



Be Right™

Revision Date 09-May-2025

SAFETY DATA SHEET

Version 3.1

Section 1: Identification

Product identifier

Product Name Chemical Oxygen Demand Standard Solution 300 mg/L COD

Safety data sheet number M00587

Other means of identification

Pure substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis Determination of Chemical Oxygen Demand

Uses advised against Consumer use

Manufacturer or supplier details

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

For further information, please contact

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

Section 2: Hazard identification

Classification of the substance or mixture

Classification

Chronic aquatic toxicity	Category 3 - (H412)
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Label elements

Hazard statements

H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 - Avoid release to the environment.

P501 - Dispose of contents/ container to an approved waste disposal plant.

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Other Hazards Known

Other hazards Harmful to aquatic life.

Section 3: Composition/information on ingredients

Substance

Not applicable

Mixture

Chemical Family Mixture.

Chemical nature Aqueous alkaline solution of organic and inorganic salts.

Chemical name	CAS No.	Weight-%
1,2-Benzenedicarboxylic acid, monopotassium salt	877-24-7	<0.1%
Sulfuric acid, copper(2+) salt (1:1)	7758-98-7	<0.01%

Section 4: First-aid measures

Description of necessary first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Ingestion Rinse mouth.

Most important symptoms/effects, acute and delayed

Symptoms No information available.

Effects of Exposure No information available.

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

Note to physicians Treat symptomatically.

Section 5: Fire-fighting measures

Extinguishing media

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

Specific hazards arising from the chemical No information available.

Hazardous combustion products This material will not burn.

Special protective equipment and precautions for fire-fighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.
Use personal protection equipment.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

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

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: Handling and storage

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

Section 8: Exposure controls/personal protection

Control Parameters

Occupational exposure limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical name	Singapore	ACGIH TLV
Sulfuric acid, copper(2+) salt (1:1) 7758-98-7		TWA: 1 mg/m ³ Cu dust and mist

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls No information available.

Personal protection

Eye/face protection Appropriate eye/face protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.

Hand protection Appropriate hand protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Short term	Wear protective nitrile rubber gloves	0,20 mm	>30 minutes
Long term (repeated)	Wear protective Viton™ gloves	0,70 mm	>480 minutes

Skin and body protection Appropriate skin and body protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.

Respiratory protection Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance aqueous solution
Color colorless
Odor Odorless
Odor threshold Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	Not applicable	
pH	4.7	@ 20 °C
Melting point / freezing point	~ 0 °C / 32 °F	

Initial boiling point and boiling range	~ 100 °C / 212 °F
Evaporation rate	No data available
Vapor pressure	17.477 mm Hg / 2.33 kPa at 20 °C / 68 °F
Relative vapor density	0.62
Specific gravity - VALUE 1	0.987
Partition coefficient	No data available
Soil Organic Carbon-Water Partition Coefficient	Not applicable
Autoignition temperature	No data available
Decomposition temperature	No data available
Dynamic viscosity	1 cP (mPa s) at 20 °C / 68 °F
Kinematic viscosity	1.013 cSt (mm²/s) at 20 °C / 68 °F

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F
Most Polar Organic Solvents	Soluble	> 1000 mg/L	25 °C / 77 °F

Other information

Corrosive to metals

Steel Corrosion Rate	No data available
Aluminum Corrosion Rate	No data available

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
1,2-Benzenedicarboxylic acid, monopotassium salt	877-24-7	No data available	-
Sulfuric acid, copper(2+) salt (1:1)	7758-98-7	No data available	-

Explosive properties

Upper explosion limit	Not applicable
Lower explosion limit	Not applicable

Flammable properties

Flash point	No data available
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Oxidizing properties	No data available.
Bulk density	No data available

Section 10: Stability and reactivity

Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid None known based on information supplied.

Incompatible materials None known based on information supplied.

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Section 11: Toxicological information

Toxicological information

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Benzenedicarboxylic acid, monopotassium salt (<0.1%) CAS#: 877-24-7	Rat LD ₅₀	> 3200 mg/kg	None reported	None reported	RTECS
Sulfuric acid, copper(2+) salt (1:1) (<0.01%) CAS#: 7758-98-7	Rat LD ₅₀	300 mg/kg	None reported	None reported	LOLI

Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid, copper(2+) salt (1:1) (<0.01%) CAS#: 7758-98-7	Rabbit LD ₅₀	> 2000 mg/kg	None reported	None reported	ECHA

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

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

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
1,2-Benzenedicarboxylic acid, monopotassium salt (<0.1%) CAS#: 877-24-7	OECD Test 404: Acute Dermal Corrosion/Irritation	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA
Sulfuric acid, copper(2+) salt (1:1) (<0.01%) CAS#: 7758-98-7	Standard Draize Test	Rabbit	500 mg	4 hours	Skin irritant	ECHA

