damage.

Respiratory sensitization:	No data available.
Skin sensitization:	No data available.
Germ cell mutagenicity:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Mist:	May cause cancer by inhalation. ACGIH Group A2 (Suspected human carcinogen)
IARC Monographs.	Overall Evaluation of Carcinogenicity
NTP Report on Carcinogens	Known To Be Human Carcinogen.

Sulfuric acid (CAS 7664-93-9)	
Reproductive toxicity:	No data available.

Specific target organ toxicity - single exposure:	May cause respiratory irritation.
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Components Species Test Results:

Guinea pig- Inhalation LC ₅₀ :	Acute at 0.018 mg/l, 8 hrs
Rat- Inhalation LC ₅₀ :	510 mg/l, 2 hr
Rat- Oral LD ₅₀ :	2140 mg/kg

SECTION 12 ECOLOGICAL INFORMATION

Aquatic Toxicity:

Harmful to aquatic life with long lasting effects. Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Dilute Sulfuric Acid, 60-80%:	Fish LC ₅₀ -Fish	60 mg/l, 96 hours
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Sulfuric Acid:	Fish LC ₅₀ -Mosquitofish (<i>Gambusia affinis</i>):	42 mg/l, 96 hours
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Persistence and degradability:	No data is available on the degradability of this product.
Bioaccumulative potential:	The products of biodegradation may be more toxic than the original product.

Mobility in soil:	Not available.
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Other adverse effects:	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation)
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SECTION 13 DISPOSAL CONSIDERATIONS

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all local/regional/federal/provincial and/or local regulations including the Canadian Environmental Protection Act.

SECTION 14 TRANSPORT INFORMATION

Shipping:

Usual Shipping Containers:	Tank car, tank trucks, drums.
Usual Shelf Life:	Indefinite (life of containers).
Storage/Transport Temperatures:	Ambient.

Suitable Storage:

Materials/Coatings:

Mild steel, if trace of iron pick-up is acceptable. Steel is unacceptable if further diluted with water. Acid resistant plastics.

Unsuitable:

Natural rubber, PVC and PVDC materials.

D.O.T. Information:

Labeling:

Corrosive

UN Identification Number

UN 1832

Proper Shipping Name: Hazard

Sulfuric acid, spent

Class:

8

Packing Group:

II

Hazard Guide:

137

Placard:

1832

SECTION 15

REGULATORY INFORMATION

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Sulfuric Acid

CAS#: 7664-93-9

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard, Reactivity Hazard

Massachusetts Right To Know Components

Sulfuric Acid

CAS#: 7664-93-9

Pennsylvania Right To Know Components

Sulfuric Acid

CAS#: 7664-93-9

New Jersey Right To Know Components

Sulfuric Acid

CAS#: 7664-93-9

California Prop. 65 Components

As the result of the raw materials used in the manufacturing process, this product may contain chemicals at trace levels known to the State of California to cause cancer, birth defects, or other reproductive harm.

Toxic Substances Control Act (TSCA):

CAS# 7664-93-9 is listed on the TSCA inventory.

Comprehensive Environmental Response Compensation Liability Act: (CERCLA) CAS#

7664-93-9 is listed on the CERCLA Hazardous Substance List.

SECTION 16 OTHER INFORMATION

HMIS Rating:

Health hazard: 3
 Chronic Health Hazard: *
 Flammability: 0
 Physical Hazard: 2

NFPA Rating:

Health hazard: 3
 Fire Hazard: 0
 Reactivity Hazard: 2
 Special Marking: Water Reactive

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Version 1.0	For the new GHS SDS Standard	Revision Date: 2/2/2015
Version 1.1	Graphics updated	Revision Date: 3/9/2015
Version 1.2	Changed DOT shipping name, UN	Revision Date: 6/2/2015
Version 1.3	Changes Section 1	Revision Date: 4/15/2016
Version 1.4	Changed P501 text (Section 2)	Revision Date: 6/15/16
Removed Version, Updated Format		Revision Date: 5/16/2018
Update to INEOS KOH		Revision Date: 12/01/2022

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