



# CITY OF NORTH SALT LAKE COMMUNITY & ECONOMIC DEVELOPMENT

10 East Center Street, North Salt Lake, Utah 84054  
(801) 335-8700  
(801) 335-8719 Fax

## NORTH SALT LAKE PLANNING COMMISSION NOTICE & AGENDA November 26, 2024 6:30 p.m.

Notice is given that the City of North Salt Lake Planning Commission will hold a regular meeting on the above noted date and time in the City Council Chambers located at 10 East Center Street.

- 1) Welcome and Introduction
- 2) Public comments
- 3) Consideration of a conditional use permit for Amani Agriculture and Prime 90 at 190 North Cutler Drive, Suites B and C, Bryon Tarbet, applicant (Administrative)
- 4) Work Session: Pending Code Amendment
  - a. Conditional Use Standards and Land Use Table
- 5) Report on City Council actions on items recommended by Planning Commission
- 6) Approval of minutes:
  - a. 11/12/2024

Adjourn

*This meeting will be broadcasted live through the City's YouTube channel: <https://www.youtube.com/@nslutah4909/streams>.*

*Planning Commission meetings are open to the public. If you need special accommodation to participate in the meeting, please call (801) 335-8709 with at least 24 hours' notice. Meetings of the Planning Commission may be conducted via electronic means pursuant to Utah Code Ann. §52-4-207 as amended. In such circumstances, contact will be established and maintained via electronic means and the meetings will be conducted in accordance with the City's Electronic Meetings Policy.*

Notice of Posting:

I, the duly appointed City Recorder for the City of North Salt Lake, certify that copies of the agenda for the Planning Commission meeting to be held **November 26, 2024** were posted on the Utah Public Notice Website: <https://www.utah.gov/pmn/>, City's Website: <https://www.nslcity.org>, and at City Hall: 10 E. Center St. North Salt Lake.

Date Posted: November 21, 2024

  
Wendy Page, City Recorder





# CITY OF NORTH SALT LAKE COMMUNITY & ECONOMIC DEVELOPMENT

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10 East Center Street, North Salt Lake, Utah 84054  
(801) 335-8700  
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## MEMORANDUM

**TO:** Planning Commission  
**FROM:** Mackenzie Johnson, Planner  
**DATE:** November 26, 2024  
**SUBJECT:** Conditional use permit for Amani Agriculture and Prime 90 at 190 N Cutler Drive, Suite B & C

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### RECOMMENDATION

The Development Review Committee (DRC) recommends approval of the conditional use permit for Amani Agriculture and Prime 90 at 190 North Cutler Drive, Suites B and C with the following conditions:

1. The applicant complies with all applicable regulations related to the storage and quantity limits for associated chemicals, manufacturing materials, or other substances as determined by South Davis Metro Fire and other applicable jurisdictional agencies;
2. The applicant shall inform the City and South Davis Metro Fire Agency prior to any additional chemicals, materials, or other regulated substances are stored, used, or manufactured on site which are not listed in the Safety Data Sheets submitted as part of this application for inclusion or amendment of the conditional use permit, as applicable;
3. All manufacturing and storage activities shall be conducted indoors only;
4. The businesses shall not create any odors discernable from outside the premises from or related to the storage or use of chemicals, materials, or other substances used in the manufacturing processes;
5. Sufficient building modifications shall be made to the unit to ensure no discernable odor is emitted from the businesses, which may include but is not limited to additional ventilation, insulation, or sealing between neighboring units;
6. Access to manufacturing and storage areas of the subject units be physically restricted from access by the unauthorized personnel and the general public; and
7. The applicant permits City staff, South Davis Metro Fire, and/or the Health Department entry to the premises to inspect the unit and warehouse whenever reasonably requested to ensure compliance with the above listed conditions.

### BACKGROUND

*This conditional use permit application was tabled by the Planning Commission on November 12, 2024. The suggested edits to the recommended conditions have been made to the drafted motion of approval.*

The City received a code enforcement complaint related to nuisance odors coming from Suites B and C at 190 North Cutler Drive during July 2024. The City investigation determined that the tenant, Bryon Tarbet,

was operating three businesses at the subject location without licensing. The businesses and descriptions of operations are as follows:

Amani Agriculture manufactures soil amendments designed to restore bacterial balance, enhance nutrient absorption, and reduce the need for traditional fertilizers and water usage for high crop yields. The product is created with nontoxic species of bacteria and minerals such as calcium and magnesium that are mixed into a dry powder and packaged. Equipment used for the business includes a forklift, small cement mixer, ribbon blender designed for soil, and plastic pails for the finished product.

Prime 90 manufactures nutritional supplements for dogs, cats, livestock, and humans by mixing trace minerals such as cobalt, iron, calcium, magnesium, copper, boron, manganese, sulfur, iodine, chromium, zinc, selenium, and vanadium. The products also contain glucosamine which improves joint health and methionine which is an essential amino acid. The exact formulation varies by species of animal. The finished products are liquid or dried on a carrier such as rice bran. The manufacturing of the product includes dissolving the minerals into water and adding molasses for flavor. The liquid is then sprayed onto the rice bran and dried by convection in a cement mixer dedicated to making the product.

The CBD Doctors use the subject location for drop shipping and office work only. The manufacturing and packaging of the product is done off site.

The property of 190 North Cutler Drive has an existing four unit building and is zoned General Commercial (CG). According to business license records, Mountain West Lethal Precision and Trutech Laser Corp operate out of Suite A. Ideal Sciences and Wine Cellars operate out of Suite D. Amani Agriculture, Prime 90, and The CBD Doctors are operated out of Suites B and C. The property has 33 shared parking stalls. The applicant has been allocated 10 of those parking stalls which meets the minimum parking standard, as demonstrated below:

<b>Land Use</b>	<b>City Code 10-6-5:</b>	<b>Sq. Ft.</b>	<b>Required</b>
General office	1 stall per 250 sq. ft.	200	1
Manufacturing, processing, or assembly	1 stall per 1,000 sq. ft. or 1 stall per employee on highest shift, whichever is greater	500	1
On site warehouse storage	2 stalls per 1,000 sq. ft.	3500	7
<b>Total Required Parking Stalls</b>			<b>9</b>

The CBD Doctors has been classified as general office which is a permitted land use in the CG zone. Amani Agriculture and Prime 90 have been classified as miscellaneous manufacturing which is a staff determined use in the CG zone. Code section 10-11-2 provides that a staff determined use requires the Community Development Director to evaluate the proposed use and determine if the use is similar to other permitted uses, conditional uses, or prohibited uses in the zone. Due to the potential for nuisance odors related to business operations and the use of chemicals, the Community Development Director classified the use as a conditional use, requiring approval by the Planning Commission. The City received a complete conditional use permit application prior to the City Council’s formal initiation of the code amendment for conditional uses including the update of the land use table on August 15, 2024 and

therefore is not subject to the provisions of State Code Section 10-9a-509 regarding pending ordinances and may be processed.

As part of the investigation related to the odor complaint and subsequent conditional use permit application, staff identified a possible source of the reported chlorine odor emitted from the units. During and after the COVID 19 pandemic, the applicant manufactured a product called SaniMax CLO2 (Chlorine Dioxide) sanitizing liquid at the Cutler Drive location. The manufacturing process utilized the chemical Sodium Chlorite. Staff believes that chemical or the end product SaniMax was likely the cause of the reported chlorine smell observed in the neighboring unit. The applicant met with City staff and has agreed to discontinue the manufacture, sale or storage of SaniMax at this location and remove the item offered for sale from this location on all websites. In addition, the remaining chemical Sodium Chlorite and other materials associated with the manufacture of the product have been removed from the subject location due to the potentially hazardous and noxious odors that may be associated with the substance.

The applicant was required to submit quantities, storage plans, and Safety Data Sheets (SDS) to the City and South Davis Metro Fire for all chemicals/materials stored and used on the premises. Those documents are attached as an exhibit for the Planning Commissions review. The Fire Marshal has indicated that if a chemical/material is corrosive or flammable it must be stored in a special storage system/cabinet and may be limited in total quantity permitted on site. All other noncorrosive or nonflammable chemicals/materials which are under the maximum allowable quantity must be stored using good storage practices, as defined by code. If the maximum allowable quantity is exceeded, then the chemicals/materials must be stored in the special system or cabinet as determined and enforced by the Fire Department.

To become compliant with code, the applicant has submitted a business license application, conditional use permit application, and made efforts to seal the walls of Suites B and C as an attempt to reduce the potential impact to the neighboring unit from discernable odors which are created by the manufacturing and storage process. The applicant has also removed the chemicals/materials that are believed to have caused chlorine like odors that were originally reported. The City has not received any new complaints regarding odors since.

The City Attorney has recommended to the Planning Commission that if the Conditional Use Permit is approved, it include the following conditions:

1. The businesses shall not create any discernable odors from or related to the storage, manufacturing, or use of chemicals, materials, or other substances; and
2. The applicant permits City staff entry to the premises to inspect the unit and warehouse whenever requested to ensure compliance with the conditions of approval.

This conditional use permit is subject to the requirements of the City's Land Use Ordinance (10-7-1-4), requiring that every Conditional Use Permit shall expire by limitation and become null and void if the work authorized by such permit has not commenced within one (1) year, or is not completed within two (2) years from date of issue.

#### **POSSIBLE MOTION**

I move that the Planning Commission approve the conditional use permit for Amani Agriculture and Prime 90 at 190 North Cutler Drive, Suites B and C with the following conditions:

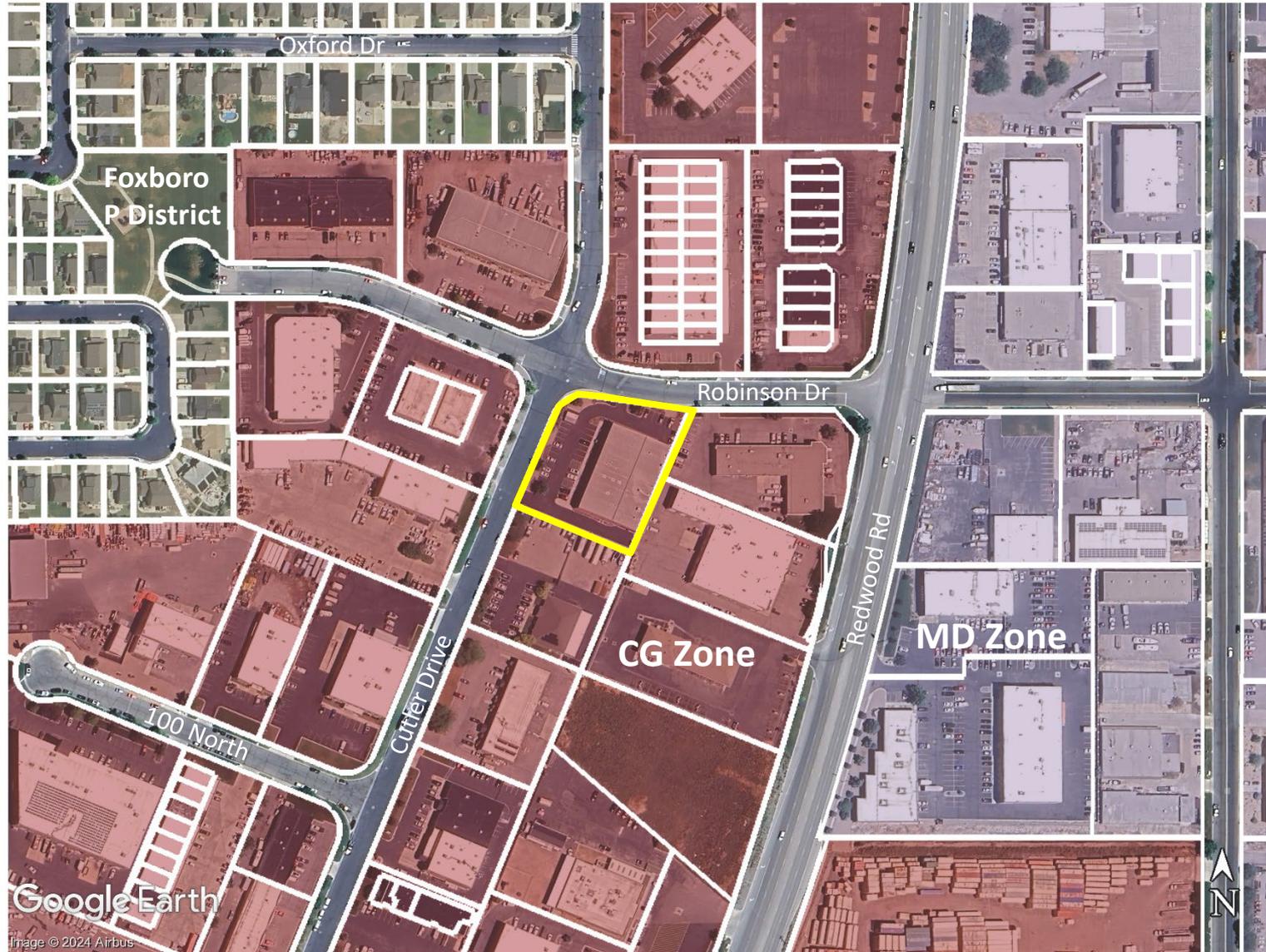
1. The applicant complies with all applicable regulations related to the storage and quantity limits for associated chemicals, manufacturing materials, or other substances as determined by South Davis Metro Fire and other applicable jurisdictional agencies;
2. The applicant shall inform the City and South Davis Metro Fire Agency prior to any additional chemicals, materials, or other regulated substances are stored, used, or manufactured on site which are not listed in the Safety Data Sheets submitted as part of this application for inclusion or amendment of the conditional use permit, as applicable;
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6. Access to manufacturing and storage areas of the subject units be physically restricted from access by the unauthorized personnel and the general public; and
7. The applicant permits City staff, South Davis Metro Fire, and/or the Health Department entry to the premises to inspect the unit and warehouse whenever reasonably requested to ensure compliance with the above listed conditions.

**Attachments:**

- 1) Zoning Map
- 2) Aerial Map
- 3) Safety Data Sheets

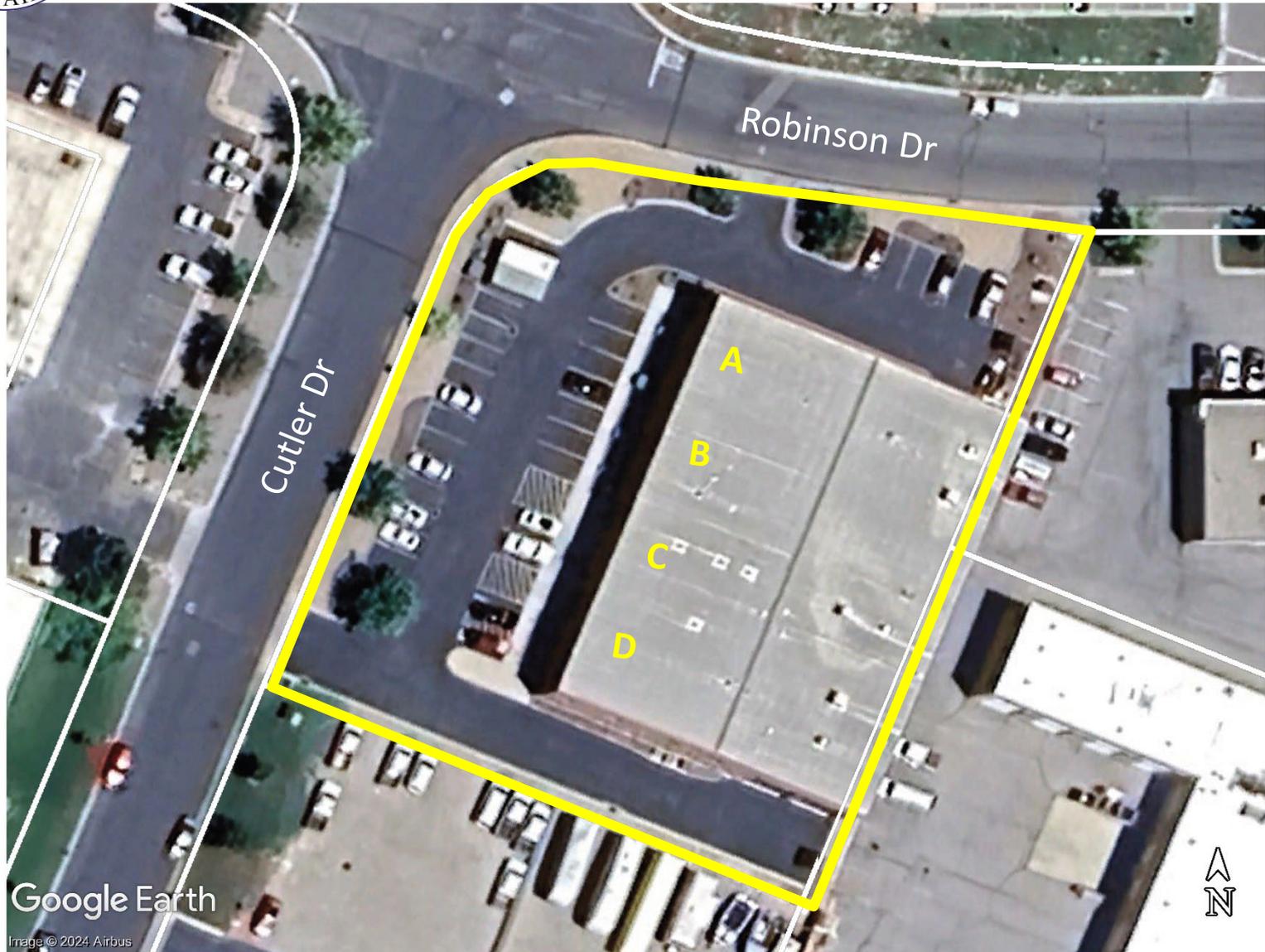


# Conditional Use Permit – Amani Agriculture 190 North Cutler Drive, Ste B & C Zoning Map





Conditional Use Permit – Amani Agriculture  
190 North Cutler Drive, Ste B & C  
Aerial Map



Google Earth

Image © 2024, Airbus



# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



**Boric acid ≥99,5 %, Ph.Eur., USP, BP**

article number: **P010**  
Version: **GHS 5.0 en**  
Replaces version of: 2021-10-12  
Version: (GHS 4)

date of compilation: 2016-07-01  
Revision: 2024-03-02

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Identification of the substance **Boric acid ≥99,5 %, Ph.Eur., USP, BP**

Article number P010

CAS number 10043-35-3

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

Relevant identified uses: Laboratory chemical  
Laboratory and analytical use

Uses advised against: Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feeding-stuffs.

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

Carl Roth GmbH + Co. KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:**+49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** sicherheit@carlroth.de

**Website:** www.carlroth.de

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** sicherheit@carlroth.de

### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.7	Reproductive toxicity	1B	Repr. 1B	H360FD

For full text of abbreviations: see SECTION 16

### 2.2 Label elements

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article number: **P010**

## Labelling

### Signal word

**Danger**

### Pictograms

GHS08



### Hazard statements

H360FD May damage fertility. May damage the unborn child

### Precautionary statements

#### Precautionary statements - prevention

P202 Do not handle until all safety precautions have been read and understood  
P280 Wear protective gloves/protective clothing/eye protection/face protection

#### Precautionary statements - response

P308+P313 IF exposed or concerned: Get medical advice/attention

#### Precautionary statements - storage

P405 Store locked up

#### Precautionary statements - disposal

P501 Dispose of contents/container to industrial combustion plant

For professional users only

## 2.3 Other hazards

### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### Endocrine disrupting properties

The substance has an endocrine disrupting potential.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Boric acid
Molecular formula	H <sub>3</sub> BO <sub>3</sub>
Molar mass	61.83 g/mol
CAS No	10043-35-3

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**Boric acid ≥99,5 %, Ph.Eur., USP, BP**

article number: **P010**

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower.

#### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following ingestion

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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

Symptoms and effects are not known to date.

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!  
water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Non-combustible.

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

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## SECTION 6: Accidental release measures

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



#### **For non-emergency personnel**

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

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

#### **Advice on how to contain a spill**

Covering of drains. Take up mechanically.

#### **Advice on how to clean up a spill**

Take up mechanically. Control of dust.

#### **Other information relating to spills and releases**

Place in appropriate containers for disposal.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid exposure. Avoid dust formation.

#### **Measures to prevent fire as well as aerosol and dust generation**

Removal of dust deposits.

#### **Advice on general occupational hygiene**

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

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

Store in a dry place.

#### **Incompatible substances or mixtures**

Observe hints for combined storage.

#### **Consideration of other advice:**

#### **Ventilation requirements**

Use local and general ventilation.

#### **Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 – 25 °C

### 7.3 Specific end use(s)

No information available.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [mg/m <sup>3</sup> ]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
AU	nuisance dusts		WES	10			i	WES

#### Notation

- Ceiling-C Ceiling value is a limit value above which exposure should not occur
- i Inhalable fraction
- STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
- TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

#### Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	8.3 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	392 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

#### Environmental values

Relevant PNECs and other threshold levels				
Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	2.9 mg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	2.9 mg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	5.7 mg/kg	terrestrial organisms	soil	short-term (single instance)

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

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## Skin protection



### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

### • type of material

NBR (Nitrile rubber)

### • material thickness

>0,11 mm

### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

## Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

## Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	solid
Form	powder, crystalline
Colour	white
Odour	odourless
Melting point/freezing point	>100 °C (slow decomposition)
Boiling point or initial boiling point and boiling range	not determined
Flammability	non-combustible
Lower and upper explosion limit	not determined

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## Boric acid $\geq 99,5\%$ , Ph.Eur., USP, BP

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Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	$>100\text{ }^{\circ}\text{C}$
pH (value)	3.8 – 4.8 (in aqueous solution: $30\text{ g/l}$ , $20\text{ }^{\circ}\text{C}$ )
Kinematic viscosity	not relevant
<u>Solubility(ies)</u>	
Water solubility	$49.2\text{ g/l}$ at $20\text{ }^{\circ}\text{C}$ (ECHA)
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	-1.09 (pH value: 7.5, $22\text{ }^{\circ}\text{C}$ ) (ECHA)
Vapour pressure	not determined
<u>Density and/or relative density</u>	
Density	$1.489\text{ g/cm}^3$ at $23\text{ }^{\circ}\text{C}$
Relative vapour density	Information on this property is not available.
Bulk density	$400 - 600\text{ kg/m}^3$
Particle characteristics	No data available.
<u>Other safety parameters</u>	
Oxidising properties	none
<b>9.2 Other information</b>	
Information with regard to physical hazard classes:	hazard classes acc. to GHS (physical hazards): not relevant
Other safety characteristics:	There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

**Violent reaction with:** strong oxidiser

### 10.4 Conditions to avoid

Keep away from heat. Decomposition takes place from temperatures above:  $>100\text{ }^{\circ}\text{C}$ .



