

# Safety Data Sheet

According to Hazardous Products Regulation (SOR/2015-17)

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## SECTION 1: Identification

### Product identifier

Trade name/designation:	Ceric sulfate 0.1N
Product No.:	BDH7253-1, BDH7253-4
Synonyms:	none
CAS No.:	10294-42-5
Other means of identification:	

### Relevant identified uses of the substance or mixture and uses advised against

Recommended use:	For Further Manufacturing Use Only
Uses advised against:	Not for Human or Animal Drug Use

### Details of the supplier of the safety data sheet

#### Supplier

##### **VWR International**

Street	2360 Argentia Road
Postal code/City	Mississauga, Ontario Canada L5N 5Z7
Telephone	+1-800-932-5000 toll-free within US/Canada
Telefax	+1-610-728-2103

### Emergency phone number

Telephone +1-613-996-6666 (Canutec, 24 hrs/day, 7 days/week, Canada)

### Preparation Information

VWR International - Product Information Compliance

E-mail SDS@avantorsciences.com

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

#### Classification according to Hazardous Products Regulation (SOR/2015-17)

Hazard classes and hazard categories	Hazard statements
Substance or mixture corrosive to metals, category 1	H290
Skin irritation, category 2	H315
Eye irritation, category 2	H319
Hazardous to the aquatic environment, chronic, category 2	H411

### 2.2 Label elements

#### Labelling in accordance with (SOR/2015-17)

#### Hazard pictograms



Signal word: Warning

Hazard statements	
H290	May be corrosive to metals.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements	
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P273	Avoid release to the environment.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor.

#### Hazard(s) not otherwise classified (HNOC)

none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

not applicable

### 3.2 Mixtures

Hazardous ingredients GHS Classification in accordance with (SOR/2015-17)

Substance name	Concentration	Identifier	Hazard classes and hazard categories
Sulfuric acid	5 - 10%	CAS No.: 7664-93-9	Met. Corr. 1 - H290 Skin Corr. 1A - H314
Cerium (IV) sulphate	2 - 5%	CAS No.: 13590-82-4	Aquatic Acute 1 - H400 Aquatic Acute 1 - H410 Skin Corr. 1 - H314

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

Do not leave affected person unattended. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. When in doubt or if symptoms are observed, get medical advice.

#### In case of inhalation

Remove casualty to fresh air and keep warm and at rest. If unconscious but breathing normally, place in recovery position and seek medical advice.

#### In case of skin contact

Wash off any skin contamination immediately. When in doubt or if symptoms are observed, get medical advice.

#### After eye contact:

Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. Transport to the ophthalmologist or eye clinic as soon as possible. Continue rinsing with isotonic saline solution during transport, alternatively with water.

#### In case of ingestion

Rinse mouth thoroughly with water. Do NOT induce vomiting. Call a POISON CENTER. Let 1 glass of water be drunken in little sips (dilution effect).

#### Self-protection of the first aider

First aider: Pay attention to self-protection! Wear personal protection equipment (refer to section 8). Avoid contact with skin, eyes and clothes.

### 4.2 Most important symptoms/effects, acute and delayed

After inhalation: May cause respiratory irritation. Shortness of breath. Cough. After skin contact: Irritation. After eye contact: Irritation. After ingestion: Nausea. Vomiting. Hypocalcämie

### 4.3 Indication of any immediate medical attention and special treatment needed

After inhalation: Provide fresh air. After skin contact: Wash with plenty of soap and water. If necessary, treat skin irritations with a dermatocorticoid foam. After eye contact: Treat symptomatically. After ingestion: Let water be drunken in little sips (dilution effect). After ingestion of large amounts, immediate gastric lavage in intubation should be considered.

## SECTION 5: Fire fighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.  
Dry extinguishing powder.  
ABC-powder  
Carbon dioxide (CO<sub>2</sub>).  
Nitrogen

#### Extinguishing media which must not be used for safety reasons

Full water jet

### 5.2 Specific hazards arising from the chemical

Non-combustible corrosive substances (liquid).  
Causes skin and eye irritation.  
The inhalation of dust/mist or aerosols causes irritation of the respiratory tract.  
Fire may produce irritating, corrosive and/or toxic gases.  
In case of fire may be liberated:  
Pyrolysis products, toxic

### 5.3 Advice for firefighters

Co-ordinate fire-fighting measures to the fire surroundings.  
In case of fire: Evacuate area.  
In case of fire and/or explosion do not breathe fumes.  
Protective equipment and precautions for firefighters:  
Wear a self-contained breathing apparatus and chemical protective clothing.  
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Wear personal protection equipment (refer to section 8). Avoid contact with eyes and skin. Do not breathe gas/fume/vapor/spray. Remove victim out of the danger area. Provide adequate ventilation. For emergency responders: Wear a self-contained breathing apparatus and chemical protective clothing. Substance is non-flammable. Adapt fire and explosion protection measures to the combustible substances in the area. In case of major fire and large quantities: Fight fire remotely due to the risk of explosion.