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
1,2-Benzenedicarboxylic acid, monopotassium salt (<0.1%) CAS#: 877-24-7	EpiOcular™ Eye Irritation Test	Human	50.3 mg	6 hours	Not corrosive or irritating to eyes	ECHA

Respiratory or skin sensitization

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
1,2-Benzenedicarboxylic acid, monopotassium salt (<0.1%) CAS#: 877-24-7	OECD Guideline 442D (In Vitro Skin Sensitisation: ARE-Nrf2 Luciferase Test Method)	None reported	Not confirmed to be a skin sensitizer	ECHA

STOT - single exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture *invitro* Data

No data available.

Substance *invitro* Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
1,2-Benzenedicarboxylic acid,	OECD 471	<i>Salmonella typhimurium</i>	5 mg/plate	48 hours	Negative	ECHA

monopotassium salt (<0.1%) CAS#: 877-24-7						
Sulfuric acid, copper(2+) salt (1:1) (<0.01%) CAS#: 7758-98-7	DNA inhibition	Human lymphocyte	0.076 mmol/L	None reported	Positive test result for mutagenicity	RTECS

Mixture *in vivo* Data

No data available.

Substance *in vivo* Data

No data available.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Aspiration hazard

Based on available data, the classification criteria are not met.

Other adverse effects No information available.

Section 12: Ecological information

Toxicity

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity

Contains 0 % of components with unknown hazards to the aquatic environment.

Mixture

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
1,2-Benzenedicarboxylic acid, monopotassium salt (<0.1%) CAS#: 877-24-7	96 hours	None reported	LC ₅₀	9323 mg/L	ECOSARS
Sulfuric acid, copper(2+) salt (1:1) (<0.01%) CAS#: 7758-98-7	96 hours	<i>Pimephales promelas</i>	LC ₅₀	0.0028 mg/L	Vendor SDS

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
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1,2-Benzenedicarboxylic acid, monopotassium salt (<0.1%) CAS#: 877-24-7	48 Hours	None reported	LC ₅₀	4859 mg/L	ECOSARS
Sulfuric acid, copper(2+) salt (1:1) (<0.01%) CAS#: 7758-98-7	48 Hours	<i>Daphnia magna</i>	EC ₅₀	0.0014 mg/L	Vendor SDS

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
1,2-Benzenedicarboxylic acid, monopotassium salt (<0.1%) CAS#: 877-24-7	96 hours	None reported	EC ₅₀	2538 mg/L	ECOSARS
Sulfuric acid, copper(2+) salt (1:1) (<0.01%) CAS#: 7758-98-7	72 Hours	<i>Thalassiosira pseudonana</i>	EC ₅₀	0.005 mg/L	ERMA

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

Mixture

No data available.

Partition coefficient

No data available

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Other adverse effects

No information available

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
1,2-Benzenedicarboxylic acid, monopotassium salt (<0.1%) CAS#: 877-24-7	Group III Chemical	-	-

Section 13: Disposal considerations

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

Section 14: Transport information

Note: No special precautions necessary.

IATA

14.1 UN number or ID number	Not regulated
14.2	
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2	
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

Rail transport

14.1 UN number or ID number	Not regulated
14.2	
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

Road transport

14.1 UN number or ID number	Not regulated
14.2	
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

Section 15: Regulatory information

Regulatory information

National regulations

Environmental Public Health Act

Dispose of waste product or used containers according to local regulations.

Hazardous Waste (Control of Export, Import and Transit) Act

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

Workplace Safety and Health Act

Comply with the health and safety at work laws.

International Regulations

The Rotterdam Convention Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECI	Complies
PICCS	Complies
AICS	Complies
NZIoC	-
TCSI	Contact supplier for inventory compliance status.

-
- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
 - DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List
 - EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 - ENCS** - Japan Existing and New Chemical Substances
 - IECSC** - China Inventory of Existing Chemical Substances
 - KECL** - Korean Existing and Evaluated Chemical Substances
 - PICCS** - Philippines Inventory of Chemicals and Chemical Substances
 - AICS** - Australian Inventory of Chemical Substances
 - NZIoC** - New Zealand Inventory of Chemicals
 - TCSI** - Taiwan Chemical Substance Inventory

15.2. Chemical safety assessment

Chemical Safety Report No information available

Section 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	Environmental Protection Agency
ERMA	ERMA (New Zealand's Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)

NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	Occupational Safety and Health Administration of the US Department of Labor
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

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Restrictions on use For Laboratory Use Only.

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

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End of Safety Data Sheet