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## 10.5 Incompatible materials

There is no additional information.

## 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Classification acc. to GHS**

#### Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4. May be harmful if swallowed or in contact with skin.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	3,450 mg/kg	rat		ECHA
dermal	LD50	>2,000 mg/kg	rabbit		ECHA

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

#### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

#### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

#### Carcinogenicity

Shall not be classified as carcinogenic.

#### Reproductive toxicity

May damage the unborn child. May damage fertility.

#### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

#### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

#### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

#### Symptoms related to the physical, chemical and toxicological characteristics

- **If swallowed**

Data are not available.

- **If in eyes**

Data are not available.

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- **If inhaled**

Data are not available.

- **If on skin**

Data are not available.

- **Other information**

none

## 11.2 Endocrine disrupting properties

This substance is known as an "endocrine disruptor".

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	-1.09 (pH value: 7.5, 22 °C) (ECHA)
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### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Endocrine disrupting properties

This substance is known as an "endocrine disruptor".

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

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## 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

- 14.1 UN number** not subject to transport regulations
- 14.2 UN proper shipping name** not assigned
- 14.3 Transport hazard class(es)** not assigned
- 14.4 Packing group** not assigned
- 14.5 Environmental hazards** non-environmentally hazardous acc. to the dangerous goods regulations
- 14.6 Special precautions for user**  
There is no additional information.
- 14.7 Transport in bulk according to IMO instruments**  
The cargo is not intended to be carried in bulk.

## 14.8 Information for each of the UN Model Regulations

**Transport information National regulations Additional information (UN RTDG)**

Not subject to transport regulations. UN RTDG

**International Maritime Dangerous Goods Code (IMDG) - Additional information**

Not subject to IMDG.

**International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**

Not subject to ICAO-IATA.

## SECTION 15: Regulatory information

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

There is no additional information.

**National regulations (Australia)**

**Australian Inventory of Chemical Substances (AICS)**

Substance is listed.

**Other information**

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

**National inventories**

Country	Inventory	Status
AU	AIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed

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Country	Inventory	Status
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

## Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

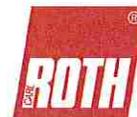
### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.2		Precautionary statements - prevention: change in the listing (table)	yes
2.3		Endocrine disrupting properties: The substance has an endocrine disrupting potential.	yes
15.1		National inventories: change in the listing (table)	yes

### Abbreviations and acronyms

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



**Boric acid ≥99,5 %, Ph.Eur., USP, BP**

article number: **P010**

Abbr.	Descriptions of used abbreviations
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
STEL	Short-term exposure limit
TWA	Time-weighted average
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne contaminants

## Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

## List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H360FD	May damage fertility. May damage the unborn child.

## Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Version 6.8  
Revision Date 16.08.2023  
Print Date 15.10.2024

GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Calcium carbonate

Product Number : C4830

Brand : Sigma-Aldrich

REACH No. : 01-2119486795-18-xxxx

CAS-No. : 471-34-1

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

**1.4 Emergency telephone**

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

**2.2 Label elements**

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required



### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

---

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula	:	CCaO <sub>3</sub>
Molecular weight	:	100,09 g/mol
CAS-No.	:	471-34-1
EC-No.	:	207-439-9

No components need to be disclosed according to the applicable regulations.

---

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### If inhaled

After inhalation: fresh air.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

#### If swallowed

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available



---

## **SECTION 5: Firefighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

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

#### **Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

### **5.2 Special hazards arising from the substance or mixture**

Calcium oxide

Not combustible.

Ambient fire may liberate hazardous vapours.

### **5.3 Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus.

### **5.4 Further information**

none

---

## **SECTION 6: Accidental release measures**

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### **6.2 Environmental precautions**

No special precautionary measures necessary.

### **6.3 Methods and materials for containment and cleaning up**

Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### **6.4 Reference to other sections**

For disposal see section 13.

---

## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

For precautions see section 2.2.

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

#### **Storage conditions**

Tightly closed. Dry.

hygroscopic

#### **Storage class**

Storage class (TRGS 510): 13: Non Combustible Solids

### **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**

#### **Ingredients with workplace control parameters**

### **8.2 Exposure controls**

#### **Personal protective equipment**

##### **Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

##### **Skin protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

##### **Respiratory protection**

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P1

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

##### **Control of environmental exposure**

No special precautionary measures necessary.



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**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

- |   |  |
|---|--|
| a) Physical state                               | powder   |
| b) Color  | white  |
| c) Odor   | No data available  |
| d) Melting point/freezing point                 | Melting point/freezing point: 800 °C - Decomposes on heating.                        |
| e) Initial boiling point and boiling range      | 800 °C   |
| f) Flammability (solid, gas)                    | The product is not flammable. - Test N.1: Test method for readily combustible solids |
| g) Upper/lower flammability or explosive limits | No data available  |
| h) Flash point                                  | Not applicable   |
| i) Autoignition temperature                     | not auto-flammable   |
| j) Decomposition temperature                    | No data available  |
| k) pH   | 8,0  |
| l) Viscosity                                    | Viscosity, kinematic: No data available<br>Viscosity, dynamic: No data available     |
| m) Water solubility                             | 0,017 g/l at 20 °C - OECD Test Guideline 105- slightly soluble                       |
| n) Partition coefficient: n-octanol/water       | Not applicable for inorganic substances  |
| o) Vapor pressure                               | No data available  |
| p) Density                                      | 2,93 g/cm <sup>3</sup> at 25 °C - lit.   |
| Relative density                                | No data available  |
| q) Relative vapor density                       | No data available  |
| r) Particle characteristics                     | No data available  |
| s) Explosive properties                         | No data available  |
| t) Oxidizing properties                         | none   |

**9.2 Other safety information**

No data available



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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

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

### 10.3 Possibility of hazardous reactions

Generates dangerous gases or fumes in contact with:

acids

carbon dioxide

ammonium compounds

acidic

salts

acidic

Exothermic reaction with:

Fluorine

Aluminum

magnesium

### 10.4 Conditions to avoid

Exposure to moisture may affect product quality.

no information available

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

---

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - female - > 2.000 mg/kg

(OECD Test Guideline 420)

LC50 Inhalation - Rat - male and female - 4 h - > 3 mg/l - aerosol

(OECD Test Guideline 403)

LD50 Dermal - Rat - male and female - > 2.000 mg/kg

(OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

Result: No skin irritation - 15 min

(OECD Test Guideline 439)

#### Serious eye damage/eye irritation

Eyes - Bovine cornea

Result: No eye irritation - 4 h



(OECD Test Guideline 437)

**Respiratory or skin sensitization**

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

**Germ cell mutagenicity**

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

**Endocrine disrupting properties**

**Product:**

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rat - male and female - Oral - 48 Days - NOAEL (No observed adverse effect level) - 1.000 mg/kg

RTECS: FF9335000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.



Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Handle in accordance with good industrial hygiene and safety practice.

---

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Toxicity to fish	semi-static test LC50 - <i>Oncorhynchus mykiss</i> (rainbow trout) - > 100 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - <i>Daphnia magna</i> (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - <i>Desmodesmus subspicatus</i> (green algae) - 14 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC50 - activated sludge - > 1.000 mg/l - 3 h (OECD Test Guideline 209)

### **12.2 Persistence and degradability**

Biodegradability	aerobic - Exposure time 28 d Result: 90 % - Readily biodegradable. (OECD Test Guideline 301B)
------------------	---

### **12.3 Bioaccumulative potential**

Bioaccumulation is unlikely.

### **12.4 Mobility in soil**

No data available

### **12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### **12.6 Endocrine disrupting properties**

#### **Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### **12.7 Other adverse effects**

No ecological problems are to be expected when the product is handled and used with due care and attention.





---

## SECTION 16: Other information

### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECS - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

### Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our 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. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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The life science business of Merck operates as MilliporeSigma in the US and Canada

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## SAFETY DATA SHEET

Preparation Date: No data available

Revision Date: 04/06/2015

Revision Number: G1

**Product identifier**

**Product code:** C1254  
**Product Name:** CHROMIUM PICOLINATE, POWDER

**Other means of identification**

**Synonyms:** Chromium 2-pyridinecarboxylate  
Chromium(III) trispicolinate  
Chromium, tris(picolinato)-  
Chromium, tris(2-pyridinecarboxylato-N(1),O(2))- (9CI)  
Picolinic acid, chromium salt  
2-Pyridinecarboxylic acid, chromium salt

**CAS #:** 14639-25-9  
**RTECS #** Not available  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** No information available.  
**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:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

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

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3

**Label elements**

**Warning**

**Hazard statements**

Causes skin irritation  
Causes serious eye irritation  
May cause respiratory irritation



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

Specific treatment (see .? on this label)  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
IF ON SKIN: Wash with plenty of soap and water  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash before reuse  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

**Precautionary Statements - Storage**

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

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Weight %	Trade Secret
Chromium Picolinate 14639-25-9	14639-25-9	100	*

**4. FIRST AID MEASURES**

**First aid measures**

**General Advice:**

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

#### 4. FIRST AID MEASURES

<b>Skin Contact:</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. If skin irritation persists, call a physician.
<b>Eye Contact:</b>	Flush eye with water for 15 minutes. Get medical attention. If symptoms persist, call a physician.
<b>Inhalation:</b>	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. Consult a physician.
<b>Ingestion:</b>	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

#### **Most important symptoms and effects, both acute and delayed**

**Symptoms** Causes serious eye irritation. Causes skin irritation. May cause irritation of respiratory tract.

#### **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:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

#### **Specific hazards arising from the chemical**

**Hazardous Combustion Products:** Carbon oxides. Nitrogen oxides. Chromium oxides

**Specific hazards:** May be combustible at high temperatures

#### **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:** Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing dust. Ensure adequate ventilation. Remove all sources of ignition. All equipment used when handling the product must be grounded.

**Environmental precautions** Do not let product enter drains. Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.

### Methods and material for containment and cleaning up

**Methods for containment** Cover with plastic sheet to prevent spreading. Use clean non-sparking tools to collect absorbed material..

**Methods for cleaning up** Use appropriate tools to put the spilled solid in a suitable waste disposal container. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. All equipment used when handling the product must be grounded. Avoid dust formation. Keep away from incompatible materials. Remove all sources of ignition.

**Safe Handling Advice:**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not ingest. Do not smoke. Handle in accordance with good industrial hygiene and safety practice. Keep away from combustible material. Keep away from heat and sources of ignition. Use only in well-ventilated areas.

### Conditions for safe storage, including any incompatibilities

**Technical Measures/Storage Conditions:**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Store in a segregated and approved area.

**Incompatible Materials:**

Oxidizing agents.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### National occupational exposure limits

**United States**

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Chromium Picolinate - 14639-25-9	None	None	None	None

**Canada**

Components	Alberta	British Columbia	Ontario	Quebec
Chromium Picolinate - 14639-25-9	None	None	None	None

**Australia and Mexico**

Components	Australia	Mexico

Chromium Picolinate 14639-25-9	None	None
-----------------------------------	------	------

### Appropriate engineering controls

**Engineering measures to reduce exposure:** 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:** Safety glasses with side-shields.

**Skin and body protection:** Long sleeved clothing. Gloves.

**Respiratory protection:** Effective dust mask. 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

<b>Physical state:</b> Solid.	<b>Appearance:</b> Powder.	<b>Color:</b> Brownish-red.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 418.31 g/mol
<b>Formula:</b> C18-H12-N3-O6-Ct	<b>Flash point (°C):</b> No data available	<b>Flashpoint (°C/°F):</b> No information available.
<b>Flash Point Tested according to:</b> Not available	<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available
<b>Autoignition Temperature (°C/°F):</b> No information available	<b>pH:</b> No information available	<b>Melting point/range(°C/°F):</b> >300°C/ >572°F
<b>Boiling point/range(°C/°F):</b> No information available	<b>Decomposition temperature(°C/°F):</b> No information available	<b>Bulk density:</b> No information available
<b>Specific gravity:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available	<b>Density (g/cm3):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> 14.44	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> No information available	

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactive with oxidizing agents

**Chemical stability**

**Stability:** Stable under recommended storage conditions

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Ignition sources. Incompatible materials.

**Incompatible Materials:** Oxidizing agents.

**Hazardous decomposition products:** Carbon oxides. Nitrogen oxides (NOx). Chromium oxides.

**Other Information**

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

**Principal Routes of Exposure:**  
Ingestion. Inhalation. Eyes.

**Acute Toxicity**

**Component Information**

*Chromium Picolinate - 14639-25-9*

**LD50/oral/rat** = No information available  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rat** = No information available  
**LD50/dermal/rabbit** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = No information available

**Product Information**

**LD50/oral/rat** =  
**VALUE- Acute Tox Oral** = No information available

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

**LD50/dermal/rabbit**  
**VALUE-Acute Tox Dermal** = No information available

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

**LC50/inhalation/rat**  
**VALUE-Vapor** = No information available  
**VALUE-Gas** = No information available  
**VALUE-Dust/Mist** = No information available

**LC50/Inhalation/mouse**

**Product code:** C1254

**Product name:** CHROMIUM  
PICOLINATE, POWDER

**6 / 11**

VALUE-Vapor = No information available  
 VALUE - Gas = No information available  
 VALUE - Dust/Mist = No information available

**Symptoms**

**Skin Contact:** May cause skin irritation.  
**Eye Contact:** May cause eye irritation.  
**Inhalation** May be harmful if inhaled.  
**Ingestion** May be harmful if swallowed.  
**Aspiration hazard** No information available

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

**Chronic Toxicity** No information available  
**Sensitization:** No information available  
**Mutagenic Effects:** No information available  
**Carcinogenic effects:** Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Chromium Picolinate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available  
**Developmental Effects:** No information available  
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available  
**STOT - repeated exposure** No information available  
**Target Organs:** No information available

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.  
**Persistence and degradability:** No information available  
**Bioaccumulative potential:** No information available  
**Mobility:** 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

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Chromium Picolinate	None	None	None	None

### 14. TRANSPORT INFORMATION

**DOT**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** None  
**ERG No:** No information available  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available

**TDG (Canada)**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Description:** No information available

**ADR**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Packing Group:** No information available  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

**IMO / IMDG**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant:** No information available

## 14. TRANSPORT INFORMATION

**MFAG:** No information available  
**Maximum Quantity:** No information available

### RID

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Description:** No information available

### IATA

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Description:** No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Chromium Picolinate</i>	Not Listed	Not present	Not present	Not present	Not present	Not present	Not present

### U.S. Regulations

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

##### Chemicals Known to the State of California to Cause Cancer:

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

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Chromium Picolinate</i>	Not Listed	Not Listed	Not Listed	Not Listed

### CERCLA/SARA

Components	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 <i>de minimis</i>
<i>Chromium Picolinate</i>	None	None	None	None	None

**U.S. TSCA**

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Chromium Picolinate	Not Applicable	Not Applicable

**Canada****WHMIS hazard class:**

Non-controlled

**Canada Controlled Products Regulation:**

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

**Inventory**

Components	Canada (DSL)	Canada (NDSL)
Chromium Picolinate	Not Listed	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Chromium Picolinate	Not listed	Not listed

**EU Classification****R-phrase(s)**

not determined (not applicable)

R36/38 - Irritating to eyes and skin.

**S -phrase(s)**

none

Components	Classification	Concentration Limits:	Safety Phrases
Chromium Picolinate		No information	

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

**Indication of danger:**

Xi - Irritant.

Xi



## 16. OTHER INFORMATION

**Revision Date:** 04/06/2015  
**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**



# Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.14.2014

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## Citric Acid, Anhydrous,

### SECTION 1 : Identification of the substance/mixture and of the supplier

**Product name :** Citric Acid, Anhydrous,

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** S25255

**Recommended uses of the product and uses restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific  
9 Barnhart Drive, Hanover, PA 17331

**Supplier Details:**

Fisher Science Education  
15 Jet View Drive, Rochester, NY 14624

**Emergency telephone number:**

Fisher Science Education Emergency Telephone No.: 800-535-5053

### SECTION 2 : Hazards identification

**Classification of the substance or mixture:**



**Irritant**  
Eye irritation, category 2A

Eye Irritation 2

**Signal word :**Warning

**Hazard statements:**

Causes serious eye irritation

**Precautionary statements:**

If medical advice is needed, have product container or label at hand

Keep out of reach of children

Read label before use

Wash ... thoroughly after handling

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

Do not eat, drink or smoke when using this product

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.

Continue rinsing

If eye irritation persists get medical advice/attention

**Combustible Dust Hazard: :**

May form combustible dust concentrations in air (during processing).

**Other Non-GHS Classification:**

**WHMIS**

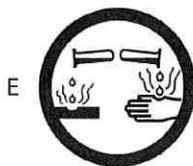
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## Citric Acid, Anhydrous,



NFPA/HMIS



NFPA SCALE (0-4)

Health	1
Flammability	0
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

### SECTION 3 : Composition/information on ingredients

Ingredients:		
CAS 77-92-9	Citric Acid, Anhydrous, ACS	100 %
Percentages are by weight		

### SECTION 4 : First aid measures

#### Description of first aid measures

**After inhalation:** Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

**After skin contact:** Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists.

**After eye contact:** Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:** Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

#### Most important symptoms and effects, both acute and delayed:

Irritation, Nausea, Headache, Shortness of breath.;

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

If seeking medical attention, provide SDS document to physician.

### SECTION 5 : Firefighting measures

#### Extinguishing media

**Suitable extinguishing agents:** If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

**For safety reasons unsuitable extinguishing agents:**

#### Special hazards arising from the substance or mixture:

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### Citric Acid, Anhydrous,

Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

#### Advice for firefighters:

**Protective equipment:** Use NIOSH-approved respiratory protection/breathing apparatus.

**Additional information (precautions):** Move product containers away from fire or keep cool with water spray as a protective measure, where feasible. Use spark-proof tools and explosion-proof equipment.

### SECTION 6 : Accidental release measures

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

Wear protective equipment. Transfer to a disposal or recovery container. Use spark-proof tools and explosion-proof equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent.

#### Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13

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

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

#### Reference to other sections:

### SECTION 7 : Handling and storage

#### Precautions for safe handling:

Minimize dust generation and accumulation. Wash hands after handling. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid generation of dust or fine particulate. Avoid contact with eyes, skin, and clothing.

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

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly sealed.

### SECTION 8 : Exposure controls/personal protection



#### Control Parameters:

No applicable occupational exposure limits

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### Citric Acid, Anhydrous,

- Appropriate Engineering controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Use under a fume hood. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
- Respiratory protection:** Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
- Protection of skin:** The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
- Eye protection:** Safety glasses with side shields or goggles.
- General hygienic measures:** The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

### SECTION 9 : Physical and chemical properties

<b>Appearance (physical state,color):</b>	White solid	<b>Explosion limit lower: Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	Not determined	<b>Solubilities:</b>	Soluble in water
<b>Boiling point/Boiling range:</b>	Not determined	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid,gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density:</b> Not determined			

### SECTION 10 : Stability and reactivity

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## Citric Acid, Anhydrous,

### Reactivity:

**Chemical stability:** No decomposition if used and stored according to specifications.

### Possible hazardous reactions:

**Conditions to avoid:** Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:** Oxidizers, sulfuric and nitric acid. Strong acids. Strong bases.

**Hazardous decomposition products:** Oxides of carbon and irritating and toxic gases/fumes. Carbon oxides (CO, CO<sub>2</sub>).

## SECTION 11 : Toxicological information

<b>Acute Toxicity:</b>		
<b>Oral:</b>	6730 mg/kg	LD50 orl-rat:
<b>Chronic Toxicity:</b> No additional information.		
<b>Corrosion Irritation:</b>		
<b>Ocular:</b>	Section 2	Classified as an eye irritant
<b>Sensitization:</b>	No additional information.	
<b>Single Target Organ (STOT):</b>	No additional information.	
<b>Numerical Measures:</b>	No additional information.	
<b>Carcinogenicity:</b>	No additional information.	
<b>Mutagenicity:</b>	No additional information.	
<b>Reproductive Toxicity:</b>	No additional information.	

## SECTION 12 : Ecological information

### Ecotoxicity

**Fish: LC50 (96h) L. macrochius:** 1516 mg/L

**Persistence and degradability:** Readily degradable in the environment.

**Bioaccumulative potential:**

**Mobility in soil:**

**Other adverse effects:**

## SECTION 13 : Disposal considerations

### Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

## SECTION 14 : Transport information

### UN-Number

Not Regulated.

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### Citric Acid, Anhydrous,

**UN proper shipping name**

Not Regulated.

**Transport hazard class(es)**

**Packing group:** Not Regulated

**Environmental hazard:**

**Transport in bulk:**

**Special precautions for user:**

#### SECTION 15 : Regulatory information

**United States (USA)****SARA Section 311/312 (Specific toxic chemical listings):**

Acute

**SARA Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed

**RCRA (hazardous waste code):**

None of the ingredients is listed

**TSCA (Toxic Substances Control Act):**

All ingredients are listed.

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):**

None of the ingredients is listed

**Proposition 65 (California):****Chemicals known to cause cancer:**

None of the ingredients is listed

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed

**Chemicals known to cause developmental toxicity:**

None of the ingredients is listed

**Canada****Canadian Domestic Substances List (DSL):**

All ingredients are listed.