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains.

### 6.3 Methods and material for containment and cleaning up

Large spills: Dike or dam to contain for later disposal. Stop leak if safe to do so. Take up mechanically, placing in appropriate containers for disposal. Absorb spillage to prevent material damage. Small spills: Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Rinse affected areas with water. Ventilate affected area. Dispose according to legislation.

### 6.4 Reference to other sections

Personal protection equipment (PPE): see section 8 Disposal information: see section 13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advices on safe handling

Use personal protective equipment as required.

Avoid substance contact.

Use extractor hood (laboratory).

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Use of small quantities within laboratory settings, including material transfers and equipment cleaning.

Measures to prevent fire, aerosol and dust generation

Usual measures for fire prevention.

Measures required to protect the environment

Do not empty into drains.

Collect spillage.

Cover drains.

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

### 7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: no data available

Storage: Store in a dry place. Store in a closed container. Keep/Store only in original container. Packaging materials: Glass High density polyethylene (HDPE) Unsuitable materials and coatings of containers/equipment: Metal container

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Ingredient (Designation)	Source	Country	parameter	Limit value
Sulfuric acid	CNESST	CA	VECD	3 mg/m <sup>3</sup>
Sulfuric acid	CNESST	CA	VEMP	1 mg/m <sup>3</sup>

### 8.2 Engineering controls

#### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

### **Personal protection equipment (PPE)**

Wear suitable protective clothing. When handling with chemical substances, protective clothing must be worn.

#### *Eye/face protection*

Eye glasses with side protection

#### *Skin protection*

Wear suitable gloves. When handling with chemical substances, protective gloves must be worn. In the case of wanting to use the gloves again, clean them before taking off and air them well. Check leak tightness/impermeability prior to use.

#### By short-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,12 mm
Breakthrough time	> 480 min

#### By long-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,38 mm
Breakthrough time	> 480 min

#### *Respiratory protection*

Respiratory protection necessary at: aerosol or mist formation If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

#### *Additional information*

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

#### *Environmental exposure controls*

no data available

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	
Physical state:	liquid
Color:	yellow
Odor:	odorless

#### Safety relevant basic data

pH:	0.4 (20 °C)
Melting point/freezing point:	no data available
Initial boiling point and boiling range:	no data available
Flash point:	no data available
Flammability:	Not applicable
Lower and upper explosion limit	
Lower explosion limit:	no data available
Upper explosion limit:	no data available
Vapor pressure:	no data available
Relative vapour density:	no data available
Density and/or relative density	
Density:	1.06 g/cm <sup>3</sup> (20 °C)
Solubility(ies)	
Water solubility:	soluble (20°C)
Partition coefficient: n-octanol/water:	no data available
Auto-ignition temperature:	no data available
Decomposition temperature:	Not applicable
Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	no data available
Particle characteristics:	does not apply to liquids

### 9.2 Other information

Evaporation rate:	no data available
Explosive properties:	no data available
Oxidising properties:	Not applicable
Bulk density:	no data available
Refraction index:	no data available
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

- Reactive substance.
- Corrosive to metals

## 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

## 10.3 Possibility of hazardous reactions

Reaction with:

Zinc

The product develops hydrogen in an aqueous solution in contact with metals.

Exothermic reaction with:

Water.

Substance, organic

## 10.4 Conditions to avoid

No special measures are necessary.

## 10.5 Incompatible materials:

Metal.

The product develops hydrogen in an aqueous solution in contact with metals.

## 10.6 Hazardous decomposition products

Decomposition products in case of fire: see section 5.

# SECTION 11: Toxicological information

## 11.1 Information on toxicological effects

### Acute effects

*Acute oral toxicity:*

Sulfuric acid - LD50: > 2140 mg/kg - Rat - (Merck KGaA)

*Acute dermal toxicity:*

no data available

*Acute inhalation toxicity:*

Sulfuric acid - LC50: 375 mg/m<sup>3</sup> - Rat - (IUCLID)

### Irritant and corrosive effects:

*Primary irritation to the skin:*

Causes skin irritation.