**Canadian NPRI Ingredient Disclosure list (limit 0.1%):**

None of the ingredients is listed

**Canadian NPRI Ingredient Disclosure list (limit 1%):**

77-92-9 Citric acid, anhydrous

#### SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information

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**Effective date** : 12.14.2014

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### Citric Acid, Anhydrous,

contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

#### **GHS Full Text Phrases:**

#### **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

PNEC: Predicted No-Effect Concentration (REACH)

CFR: Code of Federal Regulations (USA)

SARA: Superfund Amendments and Reauthorization Act (USA)

RCRA: Resource Conservation and Recovery Act (USA)

TSCA: Toxic Substances Control Act (USA)

NPRI: National Pollutant Release Inventory (Canada)

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

DNEL: Derived No-Effect Level (REACH)

**Effective date** : 12.14.2014

**Last updated** : 03.19.2015



## SAFETY DATA SHEET

Creation Date 02-Sep-1997

Revision Date 27-Mar-2024

Revision Number 3

### 1. Identification

**Product Name** Cobalt(II) carbonate  
**Cat No. :** 42745  
**CAS No** 513-79-1  
**Synonyms** No information available  
**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

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

##### Company

Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757

##### Emergency Telephone Number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### Classification

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

Acute oral toxicity	Category 4
Respiratory Sensitization	Category 1
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 1B

#### Label Elements

**Signal Word**  
Danger

**Hazard Statements**

Harmful if swallowed  
 May cause an allergic skin reaction  
 May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 Suspected of causing genetic defects  
 May cause cancer by inhalation  
 May damage fertility



### Precautionary Statements

#### Prevention

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 In case of inadequate ventilation wear respiratory protection  
 Contaminated work clothing should not be allowed out of the workplace  
 Wear protective gloves

#### Response

IF exposed or concerned: Get medical attention/advice

#### Inhalation

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing  
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

#### Skin

IF ON SKIN: Wash with plenty of soap and water  
 If skin irritation or rash occurs: Get medical advice/attention  
 Wash contaminated clothing before reuse

#### Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth

#### Storage

Store locked up

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

Very toxic to aquatic life with long lasting effects

## 3. Composition/Information on Ingredients

Component	CAS No	Weight %
Cobalt (II) Carbonate	513-79-1	100

## 4. First-aid measures

#### General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	If not breathing, give artificial respiration. Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give 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.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Most important symptoms and effects</b>	None reasonably foreseeable. . May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
<b>Notes to Physician</b>	Treat symptomatically

## 5. Fire-fighting measures

<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	Not applicable
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

### Specific Hazards Arising from the Chemical

Do not allow run-off from fire-fighting to enter drains or water courses.

### Hazardous Combustion Products

Cobalt oxides.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

<b>Health</b> 2	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical hazards</b> N/A
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## 6. Accidental release measures

<b>Personal Precautions</b>	Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.
<b>Environmental Precautions</b>	Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

## 7. Handling and storage

<b>Handling</b>	Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on
-----------------	--

clothing. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

**Storage.**

Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Oxidizing agent.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Cobalt (II) Carbonate	TWA: 0.02 mg/m <sup>3</sup>			TWA: 0.02 mg/m <sup>3</sup>

**Legend**

*ACGIH - American Conference of Governmental Industrial Hygienists*

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use only under a chemical fume hood.

**Personal Protective Equipment****Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended Filter type:**

Particulates filter conforming to EN 143.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

Physical State	Solid
Appearance	Light red
Odor	Odorless
Odor Threshold	No information available
pH	No information available
Melting Point/Range	No data available
Boiling Point/Range	No information available
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Specific Gravity	No information available
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	Not applicable
Molecular Formula	CO <sub>3</sub> Co

Molecular Weight 118.94

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Stable under normal conditions.

**Conditions to Avoid** Avoid dust formation.

**Incompatible Materials** Oxidizing agent

**Hazardous Decomposition Products** Cobalt oxides

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cobalt (II) Carbonate	LD50 = 640 mg/kg ( Rat )	Not listed	LC50 > 5.08 mg/L ( Rat ) 4 h

**Toxicologically Synergistic Products** No information available

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

**Irritation** No information available

**Sensitization** May cause sensitization by skin contact

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Cobalt (II) Carbonate	513-79-1	Group 2B	Reasonably Anticipated	A3	X	Not listed

*IARC (International Agency for Research on Cancer)*

*IARC (International Agency for Research on Cancer)*

*Group 1 - Carcinogenic to Humans*

*Group 2A - Probably Carcinogenic to Humans*

*Group 2B - Possibly Carcinogenic to Humans*

*A1 - Known Human Carcinogen*

*A2 - Suspected Human Carcinogen*

*A3 - Animal Carcinogen*

*ACGIH: (American Conference of Governmental Industrial Hygienists)*

*ACGIH: (American Conference of Governmental Industrial Hygienists)*

**Mutagenic Effects** Mutagenic effects have occurred in experimental animals.

**Reproductive Effects** Possible risk of impaired fertility.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling

delayed of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

Persistence and Degradability Insoluble in water May persist

Bioaccumulation/ Accumulation No information available.

Mobility Is not likely mobile in the environment due its low water solubility.

## 13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN-No UN3077  
 Proper Shipping Name Environmentally hazardous substances, solid, n.o.s.  
 Technical Name Cobalt (II) Carbonate  
 Hazard Class 9  
 Packing Group III

### TDG

UN-No UN3077  
 Proper Shipping Name Environmentally hazardous substances, solid, n.o.s.  
 Hazard Class 9  
 Packing Group III

### IATA

UN-No UN3077  
 Proper Shipping Name Environmentally hazardous substances, solid, n.o.s.  
 Hazard Class 9  
 Packing Group III

### IMDG/IMO

UN-No UN3077  
 Proper Shipping Name Environmentally hazardous substances, solid, n.o.s.  
 Hazard Class 9  
 Packing Group III

## 15. Regulatory information

### United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Cobalt (II) Carbonate	513-79-1	X	ACTIVE	-

### Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT) Not applicable

TSCA 12(b) - Notices of Export Not applicable

#### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Cobalt (II) Carbonate	513-79-1	X	-	208-169-4	X	X	X	X	X	KE-06079

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

#### U.S. Federal Regulations

##### SARA 313

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

Component	CAS No	Weight %	SARA 313 - Threshold Values %	SARA 313 - Reporting thresholds
Cobalt (II) Carbonate	513-79-1	100	0.1 %	-

##### SARA 311/312 Hazard Categories

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

CWA (Clean Water Act) Not applicable

##### Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Cobalt (II) Carbonate	X		-

OSHA - Occupational Safety and Health Administration Not applicable

##### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Proposition 65 This product does not contain any Proposition 65 chemicals.

##### U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Cobalt (II) Carbonate	-	X	X	X	-

##### U.S. Department of Transportation

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

U.S. Department of Homeland This product does not contain any DHS chemicals.

## Security

Other International Regulations

Mexico - Grade No information available

## Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Cobalt (II) Carbonate	513-79-1	-	Use restricted. See item 28. (see link for restriction details) Use restricted. See item 30. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	SVHC Candidate list - 208-169-4 - Carcinogenic, Article 57a; Toxic for reproduction, Article 57c

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

## REACH links

<https://echa.europa.eu/authorisation-list>

<https://echa.europa.eu/substances-restricted-under-reach>

<https://echa.europa.eu/candidate-list-table>

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Cobalt (II) Carbonate	513-79-1	Listed	Not applicable	Not applicable	Not applicable

## Contains component(s) that meet a 'definition' of per &amp; poly fluoroalkyl substance (PFAS)?

Not applicable

## Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Cobalt (II) Carbonate	513-79-1	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other information

## Prepared By

Health, Safety and Environmental Department  
Email: chem.techinfo@thermofisher.com  
www.thermofisher.com

Creation Date 02-Sep-1997  
Revision Date 27-Mar-2024  
Print Date 27-Mar-2024  
Revision Summary New emergency telephone response service provider.

**Disclaimer**

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

**End of SDS**





# Copper(II) Sulfate Pentahydrate Safety Data Sheet (SDS)

SDS #: 285

Revision Date: September 30, 2015

[Save SDS to Your Library](#)

## SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### Copper(II) Sulfate Pentahydrate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

Chemtrec Emergency Phone Number: (800) 424-9682

#### Signal Word

**DANGER**

## SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 3). Toxic if swallowed (H301). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Pictograms



## SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Copper(II) sulfate, pentahydrate	7758-99-8	CuSO <sub>4</sub> •5H <sub>2</sub> O	249.69	
Synonyms: Cupric sulfate; Blue vitriol; Chalcantite				

## SECTION 4 — FIRST AID MEASURES

**If exposed or concerned:** Get medical advice or attention (P308+P313)

**If inhaled:** Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists eyes:** Get medical advice or attention (P337+P313).

**If on skin:** Rinse cautiously with water for several minutes (P351).

**If swallowed:** Rinse mouth. Immediately call a POISON CENTER or physician (P301+P330+P310).

## SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

However, sulfur trioxide can be produced at temperatures above 653 °C.

In case of fire: Use a tri-class dry chemical fire extinguisher.

#### NFPA Code

H: 2

F: 0

R: 0

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**SECTION 6 — ACCIDENTAL RELEASE MEASURES**

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

**SECTION 7 — HANDLING AND STORAGE**

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Efflorescent. Protect from air. Store in a Flinn Chem-Saf™ bag.

**SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION**

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

Blue, crystalline powder, granules or larger crystals. Odorless.

Soluble: Water and methyl alcohol. Slightly in alcohol.

Specific gravity: 2.28

**SECTION 10 — STABILITY AND REACTIVITY**

Avoid contact with finely powdered metals and heat. Will corrode steel.

Shelf life: Fair, slowly effloresces in air. See Section 7 for further information.

**SECTION 11 — TOXICOLOGICAL INFORMATION**

Acute effects: Toxic, severe eye irritant, and gastrointestinal disturbances.

Chronic effects: Possible mutagen.

Target organs: Liver, kidneys, and blood.

ORL-RAT LD<sub>50</sub>: 300 mg/kg

IHL-RAT LC<sub>50</sub>: N.A.

SKN-RBT LD<sub>50</sub>: N.A.

**SECTION 12 — ECOLOGICAL INFORMATION**

Data not yet available.

**SECTION 13 — DISPOSAL CONSIDERATIONS**

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

**SECTION 14 — TRANSPORT INFORMATION**

Shipping name: Environmentally Hazardous substances, solid, n.o.s. (copper sulphate pentahydrate). Hazard class: 9. UN number: 3077. Packing group III.

**SECTION 15 — REGULATORY INFORMATION**

TSCA-listed, EINECS-listed (231-847-6).

**SECTION 16 — OTHER INFORMATION**

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

N.A. = Not available, not all health aspects of this substance have been fully investigated.

N/A = Not applicable

**Consult your copy of the Flinn Science Catalog/Reference Manual for additional information about laboratory chemicals.**

**Revision Date:** September 30, 2015

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[Return back](#)



Section 1. Product and Company Identification

**Product Name** Glucosamine Sulfate 2KCL  
**CAS Number** 38899-05-7

**Parchem - fine & specialty chemicals**  
**415 Huguenot Street**  
**New Rochelle, NY 10801**  
☎ **(914) 654-6800** 📠 **(914) 654-6899**  
🌐 **parchem.com** ✉ **info@parchem.com**

**EMERGENCY RESPONSE NUMBER**  
**CHEMTEL**  
Toll Free US & Canada: 1 (800) 255-3924  
All other Origins: 1 (813) 248-0585  
Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**

**OSHA Hazards:** No known OSHA hazards

**HMIS Classification**

**Health Hazard:** 0  
**Flammability:** 0  
**Physical hazards:** 0

**NFPA Rating**

**Health Hazard:** 0  
**Fire:** 0  
**Reactivity Hazard:** 0

**Potential Health Effects**

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.

**Skin** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes** May cause eye irritation.

**Ingestion** May be harmful if swallowed.

Section 3. Composition / Information on Ingredients

**Common Name** Glucosamine Sulfate 2KCL  
**Synonym(s)** 2-Deoxy-2-sulfamino-D-glucopyranose; D-Glucosamine 2-sulfate sodium salt  
**Formula**  $C_6H_{12}NNaO_8S$   
**CAS Number** 38899-05-7

Section 4. First Aid Measures

**If inhaled:** If breathed in, move person into fresh air. If not breathing give artificial respiration

**In case of skin contact:** Wash off with soap and plenty of water.

**In case of eye contact:** Flush eyes with water as a precaution.



**If swallowed:** Never give anything by mouth to an unconscious person. Rinse mouth with water.

Section 5. Firefighting Measures

**Flammable properties:** No data available

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters:** Wear self contained breathing apparatus for fire fighting if necessary.

Section 6. Accidental Release Measures

**Personal precautions:** Avoid dust formation.

**Environmental precautions:** Do not let product enter drains.

**Methods for cleaning up:** Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7. Handling and Storage

**Handling:** Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

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

**Recommended storage temperature:** 2 - 8 °C

Section 8. Exposure Controls / Personal Protection

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

**Respiratory protection:** Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection:** For prolonged or repeated contact use protective gloves.

**Eye protection:** Safety glasses

**Hygiene measures:** General industrial hygiene practice.

Section 9. Physical and Chemical Properties

**Appearance**

**Form:** Solid



Section 10. Stability and Reactivity

**Storage stability:** Stable under recommended storage conditions.

**Materials to avoid:** Strong oxidizing agents

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Sulphur oxides, Sodium/sodium oxides

Section 11. Toxicological Information

**Acute toxicity:** No data available

**Irritation and corrosion:** No data available

**Sensitisation:** No data available

**Chronic exposure**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Potential Health Effects**

**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** May be harmful if swallowed.

Section 12. Ecological Information

**Elimination information (persistence and degradability):** No data available

**Ecotoxicity effects:** No data available

**Further information on ecology:** No data available

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**DOT (US):** Not dangerous goods

**IMDG:** Not dangerous goods



**IATA:** Not dangerous goods

Section 15. Regulatory Information

**OSHA Hazards**

No known OSHA hazards

**TSCA Status**

Not On TSCA Inventory

D-Glucosamine 2-sulfate sodium salt CAS-No. 38899-05-7

**DSL Status**

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

D-Glucosamine 2-sulfate sodium salt CAS-No. 38899-05-7

**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**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

No SARA Hazards

**Massachusetts Right To Know Components**

No Components Listed

**Pennsylvania Right To Know Components**

D-Glucosamine 2-sulfate sodium salt CAS-No. 38899-05-7 Revision Date

**New Jersey Right To Know Components**

D-Glucosamine 2-sulfate sodium salt CAS-No. 38899-05-7 Revision Date

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.



Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our 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.

REVISION DATE: 9/24/2015



## SAFETY DATA SHEET

Creation Date 18-Oct-2010

Revision Date 24-Dec-2021

Revision Number 4

### 1. Identification

**Product Name** Humic acid, sodium salt

**Cat No. :** AC120860000; AC120860010; AC120860050; AC120861000

**CAS No** 68131-04-4

**Synonyms** Huminsäure natrium; Sodium Humate.

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

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

##### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

**Emergency Telephone Number** For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### Classification

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

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	
Combustible dust	Yes

#### Label Elements

##### **Signal Word**

Warning

##### **Hazard Statements**

May form combustible dust concentrations in air

Causes skin irritation  
Causes serious eye irritation  
May cause respiratory irritation



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area

#### Inhalation

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

#### Skin

IF ON SKIN: Wash with plenty of soap and water  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash before reuse

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

#### Storage

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

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

None identified

### 3. Composition/Information on Ingredients

Component	CAS No	Weight %
Humic acids, sodium salts	68131-04-4	100

### 4. First-aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention.
<b>Inhalation</b>	Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.
<b>Ingestion</b>	Clean mouth with water. Get medical attention.
<b>Most important symptoms and effects</b>	No information available.
<b>Notes to Physician</b>	Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

**Unsuitable Extinguishing Media** No information available

**Flash Point** No information available  
**Method -** No information available

**Autoignition Temperature** No information available

**Explosion Limits**

**Upper** No data available

**Lower** No data available

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

### Specific Hazards Arising from the Chemical

Fine dust dispersed in air may ignite.

### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

**Health**  
2

**Flammability**  
1

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

**Personal Precautions** Ensure adequate ventilation. Use personal protective equipment as required.

**Environmental Precautions** See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal. Do not let this chemical enter the environment.

## 7. Handling and storage

**Handling** Avoid contact with skin and eyes. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance.

**Storage.** Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Incompatible Materials. Strong oxidizing agents. Strong bases.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protective Equipment

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard

EN166.

<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	No protective equipment is needed under normal use conditions.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	Powder Solid
<b>Appearance</b>	Black
<b>Odor</b>	No information available
<b>Odor Threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting Point/Range</b>	> 300 °C / 572 °F
<b>Boiling Point/Range</b>	No information available
<b>Flash Point</b>	No information available
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid,gas)</b>	No information available
<b>Flammability or explosive limits</b>	
Upper	No data available
Lower	No data available
<b>Vapor Pressure</b>	No information available
<b>Vapor Density</b>	Not applicable
<b>Specific Gravity</b>	No information available
<b>Solubility</b>	No information available
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No information available
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	Not applicable

## 10. Stability and reactivity

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Incompatible products.
<b>Incompatible Materials</b>	Strong oxidizing agents, Strong bases
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )
<b>Hazardous Polymerization</b>	No information available.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Acute Toxicity

**Product Information** No acute toxicity information is available for this product

### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Humic acids, sodium salts	Not listed	LD50 > 2000 mg/kg ( Rat )	Not listed

**Toxicologically Synergistic Products** No information available

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

<b>Irritation</b>	No information available
<b>Sensitization</b>	No information available
<b>Carcinogenicity</b>	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Humic acids, sodium salts	68131-04-4	Not listed				

<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available.
<b>Developmental Effects</b>	No information available.
<b>Teratogenicity</b>	No information available.
<b>STOT - single exposure</b>	Respiratory system
<b>STOT - repeated exposure</b>	None known
<b>Aspiration hazard</b>	No information available
<b>Symptoms / effects, both acute and delayed</b>	No information available
<b>Endocrine Disruptor Information</b>	No information available
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Humic acids, sodium salts	Not listed	LC50: > 128 mg/L, 96h static (Poecilia reticulata)	Not listed	Not listed

<b>Persistence and Degradability</b>	No information available
<b>Bioaccumulation/ Accumulation</b>	No information available.
<b>Mobility</b>	No information available.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

<b>DOT</b>	Not regulated
<b>TDG</b>	Not regulated
<b>IATA</b>	Not regulated
<b>IMDG/IMO</b>	Not regulated

## 15. Regulatory information

### United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags

Humic acids, sodium salts	68131-04-4	X	ACTIVE	XU
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**Legend:**

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

'-' - Not Listed

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B))

X - Listed

**TSCA 12(b)** - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Humic acids, sodium salts	68131-04-4	X	-	268-608-0	X	-		X	X	KE-19977

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**U.S. Federal Regulations**

**SARA 313** Not applicable

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA** Not applicable

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations** Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH****Safety, health and environmental regulations/legislation specific for the substance or mixture**

Component	CAS No	OECD HPV	Persistent Organic	Ozone Depletion	Restriction of
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			Pollutant	Potential	Hazardous Substances (RoHS)
Humic acids, sodium salts	68131-04-4	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Humic acids, sodium salts	68131-04-4	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other information

**Prepared By** Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

**Creation Date** 18-Oct-2010

**Revision Date** 24-Dec-2021

**Print Date** 24-Dec-2021

**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

### Disclaimer

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

**End of SDS**



# Material Safety Data Sheet

## HYDRATED LIME

Rev. Date:5/1/2008

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name:		Hi-Cal Hydrate	
Synonym/s:		Hydrate, High Calcium Hydrated Lime, Type N Hydrated Lime, HL	
Manufacturer:	US Operations: Chemical Lime Co. 3700 Hulen St. Fort Worth, TX 76107 817-732-8164	Canadian Operations: Chemical Lime Co. of Canada Inc. 20302-102B Ave. Langley, BC V1M 3H1 604-888-4333	
Emergency Phone:		Chemtrec 1-800-424-9300	
Chemical Name:	Calcium Hydroxide	WHMIS Classification:	
Chemical Family:	Alkaline Earth Hydroxide	D2A, E	
Chemical Formula:	Ca(OH) <sub>2</sub>		
Product Use/s:		Water treatment, pH adjustment, FGT, Construction, Pulp/Paper	
Prepared By:		Chemical Lime Co. R&D/Technical Services, KSA	

### SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS	OSHA PEL, TWA 8/40h (mg/m3)	ACGIH TLV, TWA 8/40h (mg/m3)	NIOSH REL, TWA 8/40h (mg/m3)	NIOSH IDLH (mg/m3)	Conc. (%)
Calcium Hydroxide, Ca(OH) <sub>2</sub> (Hydrated Lime)	1305-62-0	15 (total dust) 5 (respirable)	5	5	N.A.	> 90
Magnesium Hydroxide, Mg(OH) <sub>2</sub> (Brucite)	1309-42-8	N.A.	N.A.	N.A.	N.A.	< 5
Magnesium Oxide, MgO (Periclase)	1309-48-4	10	10	N.A.	N.A.	< 5
Calcium Carbonate, CaCO <sub>3</sub> (Limestone)	1317-65-3 (471-34-1)	15 (total dust) 5 (respirable)	10	10 (total dust) 5 (respirable)	N.A.	< 3
Crystalline Silica, SiO <sub>2</sub> (Quartz)	14808-60-7	10/(SiO <sub>2</sub> % + 2) (respirable)	0.025 (respirable)	0.05 (respirable)	50	< 2

OSHA Regulatory Status: This material is subject to 29 CFR 1910.1200 (Hazard Communication).

**SECTION 3: HAZARDS IDENTIFICATION**

**Emergency Overview:** Hydrate is an odorless white or grayish-white powder. Contact can cause irritation to eyes, skin, respiratory system, and gastrointestinal tract.

**Potential Health Effects**

**Eyes:** Contact can cause severe irritation or burning of eyes, including permanent damage.

**Skin:** Contact can cause irritation of skin.

**Ingestion:** This product can cause severe irritation of gastrointestinal tract if swallowed.

**Inhalation:** This product can cause severe irritation of the respiratory system. Long-term exposure may cause permanent damage. Hydrate is not listed by MSHA, OSHA, or IARC as a carcinogen. However, this product may contain trace amounts of crystalline silica in the form of quartz or cristobalite, which has been classified by IARC as a Group I carcinogen to humans when inhaled. Inhalation of silica can also cause a chronic lung disorder, silicosis.