*Irritation to eyes:*

Causes serious eye irritation.

*Irritation to respiratory tract:*

Not applicable



**Respiratory or skin sensitization**

In case of skin contact: not sensitizing

In case of inhalation: not sensitizing

**STOT-single exposure**

Not applicable

**STOT-repeated exposure**

Not applicable

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

**Carcinogenicity**

No indication of human carcinogenicity.

**Germ cell mutagenicity**

No indications of human germ cell mutagenicity exist.

**Reproductive toxicity**

No indications of human reproductive toxicity exist.

**Aspiration hazard**

Not applicable

**Other adverse effects**

no data available

**Additional information**

no data available

## SECTION 12: Ecological information

### 12.1 Toxicity

**Fish toxicity:**

no data available

**Daphnia toxicity:**

Sulfuric acid - LC50: 42.5 mg/l (48 h) - Portmann, J.E., and K.W. Wilson 1971. The Toxicity of 140 Substances to the Brown Shrimp and Other Marine Animals. Shellfish Information Leaflet No.22, Ministry of Agric.Fish.Food, Fish.Lab.Burnham-on-Crouch (2 ed./12).

**Algae toxicity:**

no data available

**Bacteria toxicity:**

no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: no data available

#### 12.4 Mobility in soil:

no data available

#### 12.5 Results of PBT/vPvB assessment

Not applicable

#### 12.6 Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to the environment.

#### 12.7 Other adverse effects

no data available

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

##### Appropriate disposal / Product

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal. Product is an acid. Before disposal it needs to be neutralised.

Waste code product: no data available

##### Appropriate disposal / Package

Dispose according to legislation. Handle contaminated packages in the same way as the substance itself.

##### Additional information

none

No further relevant information available.

### SECTION 14: Transport information

#### Land transport (TDG)

UN-No.:	3264
Proper Shipping Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULFURIC ACID / CERIC SULFATE)
Class(es):	8
Packing group:	III
Environmental hazards:	Dangerous for the environment
Marine pollutant:	Yes (P)
Special precautions for user:	

#### Sea transport (IMDG)

UN-No.:	3264
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Proper Shipping Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULFURIC ACID / CERIC SULFATE)
Class(es):	8
Classification code:	
Hazard label(s):	8
Packing group:	III
Environmental hazards:	Dangerous for the environment
Marine pollutant:	Yes (P)
Special precautions for user:	
Segregation group:	1
EmS-No.	F-A S-B
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	
not relevant	

### Air transport (ICAO-TI / IATA-DGR)

UN-No.:	3264
Proper Shipping Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULFURIC ACID / CERIC SULFATE)
Class(es):	8
Classification code:	
Hazard label(s):	8
Packing group:	III
Special precautions for user:	

## SECTION 15: Regulatory information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

Domestic Substance List:

## SECTION 16: Other information

### Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists  
DOT - Department of Transportation  
IARC - International Agency for Research on Cancer  
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations  
ICAO-TI - International Civil Aviation Organization-Technical Instructions  
IMDG - International Maritime Code for Dangerous Goods  
LTV - Long Term Value  
NIOSH - National Institute for Occupational Safety and Health  
NTP - National Toxicology Program  
OSHA - Occupational Safety & Health Administration  
PBT - Persistent, Bioaccumulative and Toxic  
PEL - Permissible Exposure Limit  
STV - Short Term Value  
SVHC - Substances of Very High Concern  
TDG - Transport of Dangerous Goods  
TLV - Threshold Limit Value  
vPvB - very Persistent, very Bioaccumulative

### Key literature references and sources for data

This Safety Data Sheet has been prepared based on information available for public as TOXNET information, European Chemicals Agency (ECHA) substance dossier, papers from international cancer research institutes (IARC Monographs), U.S. National Toxicology Program data, U.S. Agency for Toxic Substances and Disease Control (ATSDR), PubChem websites and SDS from our raw material manufacturers.

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23.01.2024	6.3	23.01.2024

### Additional information

Indication of changes      general update

If you need an explanation of the change, contact the supplier (SDS@avantorsciences.com).

*The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guidance. The information in this document is based on the present state knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and his Affiliates shall not be held liable for any damage resulting from handling.*