**Medical Conditions Aggravated by Exposure:**

Contact may aggravate disorders of the eyes, skin, gastrointestinal tract, and respiratory system.

**Potential**

**Environmental Effects:** This material is alkaline and if released into water or moist soil will cause an increase in pH.

**SECTION 4: FIRST AID MEASURES**

**Eyes:** Immediately flush eyes with generous amounts of water or eye wash solution if water is unavailable. Pull back eyelid while flushing to ensure that all lime dust has been washed out. Seek medical attention promptly if the initial flushing of the eyes does not remove the irritant. Do not rub eyes.

**Skin:** Brush off or remove as much dry lime as possible. Wash exposed area with large amounts of water. If irritation persists, seek medical attention promptly.

**Inhalation:** Move victim to fresh air. Seek medical attention. If breathing has stopped, give artificial respiration.

**Ingestion:** Do not induce vomiting. Seek medical attention immediately. Never give anything by mouth unless instructed to do so by medical personnel.

# Material Safety Data Sheet

## HYDRATED LIME

Rev. Date:5/1/2008

### SECTION 5: FIRE FIGHTING MEASURES

<b>Fire Hazards:</b>	Hydrate is not combustible or flammable. However, hydrate reacts vigorously with acids, and may release heat sufficient to ignite combustible materials in specific instances. Hydrate is not considered to be an explosion hazard, although reaction with acids or other incompatible materials may rupture containers.
<b>Hazardous Combustion Products:</b>	None
<b>Extinguishing Media:</b>	Use dry chemical fire extinguisher. Do not use water or halogenated compounds, except that large amounts of water may be used to deluge small quantities of hydrate.
<b>Fire Fighting Instructions:</b>	Keep personnel away from and upwind of fire. Avoid skin contact or inhalation of dust. Wear full fire-fighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

### SECTION 6: ACCIDENTAL RELEASE MEASURES

<b>Spill / Leak Procedures:</b>	<b>Do Not</b> use water on bulk material spills. Use proper protective equipment.
<b>Small Spills:</b>	Use dry methods to collect spilled materials. Avoid generating dust. Do not clean up with compressed air. Store collected materials in dry, sealed plastic or non-aluminum metal containers. Residue on surfaces may be water washed.
<b>Large Spills:</b>	Use dry methods to collect spilled materials. Evacuate area downwind of clean-up operations to minimize dust exposure. Store spilled materials in dry, sealed plastic or non-aluminum metal containers.
<b>Containment:</b>	Minimize dust generation and prevent bulk release to sewers or waterways.
<b>Clean-up:</b>	Residual amounts of material can be flushed with large amounts of water. Equipment can be washed with either a mild vinegar and water solution, or detergent and water.

### SECTION 7: HANDLING AND STORAGE

<b>Handling:</b>	Keep in tightly closed plastic or non-aluminum metal containers. Protect containers from physical damage. Avoid direct skin contact with the material.
<b>Storage:</b>	Store in a cool, dry, and well-ventilated location. Do not store near acids or other incompatible materials. Keep away from moisture. Do not store or ship in aluminum containers.

# Material Safety Data Sheet

## HYDRATED LIME

Rev. Date:5/1/2008

### SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Engineering Controls:</b>	Provide ventilation adequate to maintain PELs.
<b>Respiratory Protection:</b>	Use NIOSH/MSHA approved respirators if airborne concentration exceeds PELs.
<b>Skin Protection:</b>	Use appropriate gloves and footwear to prevent skin contact. Clothing should fully cover arms and legs. Should lime get inside clothing or gloves, remove the clothing and the lime promptly.
<b>Eye Protection:</b>	Use safety glasses with side shields or safety goggles. Contact lenses should not be worn when working with lime products.
<b>Other:</b>	Eye wash fountain/stations and emergency showers should be available.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b> White or grayish-white powder	<b>Odor:</b> Odorless	<b>Physical State:</b> Solid
<b>Boiling Point (°C/°F):</b> 2850 / 5162	<b>Melting Point (°C/°F):</b> dec 580 / 1076	<b>Specific Gravity</b> (Apparent) g/cc: 0.4 - 0.55 (True) g/cc: 2.2 - 2.4
<b>Vapor Pressure (mm Hg):</b> N.A.	<b>Vapor Density:</b> N.A.	<b>Evaporation Rate:</b> N.A.
<b>Solubility in Water</b> Slightly soluble in water.	<b>pH (25°C/77°F):</b> 12.4	

### SECTION 10: STABILITY AND REACTIVITY

<b>Stability:</b>	Chemically stable, but slowly reacts with carbon dioxide to form calcium carbonate. See also Incompatibility below.								
<b>Incompatibility/ Conditions to Avoid:</b>	Hydrate should not be mixed or stored with the following materials, due to the potential for vigorous reaction and release of heat:								
	<table border="1"> <tr> <td>Acids (unless in a controlled process)</td> <td>Organic Acid Anhydrides</td> </tr> <tr> <td>Reactive Fluoridated Compounds</td> <td>Nitro-Organic Compounds</td> </tr> <tr> <td>Reactive Brominated Compounds</td> <td>Reactive Phosphorous Compounds</td> </tr> <tr> <td>Reactive Powdered Metals</td> <td>Interhalogenated Compounds</td> </tr> </table>	Acids (unless in a controlled process)	Organic Acid Anhydrides	Reactive Fluoridated Compounds	Nitro-Organic Compounds	Reactive Brominated Compounds	Reactive Phosphorous Compounds	Reactive Powdered Metals	Interhalogenated Compounds
Acids (unless in a controlled process)	Organic Acid Anhydrides								
Reactive Fluoridated Compounds	Nitro-Organic Compounds								
Reactive Brominated Compounds	Reactive Phosphorous Compounds								
Reactive Powdered Metals	Interhalogenated Compounds								
<b>Hazardous Decomposition Products:</b>	None								
<b>Hazardous Polymerization:</b>	None								

**SECTION 11: TOXICOLOGICAL INFORMATION**

ORL-RAT LD50: 7,340 MG/KG  
ORL-MUS LD50: 7,300 MG/KG

Hydrated Lime is not listed by MSHA, OSHA, or IARC as a carcinogen, but this product may contain trace amounts of crystalline silica, which has been classified by IARC as carcinogenic to humans when inhaled in the form of quartz or cristobalite.

**SECTION 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems in high concentrations.

**Environmental Fate:** This material shows no bioaccumulation effect or food chain concentration toxicity.

**SECTION 13: DISPOSAL CONSIDERATIONS**

Dispose of in accordance with all applicable federal, state, and local environmental regulations. If this product as supplied, and unmixed, becomes a waste, it will not meet the criteria of a hazardous waste as defined under the U.S. Resource Conservation and Recovery Act (RCRA).

**SECTION 14: TRANSPORTATION INFORMATION**

Hydrate is not classified as a hazardous material by US DOT and is not regulated by the Transportation of Dangerous Goods (TDG) when shipped by any mode of transport.

# Material Safety Data Sheet

## HYDRATED LIME

Rev. Date:5/1/2008

### SECTION 15: REGULATORY INFORMATION

**U.S. EPA Regulations:** RCRA Hazardous Waste Number (40 CFR 261.33): not listed  
RCRA Hazardous Waste Classification (40 CFR 261): not classified  
CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001;  
CWA, Sec. 311(b)(4); CWA, Sec. 307(a), CAA, Sec. 112  
CERCLA Reportable Quantity (RQ), not listed  
SARA 311/312 Codes: not listed  
SARA Toxic Chemical (40 CFR 372.65): not listed  
SARA EHS (Extremely Hazardous Substance) (40 CFR 355): not listed, Threshold  
Planning Quantity (TPQ): not listed  
All chemical ingredients are listed on the USEPA TSCA Inventory List.

#### OSHA/MSHA

**Regulations:** Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): 5mg/M<sup>3</sup>TWA-8  
MSHA: not listed  
OSHA Specifically Regulated Substance (29 CFR 1910): not listed

**State Regulations:** Consult state and local authorities for guidance. Components found in this product may contain trace amounts of inherent naturally occurring elements (such as, but not limited to arsenic and cadmium) that may be regulated.

**Canada:** WHMIS Classification: "D2A" Materials Causing Other Toxic Effects  
WHMIS Classification: "E" Corrosive Materials (listed due to corrosive effect on aluminum)  
Canada DSL: Listed

**NFPA Hazard Class:** Health: 1 Flammability: 0 Reactivity: 0  
**HMIS Hazard Class:** Health: 1 Flammability: 0 Reactivity: 0 Personal Protection: E



### SECTION 16: OTHER INFORMATION

**Prepared By:** Chemical Lime Company, R&D/Technical Services, KSA

*Chemical Lime Company provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person. Individuals receiving this information must consult their own technical and legal advisors and/ or exercise their own judgment in determining its appropriateness for a particular purpose. Chemical Lime Company makes no representations or warranties, either express or implied, including without limitation and warranties of merchantability or fitness for a particular purpose with respect to the information set forth herein or the product(s) to which the information refers. Accordingly, Chemical Lime Company will not be responsible or liable for any claims, losses or damages resulting from the use of or reliance upon or failure to use this information.*

## SAFETY DATA SHEET

Creation Date 22-Sep-2009

Revision Date 24-Dec-2021

Revision Number 12

### 1. Identification

<b>Product Name</b>	Hydrogen Peroxide (30% in water)
<b>Cat No. :</b>	BP2633-500; NC1592410
<b>Synonyms</b>	Hydrogen Dioxide; Peroxide; Carbamide Peroxide
<b>Recommended Use</b>	Laboratory chemicals.
<b>Uses advised against</b>	Food, drug, pesticide or biocidal product use.

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

##### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

##### **Emergency Telephone Number**

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### Classification

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

Oxidizing liquids	Category 2
Acute oral toxicity	Category 4
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Skin Corrosion/Irritation	Category 1 A
Serious Eye Damage/Eye Irritation	Category 1

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

May intensify fire; oxidizer  
Harmful if swallowed or if inhaled  
Causes severe skin burns and eye damage



**Precautionary Statements**

**Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Use only outdoors or in a well-ventilated area  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep/Store away from clothing/ other combustible materials  
 Take any precaution to avoid mixing with combustibles

**Response**

Immediately call a POISON CENTER or doctor/physician

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

**Skin**

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

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**Ingestion**

Rinse mouth  
 Do NOT induce vomiting

**Fire**

In case of fire: Use water spray/fog or regular foam to extinguish

**Storage**

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

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

**3. Composition/Information on Ingredients**

Component	CAS No	Weight %
Water	7732-18-5	65 - 80
Hydrogen peroxide	7722-84-1	20 - 35

**4. First-aid measures**

**General Advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

**Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician

immediately.

<b>Inhalation</b>	If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.
<b>Most important symptoms and effects</b>	Causes severe eye damage. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
<b>Notes to Physician</b>	Treat symptomatically

**5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Water spray. Foam. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable Extinguishing Media</b>	Dry chemical
<b>Flash Point</b>	Not applicable
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Oxidizing Properties</b>	Oxidizer
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

**Specific Hazards Arising from the Chemical**  
 Oxidizer: Contact with combustible/organic material may cause fire. In the event of fire and/or explosion do not breathe fumes. Containers may explode when heated. May ignite combustibles (wood paper, oil, clothing, etc.).

**Hazardous Combustion Products**  
 Hydrogen. Oxygen.

**Protective Equipment and Precautions for Firefighters**  
 As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

**NFPA**

<b>Health</b>	<b>Flammability</b>	<b>Instability</b>	<b>Physical hazards</b>
3	0	2	OX

**6. Accidental release measures**

<b>Personal Precautions</b>	Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Environmental Precautions</b>	Should not be released into the environment. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage.
<b>Methods for Containment and Clean Up</b>	Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

**7. Handling and storage**

<b>Handling</b>	Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek
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immediate medical assistance. Ensure adequate ventilation.

**Storage.**

Keep away from combustible material. Keep cool and protect from sunlight. Keep container tightly closed in a dry and well-ventilated place. Do not store in metal containers. Keep only in the original container. Incompatible Materials. Finely powdered metals. copper. Reducing Agent. Strong bases. Combustible material. Organic materials.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Hydrogen peroxide	TWA: 1 ppm	(Vacated) TWA: 1 ppm (Vacated) TWA: 1.4 mg/m <sup>3</sup> TWA: 1 ppm TWA: 1.4 mg/m <sup>3</sup>	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m <sup>3</sup>	TWA: 1 ppm

**Legend**

**ACGIH** - American Conference of Governmental Industrial Hygienists

**OSHA** - Occupational Safety and Health Administration

**NIOSH**: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures**

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment****Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended Filter type:**

Particulates filter conforming to EN 143. Inorganic gases and vapours filter. Type B. Grey. conforming to EN14387.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

Physical State	Liquid
Appearance	Clear
Odor	pungent
Odor Threshold	No information available
pH	3.3 (30 %)
Melting Point/Range	-33 °C / -27.4 °F
Boiling Point/Range	108 °C / 226.4 °F @ 760 mmHg
Flash Point	Not applicable
Evaporation Rate	>1.0 (Butyl Acetate = 1.0)
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	23 mmHg @ 30 °C
Vapor Density	1.10
Specific Gravity	1.11

Solubility	Miscible with water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	H2O2
Molecular Weight	34.01

**10. Stability and reactivity**

<b>Reactive Hazard</b>	Yes
<b>Stability</b>	Oxidizer: Contact with combustible/organic material may cause fire. Light sensitive.
<b>Conditions to Avoid</b>	Incompatible products. Excess heat. Exposure to light. Combustible material.
<b>Incompatible Materials</b>	Finely powdered metals, copper, Reducing Agent, Strong bases, Combustible material, Organic materials
<b>Hazardous Decomposition Products</b>	Hydrogen, Oxygen
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

**11. Toxicological information**

**Acute Toxicity**

**Product Information**

<b>Oral LD50</b>	Category 4. ATE = 300 - 2000 mg/kg.
<b>Dermal LD50</b>	Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
<b>Mist LC50</b>	Category 4. ATE = 1 - 5 mg/l.

**Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Hydrogen peroxide	376 mg/kg ( Rat ) (90%) 910 mg/kg ( Rat ) (20-60%) 1518 mg/kg ( Rat ) (8-20% sol)	>2000 mg/kg ( Rabbit )	LC50 = 2000 mg/m³ ( Rat ) 4 h

**Toxicologically Synergistic Products** No information available

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

<b>Irritation</b>	Causes burns by all exposure routes
<b>Sensitization</b>	No information available
<b>Carcinogenicity</b>	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed				
Hydrogen peroxide	7722-84-1	Not listed	Not listed	A3	Not listed	A3

**IARC (International Agency for Research on Cancer)**

*IARC (International Agency for Research on Cancer)  
Group 1 - Carcinogenic to Humans  
Group 2A - Probably Carcinogenic to Humans  
Group 2B - Possibly Carcinogenic to Humans*

**ACGIH: (American Conference of Governmental Industrial Hygienists)**

*A1 - Known Human Carcinogen  
A2 - Suspected Human Carcinogen  
A3 - Animal Carcinogen*

**Mexico - Occupational Exposure Limits - Carcinogens**

*ACGIH: (American Conference of Governmental Industrial Hygienists)  
Mexico - Occupational Exposure Limits - Carcinogens  
A1 - Confirmed Human Carcinogen*

A2 - Suspected Human Carcinogen  
 A3 - Confirmed Animal Carcinogen  
 A4 - Not Classifiable as a Human Carcinogen  
 A5 - Not Suspected as a Human Carcinogen

<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available.
<b>Developmental Effects</b>	No information available.
<b>Teratogenicity</b>	No information available.
<b>STOT - single exposure</b>	None known
<b>STOT - repeated exposure</b>	None known
<b>Aspiration hazard</b>	No information available
<b>Symptoms / effects, both acute and delayed</b>	Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
<b>Endocrine Disruptor Information</b>	No information available
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated.

**12. Ecological information**

**Ecotoxicity**

Contains a substance which is: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Hydrogen peroxide	EC50 2.5 mg/L/72h	LC50: 16.4 mg/L/96h (P.promelas)	Not listed	EC50 7.7 mg/L/24h

**Persistence and Degradability** Persistence is unlikely based on information available. Miscible with water

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Hydrogen peroxide	-1.1

**13. Disposal considerations**

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

**14. Transport information**

**DOT**

<b>UN-No</b>	UN2014
<b>Proper Shipping Name</b>	HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS
<b>Hazard Class</b>	5.1
<b>Subsidiary Hazard Class</b>	8
<b>Packing Group</b>	II

**TDG**

<b>UN-No</b>	UN2014
<b>Proper Shipping Name</b>	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
<b>Hazard Class</b>	5.1
<b>Subsidiary Hazard Class</b>	8

<b>Packing Group</b>	II
<b>IATA</b>	
<b>UN-No</b>	UN2014
<b>Proper Shipping Name</b>	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
<b>Hazard Class</b>	5.1
<b>Subsidiary Hazard Class</b>	8
<b>Packing Group</b>	II
<b>IMDG/IMO</b>	
<b>UN-No</b>	UN2014
<b>Proper Shipping Name</b>	HYDROGEN PEROXIDE, AQUEOUS SOLUTION
<b>Hazard Class</b>	5.1
<b>Subsidiary Hazard Class</b>	8
<b>Packing Group</b>	II

**15. Regulatory information**

**United States of America Inventory**

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Water	7732-18-5	X	ACTIVE	-
Hydrogen peroxide	7722-84-1	X	ACTIVE	-

**Legend:**

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)** Not applicable

**TSCA 12(b) - Notices of Export** Not applicable

**International Inventories**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Water	7732-18-5	X	-	231-791-2	X	X		X	X	KE-35400
Hydrogen peroxide	7722-84-1	X	-	-	X	X	X	X	X	KE-20204

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**U.S. Federal Regulations**

**SARA 313** Not applicable

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA** - Occupational Safety and Health Administration

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Hydrogen peroxide	-	TQ: 7500 lb

**CERCLA** This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability

Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Hydrogen peroxide	-	1000 lb

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Water	-	-	X	-	-
Hydrogen peroxide	X	X	X	-	X

#### U.S. Department of Transportation

Reportable Quantity (RQ): N  
 DOT Marine Pollutant N  
 DOT Severe Marine Pollutant N

#### U.S. Department of Homeland Security

This product contains the following DHS chemicals:  
**Legend** - STQs = Screening Threshold Quantities, APA = A placarded amount

Component	DHS Chemical Facility Anti-Terrorism Standard
Hydrogen peroxide	Theft STQs - 400lb (concentration >=35%)

#### Other International Regulations

**Mexico - Grade** No information available

#### Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Water	7732-18-5	-	-	-
Hydrogen peroxide	7722-84-1	-	Use restricted. See item 75. (see link for restriction details)	-

<https://echa.europa.eu/substances-restricted-under-reach>

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Water	7732-18-5	Listed	Not applicable	Not applicable	Not applicable
Hydrogen peroxide	7722-84-1	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Water	7732-18-5	Not applicable	Not applicable	Not applicable	Not applicable
Hydrogen peroxide	7722-84-1	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other information

**Prepared By** Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

**Creation Date** 22-Sep-2009  
**Revision Date** 24-Dec-2021  
**Print Date** 24-Dec-2021  
**Revision Summary** SDS sections updated. 7.

**Disclaimer**

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

**End of SDS**



## SAFETY DATA SHEET

Creation Date 08-Feb-2010

Revision Date 06-Sep-2023

Revision Number 8

### 1. Identification

**Product Name** Iron(III) chloride hexahydrate

**Cat No. :** AC217090000; AC217090025; AC217091000; AC217095000

**CAS No** 10025-77-1

**Synonyms** Ferric chloride hexahydrate

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

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

##### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

##### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### Classification

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

Acute oral toxicity	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

Harmful if swallowed  
Causes skin irritation

Causes serious eye damage



**Precautionary Statements**

**Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Wear protective gloves/protective clothing/eye protection/face protection

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
 If skin irritation occurs: Get medical advice/attention  
 Take off contaminated clothing and wash before reuse

**Eyes**

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

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

**3. Composition/Information on Ingredients**

Component	CAS No	Weight %
Iron (III) chloride hexahydrate	10025-77-1	<=100
Iron(III) chloride	7705-08-0	-

**4. First-aid measures**

<b>General Advice</b>	If symptoms persist, call a physician.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.
<b>Most important symptoms and effects</b>	None reasonably foreseeable. Causes severe eye damage. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
<b>Notes to Physician</b>	Treat symptomatically

## 5. Fire-fighting measures

<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	Not applicable
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

### Specific Hazards Arising from the Chemical

Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. May ignite combustibles (wood paper, oil, clothing, etc.). In the event of fire and/or explosion do not breathe fumes. Keep product and empty container away from heat and sources of ignition.

### Hazardous Combustion Products

Chlorine. Metal oxides. Hydrogen chloride gas.

### Protective Equipment and Precautions for Firefighters

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

### NFPA

<b>Health</b>	<b>Flammability</b>	<b>Instability</b>	<b>Physical hazards</b>
3	0	1	N/A

## 6. Accidental release measures

<b>Personal Precautions</b>	Use personal protective equipment as required. Avoid dust formation. Ensure adequate ventilation.
<b>Environmental Precautions</b>	Should not be released into the environment. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.
<b>Methods for Containment and Clean Up</b>	Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

## 7. Handling and storage

<b>Handling</b>	Wear personal protective equipment/face protection. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Avoid ingestion and inhalation.
<b>Storage.</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Keep away from water or moist air. Store under an inert atmosphere. Protect from moisture. Incompatible Materials. Strong oxidizing agents. Metals. Strong bases.

## 8. Exposure controls / personal protection

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Iron (III) chloride hexahydrate	TWA: 1 mg/m <sup>3</sup>	(Vacated) TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>
Iron(III) chloride	TWA: 1 mg/m <sup>3</sup>	(Vacated) TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists  
 OSHA - Occupational Safety and Health Administration  
 NIOSH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures** Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Personal Protective Equipment

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended Filter type:** Particulates filter conforming to EN 143.

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

### 9. Physical and chemical properties

Physical State	Solid
Appearance	Dark yellow
Odor	No information available
Odor Threshold	No information available
pH	2 0.1M in water
Melting Point/Range	37 °C / 98.6 °F
Boiling Point/Range	280 - 285 °C / 536 - 545 °F
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	negligible
Vapor Density	Not applicable
Specific Gravity	1.82 (H <sub>2</sub> O=1)
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	Not applicable
Molecular Formula	Cl <sub>3</sub> Fe . 6 H <sub>2</sub> O
Molecular Weight	270.29

### 10. Stability and reactivity

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Hygroscopic.
<b>Conditions to Avoid</b>	Avoid dust formation. Incompatible products. Excess heat. Exposure to air or moisture over prolonged periods. Exposure to moist air or water.
<b>Incompatible Materials</b>	Strong oxidizing agents, Metals, Strong bases

**Hazardous Decomposition Products** Chlorine, Metal oxides, Hydrogen chloride gas

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Iron (III) chloride hexahydrate	LD50 = 900 mg/kg ( Rat )	Not listed	Not listed
Iron(III) chloride	450 mg/kg ( Rat ) 316 mg/kg ( Rat )	Not listed	Not listed

**Toxicologically Synergistic Products** No information available

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

**Irritation** Causes eye burns, Irritating to skin, May cause irritation of respiratory tract

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Iron (III) chloride hexahydrate	10025-77-1	Not listed				
Iron(III) chloride	7705-08-0	Not listed				

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Iron (III) chloride hexahydrate	Not listed	22 mg/l 96H (anh subst)	Not listed	9.6 mg/l 48H (anh subst)
Iron(III) chloride	Not listed	LC50: 20.95 - 22.56 mg/L, 96h semi-static (Pimephales)	Not listed	EC50: = 9.6 mg/L, 48h Static (Daphnia magna)

		promelas) LC50: = 20.26 mg/L, 96h semi-static (Lepomis macrochirus)		EC50: = 27.9 mg/L, 48h (Daphnia magna)
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**Persistence and Degradability** May persist

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Iron (III) chloride hexahydrate	4
Iron(III) chloride	-4

### 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

#### DOT

UN-No UN3260  
 Proper Shipping Name CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  
 Technical Name Iron (III) chloride hexahydrate  
 Hazard Class 8  
 Packing Group III

#### TDG

UN-No UN3260  
 Proper Shipping Name CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  
 Hazard Class 8  
 Packing Group III

#### IATA

UN-No UN3260  
 Proper Shipping Name CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  
 Hazard Class 8  
 Packing Group III

#### IMDG/IMO

UN-No UN3260  
 Proper Shipping Name CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  
 Hazard Class 8  
 Packing Group III

### 15. Regulatory information

#### United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Iron (III) chloride hexahydrate	10025-77-1	-	-	-
Iron(III) chloride	7705-08-0	X	ACTIVE	-

#### Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)** Not applicable

**TSCA 12(b)** - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Iron (III) chloride hexahydrate	10025-77-1	-	-	-	X	X		X	X	-
Iron(III) chloride	7705-08-0	X	-	231-729-4	X	X	X	X	X	KE-21134

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**U.S. Federal Regulations**

**SARA 313** Not applicable

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)**

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Iron(III) chloride	X	1000 lb	-	-

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

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

Component	Hazardous Substances RQs	CERCLA EHS RQs
Iron(III) chloride	1000 lb	-

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Iron (III) chloride hexahydrate	-	-	X	-	X
Iron(III) chloride	X	X	X	-	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y  
 DOT Marine Pollutant N  
 DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH** Not applicable

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances	REACH (1907/2006) - Annex XVII - Restrictions	REACH Regulation (EC 1907/2006) article 59 -

		Subject to Authorization	on Certain Dangerous Substances	Candidate List of Substances of Very High Concern (SVHC)
Iron (III) chloride hexahydrate	10025-77-1	-	-	-
Iron(III) chloride	7705-08-0	-	-	-

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Iron (III) chloride hexahydrate	10025-77-1	Listed	Not applicable	Not applicable	Not applicable
Iron(III) chloride	7705-08-0	Listed	Not applicable	Not applicable	Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

**Other International Regulations**

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Iron (III) chloride hexahydrate	10025-77-1	Not applicable	Not applicable	Not applicable	Not applicable
Iron(III) chloride	7705-08-0	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other information

<b>Prepared By</b>	Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com
<b>Creation Date</b>	08-Feb-2010
<b>Revision Date</b>	06-Sep-2023
<b>Print Date</b>	06-Sep-2023
<b>Revision Summary</b>	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**Disclaimer**

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

**End of SDS**

## Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.16.2014

Page 1 of 7

### Potassium Iodide, 0.1M

#### SECTION 1 : Identification of the substance/mixture and of the supplier

**Product name :** Potassium Iodide, 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** S25864

**Recommended uses of the product and uses restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific  
9 Barnhart Drive, Hanover, PA 17331

**Supplier Details:**

Fisher Science Education  
15 Jet View Drive, Rochester, NY 14624

**Emergency telephone number:**

Fisher Science Education Emergency Telephone No.: 800-535-5053

#### SECTION 2 : Hazards identification

**Classification of the substance or mixture:**



**Irritant**

Skin Irritation, Category 2

Eye Irritation, Category 2

**Signal word :**Warning

**Hazard statements:**

Causes serious eye irritation

Causes skin irritation

**Precautionary statements:**

If medical advice is needed, have product container or label at hand

Keep out of reach of children

Read label before use

Wash skin thoroughly after handling

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

IF ON SKIN: Wash with soap and water

Specific treatment (see supplemental first aid instructions on this label)

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.

Continue rinsing

If eye irritation persists get medical advice/attention

**Other Non-GHS Classification:**

**WHMIS**

# Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.16.2014

Page 2 of 7

## Potassium Iodide, 0.1M

### NFPA/HMIS



NFPA SCALE (0-4)

Health	1
Flammability	0
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

### SECTION 3 : Composition/information on ingredients

Ingredients:		
CAS 7681-11-0	Potassium Iodide	1.66 %
CAS 7732-18-5	DI Water	98.34 %
Percentages are by weight		

### SECTION 4 : First aid measures

#### Description of first aid measures

**After inhalation:** Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

**After skin contact:** Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation persists or if concerned.

**After eye contact:** Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:** Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

#### Most important symptoms and effects, both acute and delayed:

Irritation, Nausea, Headache, Shortness of breath,;

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

If seeking medical attention, provide SDS document to physician.

### SECTION 5 : Firefighting measures

#### Extinguishing media

**Suitable extinguishing agents:** If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

**For safety reasons unsuitable extinguishing agents:**

#### Special hazards arising from the substance or mixture:

Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors.

#### Advice for firefighters:

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## Potassium Iodide, 0.1M

**Protective equipment:** Use NIOSH-approved respiratory protection/breathing apparatus.

**Additional information (precautions):** Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

### SECTION 6 : Accidental release measures

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

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation.

#### Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13. Small quantities may be flushed to drains with plenty of water.

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

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

#### Reference to other sections:

### SECTION 7 : Handling and storage

#### Precautions for safe handling:

Wash hands after handling. Follow good hygiene procedures when handling chemical materials. Use only in well ventilated areas. Avoid contact with eyes, skin, and clothing.

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

Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly sealed. Protect from freezing and physical damage.

### SECTION 8 : Exposure controls/personal protection



#### Control Parameters:

7681-11-0, Potassium Iodide, ACS, ACGIH NIOSH 0.01 mg/m3

#### Appropriate Engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Use under a fume hood

#### Respiratory protection:

Use suitable respiratory protective device when high concentrations are present. For spills, respiratory protection may be advisable. Normal ventilation is adequate.

#### Protection of skin:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

#### Eye protection:

Safety glasses with side shields or goggles.

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### Potassium Iodide, 0.1M

#### General hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

#### SECTION 9 : Physical and chemical properties

<b>Appearance (physical state,color):</b>	Clear, colorless liquid	<b>Explosion limit lower: Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure:</b>	Not Determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not Determined	<b>Relative density:</b>	Approx 1.07-1.36
<b>Melting/Freezing point:</b>	Approx 0°C	<b>Solubilities:</b>	Soluble in water
<b>Boiling point/Boiling range:</b>	Approx 100°C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not Determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid,gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic:Not determined b. Dynamic: Not determined
<b>Density:</b> Not determined			

#### SECTION 10 : Stability and reactivity

**Reactivity:**Nonreactive under normal conditions.

**Chemical stability:**No decomposition if used and stored according to specifications.

**Possible hazardous reactions:**None under normal processing

**Conditions to avoid:**exposure to light.Incompatible Materials.

**Incompatible materials:**Strong acids.Strong bases.Strong oxidizers

**Hazardous decomposition products:**Hydrogen iodide. Iodine gas. May include oxides of iodine

#### SECTION 11 : Toxicological information

<b>Acute Toxicity:</b>		
<b>Oral:</b>	POTASSIUM IODIDE (7681-11-0)	LD50 Rat: 285 mg/kg
<b>Chronic Toxicity:</b> No additional information.		
<b>Corrosion Irritation:</b>		
<b>Dermal:</b>	7681-11-0	Rabbit: causes irritation
<b>Ocular:</b>	7681-11-0	Rabbit: causes irritation
<b>Sensitization:</b>	No additional information.	
<b>Single Target Organ (STOT):</b>	No additional information.	

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## Potassium Iodide, 0.1M

<b>Numerical Measures:</b>	No additional information.
<b>Carcinogenicity:</b>	No additional information.
<b>Mutagenicity:</b>	No additional information.
<b>Reproductive Toxicity:</b>	No additional information.

### SECTION 12 : Ecological information

#### Ecotoxicity

Crustacea LC50 Zebra mussel (*Dreissena polymorpha*) 220 - 313 mg/l, 24 hours: 7681-11-0

Fish LC50 - *Oncorhynchus mykiss* (rainbow trout) - 2,190 mg/l - 96 h: 7681-11-0

#### Persistence and degradability:

**Bioaccumulative potential:** Not Bioaccumulative.

#### Mobility in soil:

**Other adverse effects:**

### SECTION 13 : Disposal considerations

#### Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product. Small amounts may be flushed with water to sewer. Larger volumes must be sent to approved plant for destruction.

### SECTION 14 : Transport information

#### UN-Number

Not Regulated.

#### UN proper shipping name

Not Regulated.

#### Transport hazard class(es)

**Packing group:** Not Regulated

#### Environmental hazard:

#### Transport in bulk:

#### Special precautions for user:

### SECTION 15 : Regulatory information

#### United States (USA)

##### SARA Section 311/312 (Specific toxic chemical listings):

Acute

##### SARA Section 313 (Specific toxic chemical listings):

None of the ingredients is listed

##### RCRA (hazardous waste code):

None of the ingredients is listed

##### TSCA (Toxic Substances Control Act):

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### Potassium Iodide, 0.1M

All ingredients are listed.

#### **CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):**

None of the ingredients is listed

#### **Proposition 65 (California):**

##### **Chemicals known to cause cancer:**

None of the ingredients is listed

##### **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed

##### **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed

##### **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed

#### **Canada**

##### **Canadian Domestic Substances List (DSL):**

All ingredients are listed.

##### **Canadian NPRI Ingredient Disclosure list (limit 0.1%):**

None of the ingredients is listed

##### **Canadian NPRI Ingredient Disclosure list (limit 1%):**

None of the ingredients is listed

### SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

#### **GHS Full Text Phrases:**

##### **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

PNEC: Predicted No-Effect Concentration (REACH)

CFR: Code of Federal Regulations (USA)

SARA: Superfund Amendments and Reauthorization Act (USA)

RCRA: Resource Conservation and Recovery Act (USA)

TSCA: Toxic Substances Control Act (USA)

NPRI: National Pollutant Release Inventory (Canada)

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

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### Potassium Iodide, 0.1M

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

DNEL: Derived No-Effect Level (REACH)

**Effective date** : 12.16.2014

**Last updated** : 03.19.2015



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## Magnesium Carbonate, Lab Grade

### SECTION 1 : Identification of the substance/mixture and of the supplier

**Product name :** Magnesium Carbonate, Lab Grade

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** S25400

**Recommended uses of the product and uses restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific  
9 Barnhart Drive, Hanover, PA 17331

**Supplier Details:**

Fisher Science Education  
15 Jet View Drive, Rochester, NY 14624

**Emergency telephone number:**

Fisher Science Education Emergency Telephone No.: 800-535-5053

### SECTION 2 : Hazards identification

**Classification of the substance or mixture:**

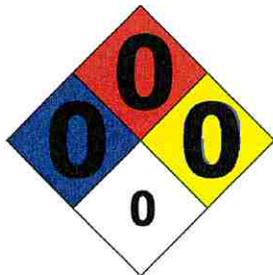
**Hazard statements:**

**Precautionary statements:**

If medical advice is needed, have product container or label at hand  
Keep out of reach of children  
Read label before use  
Do not eat, drink or smoke when using this product

**Other Non-GHS Classification:**

**WHMIS  
NFPA/HMIS**



NFPA SCALE (0-4)

Health	0
Flammability	0
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

### SECTION 3 : Composition/information on ingredients

<b>Ingredients:</b>
Percentages are by weight

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### Magnesium Carbonate, Lab Grade

#### SECTION 4 : First aid measures

##### Description of first aid measures

**After inhalation:** Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Get medical assistance if cough or other symptoms appear.

**After skin contact:** Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

**After eye contact:** Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:** Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists. Never give anything by mouth to an unconscious person.

##### Most important symptoms and effects, both acute and delayed:

Irritation, Nausea, Headache, Shortness of breath.;

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

If seeking medical attention, provide SDS document to physician. Physician should treat symptomatically.

#### SECTION 5 : Firefighting measures

##### Extinguishing media

**Suitable extinguishing agents:** Substance is non-flammable. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam

**For safety reasons unsuitable extinguishing agents:**

##### Special hazards arising from the substance or mixture:

Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors.

##### Advice for firefighters:

**Protective equipment:** Use NIOSH-approved respiratory protection/breathing apparatus.

**Additional information (precautions):** Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

#### SECTION 6 : Accidental release measures

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

Wear protective equipment. Ensure that air-handling systems are operational. Ensure adequate ventilation.

##### Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13. Should not be released into environment.

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

Keep in suitable closed containers for disposal. Wear protective eyewear, gloves, and clothing. Refer to Section 8. Always obey local regulations. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect solids in powder form using vacuum with (HEPA filter). Evacuate personnel to safe areas.

##### Reference to other sections:

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## Magnesium Carbonate, Lab Grade

### SECTION 7 : Handling and storage

#### Precautions for safe handling:

Minimize dust generation and accumulation. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with eyes, skin, and clothing.

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

Store away from incompatible materials. Protect from freezing and physical damage. Keep away from food and beverages. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store in cool, dry conditions in well sealed containers. Store with like hazards

### SECTION 8 : Exposure controls/personal protection



#### Control Parameters:

No applicable occupational exposure limits

#### Appropriate Engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use under a fume hood

#### Respiratory protection:

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

#### Protection of skin:

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

#### Eye protection:

Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.

#### General hygienic measures:

Perform routine housekeeping. Wash hands before breaks and at the end of work. Avoid contact with skin, eyes, and clothing. Before wearing wash contaminated clothing.

### SECTION 9 : Physical and chemical properties

<b>Appearance (physical state,color):</b>	white powder	<b>Explosion limit lower:</b>	Not determined
		<b>Explosion limit upper:</b>	Not determined

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### Magnesium Carbonate, Lab Grade

<b>Odor:</b>	Not determined	<b>Vapor pressure:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	Not determined	<b>Solubilities:</b>	
<b>Boiling point/Boiling range:</b>	Not determined	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid,gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic:Not determined b. Dynamic: Not determined
<b>Density:</b> Not determined			

#### SECTION 10 : Stability and reactivity

**Reactivity:**Nonreactive under normal conditions.

**Chemical stability:**Stable under normal conditions.

**Possible hazardous reactions:**None under normal processing

**Conditions to avoid:**Incompatible Materials.

**Incompatible materials:**Strong acids.Strong bases.Oxidizing agents.

**Hazardous decomposition products:**

#### SECTION 11 : Toxicological information

<b>Acute Toxicity:</b> No additional information.	
<b>Chronic Toxicity:</b> No additional information.	
<b>Corrosion Irritation:</b> No additional information.	
<b>Sensitization:</b>	No additional information.
<b>Single Target Organ (STOT):</b>	No additional information.
<b>Numerical Measures:</b>	No additional information.
<b>Carcinogenicity:</b>	No additional information.
<b>Mutagenicity:</b>	No additional information.
<b>Reproductive Toxicity:</b>	No additional information.

#### SECTION 12 : Ecological information

**Ecotoxicity Persistence and degradability:**

**Bioaccumulative potential:**

**Mobility in soil:**

**Other adverse effects:**

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### Magnesium Carbonate, Lab Grade

#### SECTION 13 : Disposal considerations

##### Waste disposal recommendations:

Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

#### SECTION 14 : Transport information

##### UN-Number

Not Regulated.

##### UN proper shipping name

Not Regulated.

##### Transport hazard class(es)

**Packing group:** Not Regulated

##### Environmental hazard:

##### Transport in bulk:

##### Special precautions for user:

#### SECTION 15 : Regulatory information

##### United States (USA)

##### SARA Section 311/312 (Specific toxic chemical listings):

None of the ingredients is listed

##### SARA Section 313 (Specific toxic chemical listings):

None of the ingredients is listed

##### RCRA (hazardous waste code):

None of the ingredients is listed

##### TSCA (Toxic Substances Control Act):

39409-82-0 Magnesium carbonate - Not Listed

##### CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

None of the ingredients is listed

##### Proposition 65 (California):

##### Chemicals known to cause cancer:

None of the ingredients is listed

##### Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

##### Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

##### Chemicals known to cause developmental toxicity:

None of the ingredients is listed

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### Magnesium Carbonate, Lab Grade

#### Canada

##### Canadian Domestic Substances List (DSL):

39409-82-0 Magnesium carbonate - Not Listed

##### Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

##### Canadian NPRI Ingredient Disclosure list (limit 1%):

None of the ingredients is listed

#### SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

##### GHS Full Text Phrases:

##### Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
ACGIH: American Conference of Governmental Industrial Hygienists  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
WHMIS: Workplace Hazardous Materials Information System (Canada)  
DNEL: Derived No-Effect Level (REACH)  
PNEC: Predicted No-Effect Concentration (REACH)  
CFR: Code of Federal Regulations (USA)  
SARA: Superfund Amendments and Reauthorization Act (USA)  
RCRA: Resource Conservation and Recovery Act (USA)  
TSCA: Toxic Substances Control Act (USA)  
NPRI: National Pollutant Release Inventory (Canada)  
DOT: US Department of Transportation

Effective date : 10.24.2014

Last updated : 03.19.2015

# Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH)



Magnesium carbonate Ph.Eur., light

article number: 3530  
Version: 4.0 en  
Replaces version of: 2022-07-18  
Version: (3)

date of compilation: 2017-07-06  
Revision: 2024-03-04

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Identification of the substance	Magnesium carbonate Ph.Eur., light
Article number	3530
Registration number (REACH)	01-2119523999-20-xxxx
EC number	235-192-7
CAS number	12125-28-9

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

Relevant identified uses:	Laboratory chemical Laboratory and analytical use
Uses advised against:	Do not use for private purposes (household). Food, drink and animal feedingstuffs.

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

Carl Roth GmbH + Co. KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Centre Beaumont Hospital	Beaumont Road	Dublin 9	+353 1 809 2166	<a href="https://www.poisons.ie/">https://www.poisons.ie/</a>

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 (CLP)

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

Magnesium carbonate Ph.Eur., light

article number: 3530

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Magnesium carbonate
Molecular formula	$(\text{MgCO}_3)_4 \text{Mg}(\text{OH})_2 \cdot 5 \text{H}_2\text{O}$
Molar mass	485,6 g/mol
REACH Reg. No	01-2119523999-20-xxxx
CAS No	12125-28-9
EC No	235-192-7

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air.

#### Following skin contact

Rinse skin with water/shower.

#### Following eye contact

Rinse cautiously with water for several minutes.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Abdominal pain, Vomiting, Nausea

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

none

Magnesium carbonate Ph.Eur., light

article number: 3530

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings! water, foam, dry extinguishing powder, ABC-powder

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Non-combustible.

#### Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

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



#### For non-emergency personnel

No special measures are necessary.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

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

#### Advice on how to contain a spill

Covering of drains. Take up mechanically.

#### Advice on how to clean up a spill

Take up mechanically.

#### Other information relating to spills and releases

Place in appropriate containers for disposal.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

Magnesium carbonate Ph.Eur., light

article number: 3530

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

No special measures are necessary.

#### Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

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

Store in a dry place.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice:

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection.

#### Skin protection



#### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

#### • type of material

NBR (Nitrile rubber)

#### • material thickness

>0,11 mm

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• **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

• **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

**Respiratory protection**



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

**Environmental exposure controls**

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	solid
Form	powder
Colour	white
Odour	odourless
Melting point/freezing point	300 °C at 1.013 hPa (ECHA)
Boiling point or initial boiling point and boiling range	not determined
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	10 – 11 (in aqueous solution: 50 g/l, 20 °C)
Kinematic viscosity	not relevant
<u>Solubility(ies)</u>	
Water solubility	0,074 g/l at 20 °C (poorly soluble) (ECHA)
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	not relevant (inorganic)
Vapour pressure	not determined

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Density and/or relative density

Density 2,16 g/cm<sup>3</sup> at 23 °C  
 Relative vapour density Information on this property is not available.

Particle characteristics No data available.

Other safety parameters

Oxidising properties none

**9.2 Other information**

Information with regard to physical hazard classes: hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics: There is no additional information.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**

This material is not reactive under normal ambient conditions.

**10.2 Chemical stability**

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**10.3 Possibility of hazardous reactions**

**Violent reaction with:** strong oxidiser, Acids

**10.4 Conditions to avoid**

Keep away from heat.

**10.5 Incompatible materials**

There is no additional information.

**10.6 Hazardous decomposition products**

Hazardous combustion products: see section 5.

**SECTION 11: Toxicological information**

**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Classification according to GHS (1272/2008/EC, CLP)**

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

**Acute toxicity**

Shall not be classified as acutely toxic.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	>2.000 mg/kg	rat	anhydrous	ECHA



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**Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

**Serious eye damage/eye irritation**

Shall not be classified as seriously damaging to the eye or eye irritant.

**Respiratory or skin sensitisation**

Shall not be classified as a respiratory or skin sensitiser.

**Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

**Carcinogenicity**

Shall not be classified as carcinogenic.

**Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

**Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

**Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

**Symptoms related to the physical, chemical and toxicological characteristics**

• **If swallowed**

diarrhoea, vomiting, abdominal pain, nausea

• **If in eyes**

slightly irritant but not relevant for classification

• **If inhaled**

Inhalation of dust may cause irritation of the respiratory system

• **If on skin**

Data are not available.

• **Other information**

none

**11.2 Endocrine disrupting properties**

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

**11.3 Information on other hazards**

There is no additional information.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

### 12.2 Persistence and degradability

Theoretical Oxygen Demand: -0,1647 mg/mg  
Theoretical Carbon Dioxide: 0,3625 mg/mg

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



Consult the appropriate local waste disposal expert about waste disposal.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.



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**SECTION 14: Transport information**

- 14.1 **UN number or ID number** not subject to transport regulations
- 14.2 **UN proper shipping name** not assigned
- 14.3 **Transport hazard class(es)** none
- 14.4 **Packing group** not assigned
- 14.5 **Environmental hazards** non-environmentally hazardous acc. to the dangerous goods regulations

14.6 **Special precautions for user**  
There is no additional information.

14.7 **Maritime transport in bulk according to IMO instruments**  
The cargo is not intended to be carried in bulk.

**14.8 Information for each of the UN Model Regulations**

**International Maritime Dangerous Goods Code (IMDG) - Additional information**

Not subject to IMDG.

**International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**

Not subject to ICAO-IATA.

**SECTION 15: Regulatory information**

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

**Relevant provisions of the European Union (EU)**

**Restrictions according to REACH, Annex XVII**

not listed

**List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list**

Not listed.

**Seveso Directive**

2012/18/EU (Seveso III)			
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
	not assigned		

**Deco-Paint Directive**

VOC content	0 %
VOC content	0 g/l

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**Industrial Emissions Directive (IED)**

VOC content	0 %
VOC content	0 g/l

**Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)**

not listed

**Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)**

not listed

**Water Framework Directive (WFD)**

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Magnesium carbonate	Metals and their compounds		a)	

**Legend**

a) Indicative list of the main pollutants

**Regulation on the marketing and use of explosives precursors**

not listed

**Regulation on drug precursors**

not listed

**Regulation on substances that deplete the ozone layer (ODS)**

not listed

**Regulation concerning the export and import of hazardous chemicals (PIC)**

not listed

**Regulation on persistent organic pollutants (POP)**

not listed

**Other information**

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

**National inventories**

Country	Inventory	Status
AU	AIIC	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed

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Country	Inventory	Status
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
VN	NCI	substance is listed

## Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory

## 15.2 Chemical safety assessment

According to REACH, Article 14 (1) a chemical safety assessment has been carried out for this substance or components of this mixture when the substance has been registered in quantities of 10 tonnes or more per year per registrant.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$ .	yes
14.8	Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information: Not subject to ADR, RID and ADN.		yes
15.1	VOC content: 0 % 0 9/1	VOC content: 0 %	yes
15.1		VOC content: 0 9/1	yes
15.1		National inventories: change in the listing (table)	yes
15.2	Chemical Safety Assessment: No Chemical Safety Assessment has been carried out for this substance.	Chemical safety assessment: According to REACH, Article 14 (1) a chemical safety assessment has been carried out for this substance or components of this mixture when the substance has been registered in quantities of 10 tonnes or more per year per registrant.	yes

**Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH)**



**Magnesium carbonate Ph.Eur., light**

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**Abbreviations and acronyms**

Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
SVHC	Substance of Very High Concern
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

**Key literature references and sources for data**

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



## Manganese(II) sulphate monohydrate ≥99 %, p.a., ACS

article number: **4487**  
Version: **4.0 en**  
Replaces version of: 2021-11-02  
Version: (3)

date of compilation: 2017-01-31  
Revision: 2024-03-02

### SECTION 1: Identification of the substance/mixture and of the company/ undertaking

#### 1.1 Product identifier

Identification of the substance	<b>Manganese(II) sulphate monohydrate</b> ≥99 %, p.a., ACS
Article number	4487
Registration number (REACH)	01-2119456624-35-xxxx
Index number in CLP Annex VI	025-003-00-4
EC number	232-089-9
CAS number	10034-96-5

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

Relevant identified uses:	Laboratory chemical Laboratory and analytical use
Uses advised against:	Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feeding-stuffs.

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

Carl Roth GmbH + Co. KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0  
**Telefax:** +49 (0) 721 - 56 06 149  
**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)  
**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

#### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Centre Beaumont Hospital	Beaumont Road	Dublin 9	+353 1 809 2166	<a href="https://www.poisons.ie/">https://www.poisons.ie/</a>

# Safety data sheet

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**Manganese(II) sulphate monohydrate  $\geq 99\%$ , p.a., ACS**

article number: **4487**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.9	Specific target organ toxicity - repeated exposure	2	STOT RE 2	H373
4.1C	Hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

For full text of abbreviations: see SECTION 16

#### The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

#### Signal word

**Danger**

#### Pictograms

GHS05, GHS08,  
GHS09



#### Hazard statements

H318 Causes serious eye damage  
H373 May cause damage to organs through prolonged or repeated exposure  
H411 Toxic to aquatic life with long lasting effects

#### Precautionary statements

##### Precautionary statements - prevention

P260 Do not breathe dust  
P273 Avoid release to the environment

##### Precautionary statements - response

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P314 Get medical advice/attention if you feel unwell  
P391 Collect spillage

#### Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

Symbol(s)



H318 Causes serious eye damage.

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## Manganese(II) sulphate monohydrate $\geq 99\%$ , p.a., ACS

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P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Manganese(II) sulphate monohydrate
Molecular formula	$\text{MnSO}_4 \cdot \text{H}_2\text{O}$
Molar mass	169 g/mol
REACH Reg. No	01-2119456624-35-xxxx
CAS No	10034-96-5
EC No	232-089-9
Index No	025-003-00-4

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Abdominal pain, Nausea, Vomiting, Diarrhoea, Risk of serious damage to eyes, Risk of blindness

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

none

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!  
water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Non-combustible.

#### Hazardous combustion products

In case of fire may be liberated: Sulphur oxides (SO<sub>x</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

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



#### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

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

#### Advice on how to contain a spill

Covering of drains. Take up mechanically.

#### Advice on how to clean up a spill

Take up mechanically. Control of dust.

#### Other information relating to spills and releases

Place in appropriate containers for disposal.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid dust formation.

#### Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits.

#### Measures to protect the environment

Avoid release to the environment.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

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

Store in a dry place.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice:

#### Ventilation requirements

Use local and general ventilation.

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [mg/m <sup>3</sup> ]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
IE	dusts, non-specific		OELV	10			i	S.I. No. 619 of 2001
IE	dusts, non-specific		OELV	4			r	S.I. No. 619 of 2001

#### Notation

Ceiling-C	Ceiling value is a limit value above which exposure should not occur
i	Inhalable fraction
r	Respirable fraction
STEL	Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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## Manganese(II) sulphate monohydrate $\geq 99$ %, p.a., ACS

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### Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	0,004 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

### Environmental values

Relevant PNECs and other threshold levels				
End-point	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0,03 mg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	56 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	0,011 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	0,001 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
PNEC	25,1 mg/kg	terrestrial organisms	soil	short-term (single instance)

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection.

#### Skin protection



#### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

#### • type of material

NBR (Nitrile rubber)

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- **material thickness**

>0,11 mm

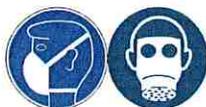
- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

### Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

### Environmental exposure controls

Keep away from drains, surface and ground water.

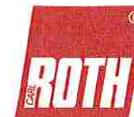
## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	solid
Form	powder, crystalline
Colour	light pink
Odour	odourless
Melting point/freezing point	>449 °C (ECHA)
Boiling point or initial boiling point and boiling range	not determined
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	>400 °C
pH (value)	3 – 3,5 (in aqueous solution: 50 g/l, 20 °C)
Kinematic viscosity	not relevant
<u>Solubility(ies)</u>	
Water solubility	762 g/l at 20 °C
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	not relevant (inorganic)
Vapour pressure	not determined

# Safety data sheet

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## Manganese(II) sulphate monohydrate ≥99 %, p.a., ACS

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### Density and/or relative density

Density 2,95 g/cm<sup>3</sup> at 20 °C  
Relative vapour density Information on this property is not available.

Particle characteristics No data available.

### Other safety parameters

Oxidising properties none

## 9.2 Other information

Information with regard to physical hazard classes: hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics: There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

**Violent reaction with:** Strong alkali, Strong acid

### 10.4 Conditions to avoid

Keep away from heat. Decomposition takes place from temperatures above: >400 °C.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Classification according to GHS (1272/2008/EC, CLP)**

#### Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	2.150 mg/kg	rat	anhydrous	ECHA
inhalation: dust/ mist	LC50	>4,45 mg/l/4h	rat	anhydrous	ECHA

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



## Manganese(II) sulphate monohydrate $\geq 99$ %, p.a., ACS

article number: 4487

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### **Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

### **Serious eye damage/eye irritation**

Causes serious eye damage.

### **Respiratory or skin sensitisation**

Shall not be classified as a respiratory or skin sensitiser.

### **Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

### **Carcinogenicity**

Shall not be classified as carcinogenic.

### **Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

### **Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

### **Specific target organ toxicity - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

### **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

### **Symptoms related to the physical, chemical and toxicological characteristics**

#### **• If swallowed**

diarrhoea, vomiting, abdominal pain, nausea, gastrointestinal complaints

#### **• If in eyes**

Causes serious eye damage, risk of blindness

#### **• If inhaled**

Data are not available.

#### **• If on skin**

Data are not available.

#### **• Other information**

none

### **11.2 Endocrine disrupting properties**

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

### **11.3 Information on other hazards**

There is no additional information.

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**Manganese(II) sulphate monohydrate  $\geq 99\%$ , p.a., ACS**

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)				
Endpoint	Value	Species	Source	Exposure time
ErC50	61 mg/l	algae	ECHA	72 h

Aquatic toxicity (chronic)				
Endpoint	Value	Species	Source	Exposure time
EC50	>1.000 mg/l	microorganisms	ECHA	3 h

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### **Sewage disposal-relevant information**

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

#### **Waste treatment of containers/packagings**

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

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## Manganese(II) sulphate monohydrate ≥99 %, p.a., ACS

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### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### Properties of waste which render it hazardous

- HP 4 irritant - skin irritation and eye damage
- HP 5 specific target organ toxicity (STOT)/aspiration toxicity
- HP 14 ecotoxic

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number or ID number

ADRRID	UN 3077
IMDG-Code	UN 3077
ICAO-TI	UN 3077

### 14.2 UN proper shipping name

ADRRID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
IMDG-Code	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
ICAO-TI	Environmentally hazardous substance, solid, n.o.s.
Technical name	Manganese(II) sulphate monohydrate

### 14.3 Transport hazard class(es)

ADRRID	9
IMDG-Code	9
ICAO-TI	9

### 14.4 Packing group

ADRRID	III
IMDG-Code	III
ICAO-TI	III

### 14.5 Environmental hazards

hazardous to the aquatic environment

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

# Safety data sheet

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## Manganese(II) sulphate monohydrate $\geq 99\%$ , p.a., ACS

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### Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) Additional information

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Particulars in the transport document	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (Manganese(II) sulphate monohydrate), 9, III, (-)
Classification code	M7
Danger label(s)	9, "Fish and tree"
 	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 335, 375, 601
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	3
Tunnel restriction code (TRC)	-
Hazard identification No	90

### Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) Additional information

Classification code	M7
Danger label(s)	9, "Fish and tree"
 	
Environmental hazards	Yes Hazardous to water
Special provisions (SP)	274, 335, 375, 601
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	3
Hazard identification No	90

### International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Particulars in the shipper's declaration	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (Manganese(II) sulphate monohydrate), 9, III
Marine pollutant	yes (hazardous to the aquatic environment), (Manganese(II) sulphate monohydrate)
Danger label(s)	9, "Fish and tree"

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according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



## Manganese(II) sulphate monohydrate ≥99 %, p.a., ACS

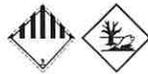
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Special provisions (SP)	274, 335, 966, 967, 969
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
EmS	F-A, S-F
Stowage category	A

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Particulars in the shipper's declaration	UN3077, Environmentally hazardous substance, solid, n.o.s., (Manganese(II) sulphate monohydrate), 9, III
Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	9, "Fish and tree"



Special provisions (SP)	A97, A158, A179, A197, A215
Excepted quantities (EQ)	E1
Limited quantities (LQ)	30 kg

## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

#### Restrictions according to REACH, Annex XVII

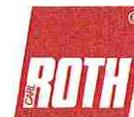
Dangerous substances with restrictions (REACH, Annex XVII)				
Name of substance	Name acc. to inventory	CAS No	Restriction	No
Manganese(II) sulphate monohydrate	substances in tattoo inks and permanent make-up		R75	75

#### Legend

- R75 1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:
- (a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
  - (b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
  - (c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitizer category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
  - (d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:
    - (i) 0,1 % by weight, if the substance is used solely as a pH regulator;
    - (ii) 0,01 % by weight, in all other cases;
  - (e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (\*1), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
  - (f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g

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## Manganese(II) sulphate monohydrate ≥99 %, p.a., ACS

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### Legend

- (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:
- (i) "Rinse-off products";
  - (ii) "Not to be used in products applied on mucous membranes";
  - (iii) "Not to be used in eye products";
  - (g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;
  - (h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.
2. For the purposes of this entry use of a mixture "for tattooing purposes" means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.
3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.
4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:
- (a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);
  - (b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).
5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.
6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.
7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:
- (a) the statement "Mixture for use in tattoos or permanent make-up";
  - (b) a reference number to uniquely identify the batch;
  - (c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. "Ingredient" means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;
  - (d) the additional statement "pH regulator" for substances falling under point (d)(i) of paragraph 1;
  - (e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;
  - (f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;
  - (g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008.
- The information shall be clearly visible, easily legible and marked in a way that is indelible.
- The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise.
- Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use.
- Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.
8. Mixtures that do not contain the statement "Mixture for use in tattoos or permanent make-up" shall not be used for tattooing purposes.
9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).
10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

### List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list

Not listed.

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## Manganese(II) sulphate monohydrate ≥99 %, p.a., ACS

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### Seveso Directive

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
E2	environmental hazards (hazardous to the aquatic environment, cat. 2)	200	500	57)

#### Notation

57) Hazardous to the Aquatic Environment in category Chronic 2

### Deco-Paint Directive

VOC content	0 %
VOC content	0 g/l

### Industrial Emissions Directive (IED)

VOC content	0 %
VOC content	0 g/l

### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

### Water Framework Directive (WFD)

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Manganese(II) sulphate monohydrate	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Manganese(II) sulphate monohydrate	Metals and their compounds		a)	

#### Legend

a) Indicative list of the main pollutants

### Regulation on the marketing and use of explosives precursors

not listed

### Regulation on drug precursors

not listed

### Regulation on substances that deplete the ozone layer (ODS)

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not listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

### Regulation on persistent organic pollutants (POP)

not listed

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

#### Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

## 15.2 Chemical safety assessment

According to REACH, Article 14 (1) a chemical safety assessment has been carried out for this substance or components of this mixture when the substance has been registered in quantities of 10 tonnes or more per year per registrant.

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



Manganese(II) sulphate monohydrate ≥99 %, p.a., ACS

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## SECTION 16: Other information

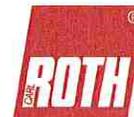
### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
14.8		Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information	yes
14.8		Classification code: M7	yes
14.8		Danger label(s): 9, "Fish and tree"	yes
14.8		Danger label(s): change in the listing (table)	yes
14.8		Environmental hazards: Yes Hazardous to water	yes
14.8		Special provisions (SP): 274, 335, 375, 601	yes
14.8		Excepted quantities (EQ): E1	yes
14.8		Limited quantities (LQ): 5 kg	yes
14.8		Transport category (TC): 3	yes
14.8		Hazard identification No: 90	yes
15.1	VOC content: 0 % , 0 9/l	VOC content: 0 %	yes
15.1		VOC content: 0 9/l	yes
15.1		National inventories: change in the listing (table)	yes
15.2	Chemical Safety Assessment: No Chemical Safety Assessment has been carried out for this substance.	Chemical safety assessment: According to REACH, Article 14 (1) a chemical safety assessment has been carried out for this substance or components of this mixture when the substance has been registered in quantities of 10 tonnes or more per year per registrant.	yes

### Abbreviations and acronyms

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



## Manganese(II) sulphate monohydrate ≥99 %, p.a., ACS

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Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
S.I. No. 619 of 2001	Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001
STEL	Short-term exposure limit

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



## Manganese(II) sulphate monohydrate $\geq 99\%$ , p.a., ACS

article number: **4487**

Abbr.	Descriptions of used abbreviations
SVHC	Substance of Very High Concern
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.  
Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

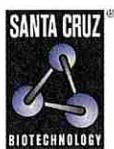
### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H318	Causes serious eye damage.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.





The Power to Question

# SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 29-Jul-2016

Version 1

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

### Product identifier

Product Name DL-Methionine  
Product Code SC-397777

### Recommended use of the chemical and restrictions on use

For research use only. Not intended for diagnostic or therapeutic use.

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

Santa Cruz Biotechnology, Inc.  
10410 Finnell Street  
Dallas, TX 75220  
831.457.3800  
800.457.3801  
scbt@scbt.com

### Emergency telephone number

Chemtrec  
1.800.424.9300 (Within USA)  
+1.703.527.3887 (Outside USA)

## 2. HAZARDS IDENTIFICATION

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122).

### Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

### Label elements

Signal word Not classified  
Hazard statements Not classified  
Symbols/Pictograms Not classified

Precautionary Statements - Prevention Wash hands thoroughly after handling  
Precautionary Statements - Response IF exposed or concerned: Get medical advice/attention

### Hazards not otherwise classified (HNOC)

Hazards not otherwise classified (HNOC) Not applicable

### Other Information

Unknown acute toxicity 100% of the mixture consists of ingredient(s) of unknown toxicity.

**NFPA** Health hazards 0  
Flammability 1  
Stability 0  
Physical and chemical properties -



**HMIS** Health hazards 0  
Flammability 1  
Physical hazards 0  
Personal protection -

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No 59-51-8  
Molecular Weight 149.21  
Formula C5H11NO2S

Chemical Name	CAS No	Weight %	Oral LD50	Dermal LD50	Inhalation LC50
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DL-Methionine	59-51-8	>98	-	-	-
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#### 4. FIRST AID MEASURES

##### First Aid Measures

General advice	Consult a physician if necessary. Remove to fresh air.
Eye contact	Wash with plenty of water.
Skin Contact	Wash skin with soap and water.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.
Ingestion	Never give anything by mouth to an unconscious person. Clean mouth with water.

##### Most important symptoms and effects, both acute and delayed

Symptoms No information available.

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

Note to physicians Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

##### Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	None.

##### Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
Hazardous combustion products	Hydrogen sulfide. Carbon oxides. Nitrogen oxides (NOx).

##### Explosion data

Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

##### Protective equipment and precautions for firefighters

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

#### 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions Ensure adequate ventilation, especially in confined areas.

##### 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 Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Corrosive hazard. Wear protective gloves/clothing and eye/face protection. Noxious vapor/odor. Ensure adequate ventilation, especially in confined areas.

### Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Desiccate at room temperature.

Incompatible materials None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

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

### Appropriate engineering controls

Engineering Controls Ensure adequate ventilation, especially in confined areas

### Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and Body Protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Solid

Appearance No information available

Odor Sulphurous May be unpleasant

<u>Property</u>	<u>Values</u>
pH	No information available
Melting point/freezing point	280 °C
Boiling point	186 °C
Flash point	139.4 °C
Density	No information available
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	0.0 mmHg
Vapor density	No information available
Specific gravity	1.3
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	-1.87
Autoignition temperature	No information available
Decomposition temperature	280 ° C
Kinematic viscosity	No information available
Explosive properties	No information available

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Oxidizing properties	No information available
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## 10. STABILITY AND REACTIVITY

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Reactivity	Not applicable
Chemical stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	No information available.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	Strong oxidizing agents.
Hazardous Decomposition Products	Hydrogen sulfide. Carbon oxides. Nitrogen oxides (NOx).

## 11. TOXICOLOGICAL INFORMATION

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### Information on likely routes of exposure

Inhalation	No data available.
Eye contact	No data available.
Skin Contact	No data available.
Ingestion	No data available.

### Information on toxicological effects

Symptoms	No information available.
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### Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity	No information available.
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### Numerical measures of toxicity - Product Information

Unknown acute toxicity	100% of the mixture consists of ingredient(s) of unknown toxicity
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## 12. ECOLOGICAL INFORMATION

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Ecotoxicity	May cause long lasting harmful effects to aquatic life
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100% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Persistence and degradability	No information available.
Bioaccumulation	No information available.
Mobility	No information available.

## 13. DISPOSAL CONSIDERATIONS

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Disposal of wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Do not reuse container.

## 14. TRANSPORT INFORMATION

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DOT	Not regulated
IMDG	Not regulated
IATA	Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

All of the components in the product are on the following Inventory lists

TSCA (United States): Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) China (IECSC) ENCS (Japan): Philippines (PICCS)

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
DL-Methionine	X	X	-	X	-	X	X	-	X	X

#### *X - Listed*

*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*

*DSL/NDSL - 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*

### US Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### **SARA 311/312 Hazard Categories**

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive hazard	No

#### **CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

### US State Regulations

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

#### **U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated by state right-to-know regulations

## 16. OTHER INFORMATION

Revision note No information available

**Disclaimer**

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

**End of Safety Data Sheet**

## Safety Data Sheet

Classified according to WHMIS 2015

### SECTION 1: Identification

#### 1.1. Product Identifier

**Trade Name or Designation:** Selenate Standard, 1000 ppm  $\text{SeO}_4^{2-}$

**Product Number:** R6699000

**Other Identifying Product Numbers:** R6699000-120A, R6699000-1A, R6699000-250A

#### 1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

#### 1.3. Details of the Supplier of the Safety Data Sheet

**Company:** Ricca Chemical Company

**Address:** 448 West Fork Drive

Arlington, TX 76012 USA

**Telephone:** 888-467-4222

#### 1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA)

800-424-9300

CHEMTREC (International)

1+ 703-527-3887

### SECTION 2: Hazard(s) Identification

#### 2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

This product is not categorized as hazardous in any GHS hazard class.

#### 2.2. GHS Label Elements

**Pictograms:** None Required.

**Signal Word:** None Required.

## Safety Data Sheet

**Hazard Statements:** None Required.

**Precautionary Statements:** None Required.

### 2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

## SECTION 3: Composition / Information on Ingredients

### 3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	Weight%
Water	H <sub>2</sub> O	18.01 g/mol	7732-18-5	99.87
Sodium Selenate	Na <sub>2</sub> SeO <sub>4</sub>	188.93 g/mol	13410-01-0	0.13

## SECTION 4: First-Aid Measures

### 4.1. General First Aid Information

**Eye Contact:** May cause slight irritation.

**Inhalation:** Not expected to require first aid. If necessary, remove to fresh air.

**Skin Contact:** May cause slight irritation.

**Ingestion:** Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

### 4.2. Most Important Symptoms and Effects, Acute and Delayed

This solution is toxic. Wash areas of contact with water. Call a physician if irritation develops. If ingested, dilute with water. Call a physician if necessary. EYE CONTACT: May cause slight irritation. SKIN CONTACT: May cause slight irritation.

### 4.3. Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Flush with plenty of water for at least 15 minutes. Call a physician if irritation develops. Di with water or milk. Do not induce vomiting. Call a physician if necessary.

## SECTION 5: Fire-Fighting Measures

### 5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire.

## **Safety Data Sheet**

### **5.2. Specific Hazards Arising from the Substance or Mixture**

Not considered to be a fire or explosion hazard.

### **5.3. Special Protective Equipment for Firefighters**

Use protective clothing and breathing equipment appropriate for the surrounding fire.

## **SECTION 6: Accidental Release Measures**

### **6.1. Personal Precautions, Protective Equipment and Emergency Procedures**

Wear appropriate PPE for the size and nature of the spill. As a general rule, wear safety glasses and gloves.

### **6.2. Cleanup and Containment Methods and Materials**

Absorb with suitable material and dispose of in accordance with local regulations.

## **SECTION 7: Handling and Storage**

### **7.1. Precautions for Safe Handling and Storage Conditions**

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

## Safety Data Sheet

### SECTION 8: Exposure Controls / Personal Protection

#### 8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Sodium Selenate (13410-01-0)	TWA	USA	"0.2 mg/m <sup>3</sup> TWA (as Se)" As Selenium compounds [RR-00612-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Sodium Selenate (13410-01-0)	TLV-TWA	USA	"0.2 mg/m <sup>3</sup> TWA (as Se)" As Selenium compounds [RR-00612-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Sodium Selenate (13410-01-0)	TLV-TWA	USA	"0.2 mg/m <sup>3</sup> TWA (as Se)" As Selenium compounds [RR-00612-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Sodium Selenate (13410-01-0)	TWA	USA	"0.2 mg/m <sup>3</sup> TWA (as Se)" As Selenium compounds [RR-00612-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Sodium Selenate (13410-01-0)	TWA	USA	"0.2 mg/m <sup>3</sup> TWA (as Se)" As Selenium compounds [RR-00612-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Sodium Selenate (13410-01-0)	TLV-TWA	USA	"0.2 mg/m <sup>3</sup> TWA (as Se)" As Selenium compounds [RR-00612-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Sodium Selenate (13410-01-0)	TLV-TWA	USA	0.2 mg/m <sup>3</sup> TWA (as Se)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Sodium Selenate (13410-01-0)	TWA	USA	0.2 mg/m <sup>3</sup> TWA (as Se)	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Sodium Selenate (13410-01-0)	TWA	USA	"0.2 mg/m <sup>3</sup> TWA (as Se)" As Selenium compounds [RR-00612-2]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Sodium Selenate (13410-01-0)	TLV-TWA	USA	"0.2 mg/m <sup>3</sup> TWA (as Se)" As Selenium compounds [RR-00612-2]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

#### 8.2. Exposure Controls

**Engineering Controls:** No specific controls are needed. Normal room ventilation is adequate.

**Respiratory Protection:** Normal room ventilation is adequate.

**Skin Protection:** Chemical resistant gloves.

**Eye Protection:** Safety glasses or goggles.

## Safety Data Sheet

### 8.3. Personal Protective Equipment

Normal room ventilation is adequate. Chemical resistant gloves. Safety glasses or goggles.

## SECTION 9: Physical and Chemical Properties

### 9.1. Basic Physical and Chemical Properties

**Appearance:** Colorless liquid

**Physical State:** Liquid

**Odor:** Data not available.

**Odor Threshold:** Data not available.

**pH:** Neutral to slightly acidic

**Melting/Freezing Point:** 0.0°C

**Initial Boiling Point/Range:** 100°C - 100°C

**Flash Point:** Data not available.

**Evaporation Rate:** Data not available.

**Flammability:** Data not available.

**Flammability/Explosive Limits:** Data not available.

**Vapor Pressure:** Data not available.

**Vapor Density:** Data not available.

**Relative Density:** 1.0

**Solubility:** Miscible

**Partition Coefficient:** Data not available.

**Auto-Ignition Temperature:** Data not available.

**Decomposition Temperature:** Data not available.

**Viscosity:** Data not available.

**Explosive Properties:** Data not available.

**Oxidizing Properties:** Data not available.

## SECTION 10: Stability and Reactivity

### 10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

### 10.2. Possibility of Hazardous Reactions

Data not available.

### 10.3. Conditions to Avoid and Incompatible Materials

Strong oxidizers, acids, Chromium Trioxide, Potassium Bromate.

## Safety Data Sheet

### 10.4. Hazardous Decomposition Products

Will not occur.

## SECTION 11: Toxicological Information

### 11.1. Information on Toxicological Effects

**Acute Toxicity - Oral Exposure:**

Not applicable.

**Acute Toxicity - Dermal Exposure:**

Not applicable.

**Acute Toxicity - Inhalation Exposure:**

Not applicable.

**Acute Toxicity - Other Information:**

LD50, Oral, Rat: 1.6 mg/kg (Sodium Selenate), details of toxic effects not reported other than lethal dose value. Selenium may be toxic at higher concentrations even though it is an essential trace element in the diet.

**Skin Corrosion and Irritation:**

Not applicable.

**Serious Eye Damage and Irritation:**

Not applicable.

**Respiratory Sensitization:**

Not applicable.

**Skin Sensitization:**

Not applicable.

**Germ Cell Mutagenicity:**

Not applicable.

**Carcinogenicity:**

Not applicable.

**Reproductive Toxicity:**

Not applicable.

**Specific Target Organ Toxicity from Single Exposure:**

Not applicable.

**Specific Target Organ Toxicity from Repeated Exposure:**

Not applicable.

**Aspiration Hazard:**

Not applicable.

**Additional Toxicology Information:**

Data not available.

## Safety Data Sheet

### SECTION 12: Ecological Information

#### 12.1. Ecotoxicity

Not applicable.

#### 12.2. Persistence and Degradability

Data not available.

#### 12.3. Bioaccumulative Potential

Data not available.

#### 12.4. Mobility in Soil

Data not available.

#### 12.5. Other Adverse Ecological Effects

Data not available.

### SECTION 13: Disposal Considerations

#### 13.1. Waste Treatment Methods

Data not available.

### SECTION 14: Transportation Information

#### 14.1. Transportation by Land-Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.

## **Safety Data Sheet**

### **14.2. Transportation by Air - International Air Transport Association (IATA)**

Not regulated according to IATA Dangerous Goods Regulations.

### **14.3 Transportation of Dangerous Goods (TDG, Canada)**

Not regulated according to TDG Regulations.

## **SECTION 15: Regulatory Information**

### **15.1. Occupational Safety and Health Administration (OSHA) Hazards**

Not listed.

### **15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances**

Sodium Selenate (CAS # 13410-01-0): 100 lb EPCRA RQ

Sodium Selenate (CAS # 13410-01-0): 100 lb lower TPQ; 10000 lb upper TPQ

### **15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals**

Not listed.

## Safety Data Sheet

### 15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Sodium Selenate (CAS # 13410-01-0): "1.0 % de minimis concentration (includes any unique chemical substance that contains Selenium as part of the chemical's infrastructure, listed under Chemical Category N725)" As Selenium compounds [RR-00612-2]

Sodium Selenate (CAS # 13410-01-0): 1.0 % de minimis concentration (includes any unique chemical substance that contains Selenium as part of the chemical's infrastructure, listed under Chemical Category N725)

### 15.5. Massachusetts Right-to-Know Substance List

Sodium Selenate (CAS # 13410-01-0): Extraordinarily hazardous

### 15.6. Pennsylvania Right-to-Know Hazardous Substances

Sodium Selenate (CAS # 13410-01-0): "Environmental hazard" As Selenium compounds [RR-00612-2]

Sodium Selenate (CAS # 13410-01-0): "Present" As Selenium compounds [RR-00612-2]

Sodium Selenate (CAS # 13410-01-0): Environmental hazard

Sodium Selenate (CAS # 13410-01-0): Present

Water (CAS # 7732-18-5): "Present" As Ethyl alcohol and water [RR-00802-6]

Water (CAS # 7732-18-5): Present

### 15.7. New Jersey Worker and Community Right-to-Know Components

Sodium Selenate (CAS # 13410-01-0): "SN 2347 500 lb TPQ (Category Code N725. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Selenium compounds [RR-00612-2]

Sodium Selenate (CAS # 13410-01-0): "sn 2347" As Selenium compounds [RR-00612-2]

Sodium Selenate (CAS # 13410-01-0): sn 1726

Sodium Selenate (CAS # 13410-01-0): SN 1726 100 lb TPQ

Sodium Selenate (CAS # 13410-01-0): sn 2347

Sodium Selenate (CAS # 13410-01-0): SN 2347 500 lb TPQ (Category Code N725. Includes any unique chemical substance that contains the named metal as part of that chemical structure)

### 15.8. California Proposition 65

Not listed.

### 15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Sodium Selenate (CAS # 13410-01-0): Present (DSL)

Water (CAS # 7732-18-5): Present (DSL)

### 15.10. United States of America Toxic Substances Control Act (TSCA) List

All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.

Sodium Selenate (CAS # 13410-01-0): Present (ACTIVE)

Water (CAS # 7732-18-5): Present (ACTIVE)

### 15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Sodium Selenate (CAS # 13410-01-0): 236-501-8

Water (CAS # 7732-18-5): 231-791-2

## Safety Data Sheet

### SECTION 16: Other Information

#### 16.1. Full Text of Hazard Statements and Precautionary Statements

#### 16.2. Miscellaneous Hazard Classes

**Canadian Carcinogenicity Hazard Class:** Not Applicable.

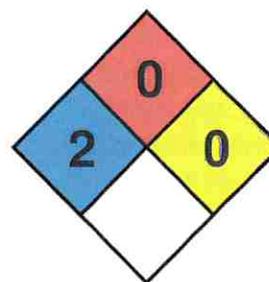
**Physical Hazards Not Otherwise Classified (PHNOC):** Not Applicable.

**Health Hazards Not Otherwise Classified (HHNOC):** Not Applicable.

**Biohazardous Infectious Materials Hazard Class:** Not Applicable.

#### 16.3. National Fire Protection Association (NFPA) Rating

**Health:** 2  
**Flammability:** 0  
**Reactivity:** 0  
**Special Hazard:**



#### 16.4. Document Revision

**Last Revision Date:** 2024-07-22

### DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.



Section 1. Product and Company Identification

**Product Name** SODIUM MOLYBDATE DIHYDRATE  
**CAS Number** 10102-40-6

**Parchem - fine & specialty chemicals**  
**415 Huguenot Street**  
**New Rochelle, NY 10801**  
☎ (914) 654-6800 📠 (914) 654-6899  
🌐 [parchem.com](http://parchem.com) ✉ [info@parchem.com](mailto:info@parchem.com)

**EMERGENCY RESPONSE NUMBER**  
**CHEMTEL**  
Toll Free US & Canada: 1 (800) 255-3924  
All other Origins: 1 (813) 248-0585  
Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**  
**Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS):** Not classified.  
**Classification according to Directive 67/548/EEC:** Not classified.

**GHS Label Elements**

**Pictograms:**



**Signal word:** WARNING

**Hazard and precautionary statements**

**Hazard Statements:** Harmful if inhaled.

**Precautionary Statements:** Avoid breathing dust. Use only in a well-ventilated area.

**Response Statements:** IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

**Storage:** None.

**Disposal:** None.

**Potential Health Effects**

**Eyes:** May cause irritation to the eyes.

**Skin:** May cause skin irritation.

**Inhalation:** Do not inhale. May cause respiratory tract irritation.



**Ingestion:** Do not swallow. May be harmful if swallowed.

**Other hazards:** The substance does not meet the criteria for a PBT or vPvB substance.  
No environmental, toxicological or physico-chemical hazards identified.

Section 3. Composition / Information on Ingredients

**Common Name** SODIUM MOLYBDATE DIHYDRATE  
**Synonym(s)** Sodium Molybdate Dehydrate. Disodium Molybdate Dihydrate. Sodium Molybdate Crystals  
**Formula**  $\text{Na}_2\text{MoO}_4 \cdot 2 \text{H}_2\text{O}$   
**CAS Number** 10102-40-6

COMPONENT	CAS NUMBER	CONCENTRATION
SODIUM MOLYBDATE DIHYDRATE	10102-40-6	100%

Section 4. First Aid Measures

**Description of first aid measures**

**Note:** Sodium Molybdate is not classified as a hazardous substance and no substance-specific toxicological hazards are expected. Nevertheless, the following generic first aid measures should be applied as usual when handling any chemical substance.

**General Advice:** First-aid responders should wear suitable personal protective equipment in case of insufficient ventilation or possible inhalation or eye contact.

**Following inhalation:** Remove patient from exposure and bring to fresh air. If breathing has stopped, perform artificial respiration and get medical advice/attention immediately.

**Following skin contact:** Wash skin with water and soap, and rinse thoroughly. If skin irritation occurs, get medical advice/attention.

**Following eye contact:** Check for and remove and contact lenses. Immediately flush eyes with plenty of water, occasionally lifting upper and lower eyelids, for several minutes. If irritation occurs, get medical advice/attention.

**After ingestion:** Seek medical advice/attention if feeling unwell.

**Most important symptoms and effects, both acute and delayed:** Acute or delayed effects are not anticipated for Sodium Molybdate.

**Indication of any immediate medical attention and special treatment needed:** No specific treatment expected to be required.

**PPE first responders:** Dust mask, safety goggles and gloves and are recommended.

Section 5. Firefighting Measures

**Note:** Sodium Molybdate is not flammable/combustible and it does not support fires (no oxidizing properties). Nevertheless, below some general firefighting measures are given, which should be adjusted to the surroundings (e.g. other, hazardous chemicals involved, packaging materials).



### Extinguishing media

**Suitable extinguishing media:** Standard extinguishing media such as water, sand, foam. Use firefighting measures that suit the location and surroundings. Sodium Molybdate is not considered flammable or combustible.

**Unsuitable extinguishing media:** None. Use firefighting measures that suit the location and surroundings.

**Special hazards arising from the substance or mixture:** None.

**Advice for firefighters:** Standard extinguishing media such as water, sand, foam. Use firefighting measures that suit the location and surroundings. Sodium Molybdate is not considered flammable or combustible.

### Section 6. Accidental Release Measures

**Note:** Sodium Molybdate is not classified as a hazardous substance and no substance-specific toxicological or ecotoxicological hazards are expected. Nevertheless, the following generic accidental release measures should be applied as usual when handling any chemical substance.

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel:** Avoid formation and inhalation of dust. Seek to ensure ventilation that maintains airborne concentrations below Occupational Exposure Limits. Keep unprotected persons away. Although the substance has no acute toxicity, it is advised to avoid contact with skin, eyes, and clothing - wear suitable protective equipment.

**For emergency responders:** Avoid formation and inhalation of dust. Seek to ensure ventilation that maintains airborne concentrations below Occupational Exposure Limits. Keep unprotected persons away. Although the substance has no acute toxicity, it is advised to avoid contact with skin, eyes, and clothing - wear suitable protective equipment.

**Environmental precautions:** Although the substance is not classified as dangerous to the environment, it is advised that in the event of an accidental release the product should be prevented from reaching the sewage system or any water course, and from penetrating the ground/soil. Dispose of spilled material in accordance with the relevant local regulations.

**Methods and material for containment and cleaning up:** Avoid formation and inhalation of dust. Use an appropriate industrial vacuum cleaner, equipped with ULPA or HEPA filters. Collect spilled material in suitable containers or bags for recovery or disposal.

### Section 7. Handling and Storage

**Note:** Sodium Molybdate is not classified as a hazardous substance and no substance-specific toxicological or ecotoxicological hazards are expected. Nevertheless, the following generic advice on handling and storage should be followed as for any chemical substance.

### Precautions for safe handling

**Protective measures:** Avoid formation of dust, inhalation and ingestion. General occupational



hygiene practice should always be followed.

**Advice on general occupational hygiene:** Avoid formation of dust, inhalation and ingestion. General occupational hygiene measures are required to ensure safe handling of the substance. These measures involve good personal and housekeeping practices (i.e. regular cleaning with suitable cleaning devices), no eating, drinking and smoking at the workplace and wearing standard working clothes and shoes unless otherwise stated. Wash hands after contact with the powder or fume. Remove contaminated clothing and protective equipment before entering eating areas. Shower and change clothes at end of work shift. Do not wear contaminated clothing at home. Do not blow dust off with compressed air.

**Conditions for safe storage, including any incompatibilities:** Store in closed container in a dry area. Do not store in open, inadequate or mislabeled packaging.

Section 8. Exposure Controls / Personal Protection

**Control parameters/ Occupational Exposure Limits (OILS)**

**Exposure Limits:** Soluble Molybdenum. 5 mg/m<sup>3</sup> OSHA TWA; 5 mg/m<sup>3</sup> ACGIH TWA; 5 mg/m<sup>3</sup> DFG MAK TWA (total dust). 50 mg/m<sup>3</sup> DFG MAK 30 minimum peak, average value, 1 time/shift.

**Exposure Controls:** Sodium Molybdate is not classified as a hazardous substance. High airborne dust concentrations require mechanical ventilation or a respirator mask.

**Engineering Controls:** Use appropriate engineering controls to minimize exposure to dust generated via routine use. Maintain adequate ventilation of workplace and storage areas.

**Personal Protective Equipment**

**Skin:** Wear protective clothing when handling this product to prevent prolonged skin contact.

**Eyes and face:** Wear safety glasses with side shields or goggles when handling this material.

**Respiratory:** Avoid breathing dust or mist. Use NIOSH approved respiratory protection equipment when air borne exposure is excessive.

**Hygienic Practices:** Facilities storing or using this material should be equipped with emergency eyewash, and a safety shower.

**PNECs and DNELs**

Exposure Pattern	Route	Descriptor	DNEL/PNEC
Long-term - systemic effects	Inhalation	DNEL (Derived No Effect Level)	11.17 mg Mo/m <sup>3</sup> Corresponding to 28 mg Na <sub>2</sub> MoO <sub>4</sub> · 2 H <sub>2</sub> O/m <sup>3</sup>
Long-term - chronic effects	Freshwater	PNEC (Predicted No Effect Concentration)	12.7 mg Mo/L, equivalent to 32.0 mg Na <sub>2</sub> MoO <sub>4</sub> · 2 H <sub>2</sub> O/L
Long-term - chronic effects	Marine	PNEC (Predicted No Effect Concentration)	1.9 mg Mo/L, equivalent to 4.8 mg Na <sub>2</sub> MoO <sub>4</sub> · 2 H <sub>2</sub> O/L



Long-term - chronic effects	Freshwater sediment	PNEC (Predicted No Effect Concentration)	22.6 g Mo/kg dw, equivalent to 57.0 g Na <sub>2</sub> MoO <sub>4</sub> · 2 H <sub>2</sub> O/kg dw
Long-term - chronic effects	Marine sediment	PNEC (Predicted No Effect Concentration)	1.98 g Mo/kg dw, equivalent to 4.99 g Na <sub>2</sub> MoO <sub>4</sub> · 2 H <sub>2</sub> O/kg dw
Long-term - chronic effects	Soil	PNEC (Predicted No Effect Concentration)	11.8-188 mg Mo/kg dw, equivalent to 29.8 - 474 mg Na <sub>2</sub> MoO <sub>4</sub> · 2 H <sub>2</sub> O/ kg dw (dependent upon soil type)
Long-term - chronic effects	STP	PNEC (Predicted No Effect Concentration)	21.7 mg Mo/L, equivalent to 54.7 mg Na <sub>2</sub> MoO <sub>4</sub> · 2 H <sub>2</sub> O/L

**Exposure controls:** This substance is not classified as a hazardous substance and no substance-specific toxicological or ecotoxicological hazards are expected. Nevertheless, in some circumstances high airborne dust concentrations may require local or general ventilation to control worker exposure in general. Where ventilation is unable to control the workplace dust levels to below the OEL, then respirator controls must be used. However, no exposure controls specific to this substance are required, other than good hygiene practice and adherence to national and regional provisions with regards to exposure to dusts in the workplace. National, regional or local provisions or limit values may also apply for emissions to air or water.

Section 9. Physical and Chemical Properties

- Appearance/Color:** Solid, crystalline, colorless to white, odorless, inorganic.
- Odor:** Odorless.
- Odor threshold:** Not applicable as odorless.
- pH (neat):** 7.0 - 10.0
- Melting point:** Sodium Molybdate Dihydrate decomposes at ca. 100°C (loss of water of crystallization). For the anhydrous, a melting point of 687°C has been reported.
- Boiling point and Range:** Not available.
- Flash point:** Not applicable as only relevant for liquids or low melting point solids.
- Evaporation rate:** Negligible at ambient temperatures.
- Flammability (solid, gas):** Not flammable.
- Upper/lower flammability or explosive limits:** Not explosive.
- Vapor pressure:** Low to negligible.
- Vapor density:** Not applicable (there are no Sodium Molybdate vapors).
- Relative density:** 2.59 at 20°C.
- Solubility:** 654 g/L in water at 20°C.
- Partition coefficient n-octanol/water:** Not applicable for inorganic substances.
- Auto-ignition temperature:** Not applicable (Sodium Molybdate is not combustible/flammable and thus does not auto-ignite).



**Decomposition temperature:** Sodium Molybdate Dihydrate decomposes at ca. 100°C (loss of water of crystallization, formation of Anhydrous Sodium Molybdate).

**Viscosity:** Not applicable. (Solid).

**Explosive properties:** Non explosive.

**Oxidizing properties:** Not oxidizing. Read-across from study with pure molybdenum trioxide (MoO<sub>3</sub>), which also contains molybdenum in its highest oxidation state (+VI).

Section 10. Stability and Reactivity

**Reactivity:** Stable under ambient temperatures and pressures.

Chemical stability: Stable under ambient temperatures and pressures.

**Possibility of hazardous reactions:** Molybdates react violently or explosively when reduced to molybdenum by heating with zirconium. Furthermore, in the preparation of dyestuffs from aniline, nitrobenzene (as oxidant), hydrochloric acid and sodium hydroxide, ferric chloride is often used as catalyst, but Sodium Molybdate was substituted as a more effective catalyst. The materials were charged into a 4.5 m<sup>3</sup> reactor and heating was started after addition of nitrobenzene, but the temperature controller was mis-set, and overheating at a high rate ensued. The exothermic reaction was much higher than normal because of the more effective catalyst, and partial failure of the cooling water led to an uncontrollable exothermic reaction. Other hazardous reactions have not been identified.

**Conditions to avoid:** Avoid exposure to extreme temperatures, contact with incompatible chemicals, uncontrolled contact with accelerants. Sodium Molybdate will explode on contact with molten magnesium.

**Incompatible materials:** It is incompatible with oxidizing agents and alkali metals. Sodium Molybdate will violently react with interhalogens (e.g., bromine pentafluoride; chlorine trifluoride).

**Hazardous decomposition products:** No hazardous decomposition products have been identified.

Section 11. Toxicological Information

**Information on toxicological effects**

Toxicity Endpoints	Description of Effects
Toxicokinetics: Absorption, Distribution, Metabolism and Excretion:	Molybdenum is an essential element. Uptaken Sodium Molybdate dissolves and exists predominantly in the form of the molybdate ion (MoO <sub>4</sub> <sup>2-</sup> ). Oral absorption: Rapid and almost complete absorption through GI tract. Inhalation absorption: Well absorbed based on animal data. Absorption in humans dependent on particle size, deposition/clearance. Dermal absorption: Low to negligible. Metabolism: No metabolism. Molybdenum compounds transform quickly to molybdate anions (MoO <sub>4</sub> <sup>2-</sup> ) upon dissolution. Excretion: Rapidly eliminated



	from plasma predominantly via renal excretion (>80%), and faeces (<10%).
Acute toxicity:	Low acute toxicity LD50, oral, rat: between 2733 and 6556 mg/kg bw (male/female). LD50, dermal, rat: > 2000 mg/kg bw (male/female). LD50, inhalation, rat (4h): > 1.93 mg/L (male/female).
Skin corrosion/irritation:	Not irritating / not corrosive to the skin.
Serious eye damage/irritation:	Not irritant / not corrosive to the eyes.
Respiratory or skin sensitization:	Sodium Molybdate is not sensitizing to the skin. There is no data indicating respiratory sensitization.
Germ-cell mutagenicity:	Not a germ cell mutagen. Negative test results three tests with Sodium Molybdate for: Bacterial reverse mutation assay, in vitro micronucleus assay in human lymphocytes, and in vitro gene mutation assay (tk) in mouse lymphoma cells. Change inhibition capacity - Escherichia coli 16 mmol/L; sex chromosome Loss and non -disjunction - Saccharomyces cerevisiae 80 mmol/L.
Carcinogenicity:	Not a carcinogen. (Read-across for absence of systemic carcinogenicity, based on chronic toxicity and carcinogenicity studies with molybdenum trioxide. Local effects in the lung observed in these molybdenum trioxide studies are specific to molybdenum trioxide and not read-across to Sodium Molybdate).
Reproductive toxicity:	There are currently no reliable scientific data available indicating adverse effects on human reproduction or fertility. 16474 ug/kg intratesticular - mouse TDLo 1 day male.
STOT-single exposure:	There are no specific target organ effects after single exposure to Sodium Molybdate.
STOT-repeated exposure:	No reliable scientific data available indicating adverse systemic effects after repeated exposure to molybdenum substances.
Aspiration hazard:	Not applicable (not an aerosol/mist).

Section 12. Ecological Information

**Toxicity:** Reliable acute aquatic toxicity test results (tests conducted with Sodium Molybdate; UV-spectra of aqueous solutions of Sodium Molybdate Dihydrate demonstrated that the only dissolved molybdenum species, originating directly from Sodium Molybdate Dihydrate is Molybdate); critical



values for classification are also expressed as mg Na<sub>2</sub>MoO<sub>4</sub>·2H<sub>2</sub>O)

Test Organisms	End-point	Range of values
Freshwater fish: Pimephales promelas	96h-LC50	609 - 681.4 mg Mo/L (1,536-1,718 mg Na <sub>2</sub> MoO <sub>4</sub> ·2H <sub>2</sub> O/L)
Freshwater fish: Oncorhynchus mykiss	96h-LC50	7600 mg Mo/L
Freshwater fish: Oncorhynchus mykiss	96h-LC50	781 - 1339 mg Mo/L (recalculated - logistic fit)
Invertebrates: Daphnia magna	48h-LC50	1680.4 - 1776.6 mg Mo/L
Invertebrates: Daphnia magna	48h-LC50	2729.4 mg Mo/L
Invertebrates: Daphnia magna	48h-LC50	2847.5 mg Mo/L
Invertebrates: Daphnia magna	48h-LC50	130.9 mg Mo/L (330.1 mg Na <sub>2</sub> MoO <sub>4</sub> ·2H <sub>2</sub> O/L)
Invertebrates: Ceriodaphnia dubia	48h-LC50	1005.5 - 1024.6 mg Mo/L
Invertebrate (aq. worm): Girardia dorotocephala	96h-LC50	1226 mg Mo/L
Algae: Pseudokirchneriella subcapitata	72h-ErC50 (growth rate)	295.0 - 390.9 mg Mo/L 289.2 - 369.6 mg Mo/L Geom. mean: 333.1 mg Mo/L ( 840 mg Na <sub>2</sub> MoO <sub>4</sub> ·2H <sub>2</sub> O/L)

Tests were conducted according to international test guidelines (e.g., OECD) or scientifically acceptable methods.

**Reliable chronic toxicity test results (read-across from tests with Sodium Molybdate; UV-spectra of aqueous solutions of Sodium Molybdate Dihydrate demonstrated that the only dissolved molybdenum species, originating directly from Sodium Molybdate Dihydrate is Molybdate)**

Test organisms	Range of values (EC10 or NOEC)
Oncorhynchus mykiss, Pimephales promelas, Pseudokirchneriella subcapitata, Ceriodaphnia dubia, Daphnia magna, Chironomus riparius, Brachionus calyciflorus, Lymnaea stagnalis, Xenopus laevis, Lemna minor	43.3-241.5 mg Mo/L
Mytilus edulis, Acartia tonsa, Phaeodactylus tricorutum, Cyprinodon variegatus, Americamysis bahia, Crassostrea gigas, Dendraster excentricus, Dunaliella tertiolecta, Ceramium tenuicorne, Strongylocentrotus purpuratus	4.4-1,174 mg Mo/L



Annelid worms: Enchytraeus crypticus, Eisenia andrei	7.88-1661 mg Mo/kg dw (n=11)
Arthropod: Folsomia candida	37.9- >3,395 mg Mo/kg dw
Plants: Hordeum vulgare, Brassica napus, Trifolium pratense, Lolium perenne, Lycopersicon esculentum	4-3,476 mg Mo/kg dw
Soil micro-organisms (nitrification, glucose-induced respiration, plant residue mineralization)	10-3,840 mg Mo/kg dw

**Tests were conducted according to international test guidelines (e.g., OECD, ASTM, ISO, EPA). Toxicity data for micro-organisms (for STP) (values were determined using molybdenum trioxide unless indicated otherwise; UV-spectra of aqueous solutions of molybdenum trioxide demonstrated that the only dissolved molybdenum species, originating directly from molybdenum trioxide is also the molybdate anion)**

Test Organisms	End-point	Range of values
Domestic activated sludge population	3h-EC50 (respiration inhibition)	1,926 mg Mo/L
Domestic activated sludge population	3h-EC50 (respiration inhibition)	216.5 mg Mo/L
Domestic activated sludge population	30 min-NOEC (O2 utilization)	> 950 mg Mo/L (1)

Test conducted with Sodium Molybdate. Tests were conducted according to international accepted test guidelines or scientifically acceptable methods.

**Conclusion on the environmental classification and labelling:** Sodium Molybdate Dihydrate is not hazardous to the aquatic environment as: The lowest acute reference values for fish, invertebrates and algae are > 100 mg Mo/L. The lowest aquatic NOEC for these three trophic levels is > 1 mg Mo/L (i.e., 43. 2 mg Mo/L for the rainbow trout). There is no evidence for bioaccumulation or biomagnification in the environment.

**Persistence and degradability:** Sodium Molybdate - when released into the environment - will rapidly dissolve and will be present as the molybdate species under normal environmental conditions.

**Bioaccumulative potential:** Available BCF/BAF data for the aquatic environment show a distinct inverse relationship with the exposure concentration. This finding demonstrates that molybdenum is homeostatically controlled by these organisms, and this up to the milligram range of exposure. Available information on transfer of molybdenum through the food chain indicates that molybdenum does not biomagnify in aquatic food chains. Although not homeostatically controlled in terrestrial plants and invertebrates, molybdenum is not largely concentrated from soil into plants, or soil to invertebrates. There is no significant concentration increase from diet to mammals or birds. It is concluded that biomagnification is not significant in the terrestrial foodchain.

**Mobility in soil:** Molybdate originating from sodium molybdate dihydrate is soluble in water and with its relatively low Kd value, the molybdate ions are leachable through normal soil and are mobile



in sediment. Typical log Kd-values of 3.25 and 2.94 have been determined for sediment and soil, respectively.

**Results of PBT and vPvB assessment:** The PBT and vPvB criteria of Annex XIII to the REACH Regulation do not apply to inorganic substances, such as Sodium Molybdate. Therefore a PBT and vPvB assessment is not required.

**Other adverse effects:** Molybdate originating from Sodium Molybdate Dihydrate can contribute to the onset of molybdenosis (which is a molybdenum-induced copper deficiency) in ruminants such as cattle, deer, and sheep. The level and bio-availability of copper in the animal diet are critical factors in the onset of molybdenosis. The recommended minimum dietary Cu:Mo mass ratio threshold to prevent molybdenosis is 1.30, i.e. there should be 30% more copper than molybdenum in the (note: mass ratio, not molar ratio). Cu & Mo content in the diet can be monitored, and if the ratio is < 1.3 then provide Cu supplements such as copper sulfate enriched feeds or copper sulfate enriched salt blocks for ruminants to use ad libitum. If there are ruminants in the vicinity of the plant, identify direct and diffuse air emission sources at the plant and carry out and record emission minimization measures. Have an animal health check program in place (e.g. blood tests for copper) to verify that the measures are effective. Sodium Molybdate Dihydrate is not expected to contribute to ozone depletion, ozone formation, global warming or acidification.

#### Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

#### Section 14. Transport Information

**Shipping Name:** Not D.O.T regulated.

**Hazard Class:** Not Dangerous for Transport.

**UN Number:** None.

**ADR:** None

**RID:** None

**IMDG:** None

**IATA:** None

**UN number:** Not dangerous for transport.

**UN proper shipping name:** Not dangerous for transport.

**Transport hazard class(es):** Not dangerous for transport.

**Packing group:** Not dangerous for transport.

**Environmental hazards:** Not dangerous for transport.

**Special precautions for user:** Not dangerous for transport.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not dangerous for transport.



Section 15. Regulatory Information

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

**U.S. Federal Regulations:** TSCA Inventory Status: All components listed on the TSCA inventory.

**TSCA 12b Export Notification:** Not listed.

**EINECS listed:** 231-551-7

**CERCLA Section 103:** No

**SARA TITLE III (EPCRA) Section 302/304:** Not Listed.

**SARA TITLE III (EPCRA) Section 311/312:** Not Listed.

**California Proposition 65:** Not listed.

**OSHA process Safety (29CFR1910.119):** Not listed.

**WHMIS:** Non-controllable

**Worldwide Chemical Inventories**

**Sodium Molybdate is listed in following international chemical inventories (Source: database CHEMLIST)**

**For CAS 10102-40-6 (Sodium Molybdate Dihydrate):** EU/REACH list of pre-registered substances; AICS - Australian Inventory of Chemical Substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; ASIA-PAC; NZIoC: New Zealand Inventory of Chemicals. This substance has HSNO approval.

**For CAS 7631-95-0 (Sodium Molybdate):** EU/REACH list of pre-registered substances; EU EINECS (European Inventory of Existing Chemical Substances); AICS - Australian Inventory of Chemical Substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; ASIA-PAC; NZIoC: New Zealand Inventory of Chemicals. This substance has HSNO approval. DSL, Canada: Domestic Substances List; ENCS, Japan: Existing Notified Chemical Substances; ECL, Korean Existing Chemicals List; Sodium Molybdate is not a SEVESO substance, not an ozone-depleting substance and not a persistent organic pollutant.

**Other regulatory information**

**Germany:** Water Hazard class, WGK = 1 (low hazard to water)

**Chemical safety assessment:** A Chemical Safety Assessment has been carried out by the Molybdenum Consortium for its members for the purpose of GHS Compliance and REACH registration.

**HMIS**

**Health:** 1

**Flammability:** 0

**Physical Hazard:** 0

**Personal Protection:** D

**NFPA**

**Health:** 1

**Flammability:** 0

**Reactivity:** 0



Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our 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.

REVISION DATE: 11/16/2017

# SAFETY DATA SHEET

Date Accessed: 10/15/2024

Date Revised: 01/15/2022

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## SECTION 1. IDENTIFICATION

**Product Name:** Vanadium(III) Chloride

**Product Number:** All applicable American Elements product codes, e.g. V3-CL-02 , V3-CL-03 , V3-CL-04 , V3-CL-05

**CAS #:** 7718-98-1

**Relevant identified uses of the substance:** Scientific research and development

**Supplier details:**

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

**Emergency telephone number:**

+1 800-424-9300

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## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1

H318 Causes serious eye damage.

GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Hazards not otherwise classified

No data available

GHS label elements

GHS label elements, including precautionary statements

Hazard pictograms



GHS05 GHS07

Signal word

Danger

Hazard statements

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P260

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

P303+P361+P353 If on skin (or hair): 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.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P405

Store locked up.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

D2B - Toxic material causing other toxic effects

E - Corrosive material

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

Health (acute effects) = 3

Flammability = 0

Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT:

N/A

vPvB:

N/A

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances

CAS No. / Substance Name:

7718-98-1 Vanadium(III) chloride

Identification number(s):

EC number:

231-744-6

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### **SECTION 4. FIRST AID MEASURES**

Description of first aid measures

General information

Immediately remove any clothing soiled by the product.

If inhaled:

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

In case of skin contact:

Immediately wash with soap and water; rinse thoroughly.

Seek immediate medical advice.

In case of eye contact:

Rinse opened eye for several minutes under running water. Consult a physician.  
If swallowed:  
Seek medical treatment.  
Information for doctor  
Most important symptoms and effects, both acute and delayed  
Causes severe skin burns.  
Causes serious eye damage.  
Indication of any immediate medical attention and special treatment needed  
No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media  
Suitable extinguishing agents  
Product is not flammable. Use fire-fighting measures that suit the surrounding fire.  
Special hazards arising from the substance or mixture  
If this product is involved in a fire, the following can be released:  
Hydrogen chloride (HCl)  
Vanadium oxides  
Advice for firefighters  
Protective equipment:  
Wear self-contained respirator.  
Wear fully protective impervious suit.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures  
Use personal protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Environmental precautions:  
Do not allow product to enter drains, sewage systems, or other water courses.  
Methods and materials for containment and cleanup:  
Use neutralizing agent.  
Dispose of contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Prevention of secondary hazards:  
No special measures required.  
Reference to other sections  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

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## **SECTION 7. HANDLING AND STORAGE**

Handling  
Precautions for safe handling  
Handle under dry protective gas.  
Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

The product is not flammable

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Store in the dark.

Store away from water/moisture.

Store away from oxidizing agents.

Further information about storage conditions:

Store under dry inert gas.

This product is moisture sensitive.

Keep container tightly sealed.

Store in cool, dry conditions in well-sealed containers.

Protect from humidity and water.

Protect from exposure to light.

Specific end use(s)

No data available

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

None.

Additional information:

No data

Exposure controls

Personal protective equipment

Follow typical protective and hygienic practices for handling chemicals.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Recommended filter device for short term use:

Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls.

Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:

Impervious gloves

Inspect gloves prior to use.

Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.

Material of gloves

Nitrile rubber, NBR

Penetration time of glove material (in minutes)

No data available

Eye protection:

Tightly sealed goggles  
Full face protection  
Body protection:  
Protective work clothing.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Crystalline

Color: Pink to purple

Odor: Acrid

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: No data available

Boiling point/Boiling range: No data available

Sublimation temperature / start: No data available

Flammability (solid, gas)

No data available.

Ignition temperature: No data available

Decomposition temperature: No data available

Autoignition: No data available.

Danger of explosion: No data available.

Explosion limits:

Lower: No data available

Upper: No data available

Vapor pressure: N/A

Density at 20 °C (68 °F): 3 g/cm<sup>3</sup> (25.035 lbs/gal)

Relative density

No data available.

Vapor density

N/A

Evaporation rate

N/A

Solubility in Water (H<sub>2</sub>O): Hydrolyzes

Partition coefficient (n-octanol/water): No data available.

Viscosity:

Dynamic: N/A

Kinematic: N/A

Other information

No data available

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions

Reacts with strong oxidizing agents  
Conditions to avoid  
No data available  
Incompatible materials:  
Water/moisture  
Oxidizing agents  
Light  
Hazardous decomposition products:  
Hydrogen chloride (HCl)  
Vanadium oxides

---

## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects

Acute toxicity:

Harmful if swallowed.

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 values that are relevant for classification:

Oral LD50 350 mg/kg (rat)

Skin irritation or corrosion:

Causes severe skin burns.

Eye irritation or corrosion:

Causes serious eye damage.

Sensitization:

No sensitizing effects known.

Germ cell mutagenicity:

No effects known.

Carcinogenicity:

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity:

No effects known.

Specific target organ system toxicity - repeated exposure:

No effects known.

Specific target organ system toxicity - single exposure:

No effects known.

Aspiration hazard:

No effects known.

Subacute to chronic toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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## **SECTION 12. ECOLOGICAL INFORMATION**

Toxicity

Aquatic toxicity:

No data available  
Persistence and degradability  
No data available  
Bioaccumulative potential  
No data available  
Mobility in soil  
No data available  
Additional ecological information:  
Avoid transfer into the environment.  
Results of PBT and vPvB assessment  
PBT:  
N/A  
vPvB:  
N/A  
Other adverse effects  
No data available

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### **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods  
Recommendation  
Consult official regulations to ensure proper disposal.  
Uncleaned packagings:  
Recommendation:  
Disposal must be made according to official regulations.

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### **SECTION 14. TRANSPORT INFORMATION**

UN-Number  
DOT, IMDG, IATA  
UN2475  
UN proper shipping name  
DOT  
Vanadium trichloride  
IMDG, IATA  
VANADIUM TRICHLORIDE  
Transport hazard class(es)  
DOT  
Class  
8 Corrosive substances.  
Label  
8  
Class  
8 (C2) Corrosive substances  
Label  
8  
IMDG, IATA  
Class  
8 Corrosive substances.  
Label  
8

Packing group  
DOT, IMDG, IATA  
III  
Environmental hazards:  
N/A  
Special precautions for user  
Warning: Corrosive substances  
EMS Number: F-A,S-B  
Segregation groups  
Acids  
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
N/A  
Transport/Additional information:  
DOT  
Marine Pollutant (DOT):  
No  
UN "Model Regulation":  
UN2475, Vanadium trichloride, 8, III

---

## **SECTION 15. REGULATORY INFORMATION**

Safety, health and environmental regulations/legislation specific for the substance or mixture  
GHS GHS label elements, including precautionary statements  
Hazard pictograms  
GHS05  
GHS07  
Signal word  
Danger  
Hazard statements  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
Precautionary statements  
P260  
Do not breathe dust/fume/gas/mist/vapors/spray.  
P303+P361+P353 If on skin (or hair): 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.  
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P405  
Store locked up.  
P501  
Dispose of contents/container in accordance with local/regional/national/international regulations.  
National regulations  
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.  
All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).  
SARA Section 313 (specific toxic chemical listings)  
7718-98-1 Vanadium(III) chloride  
California Proposition 65  
Prop 65 - Chemicals known to cause cancer  
Substance is not listed.  
Prop 65 - Developmental toxicity

Substance is not listed.  
Prop 65 - Developmental toxicity, female  
Substance is not listed.  
Prop 65 - Developmental toxicity, male  
Substance is not listed.  
Information about limitation of use:  
For use only by technically qualified individuals.  
Other regulations, limitations and prohibitive regulations  
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.  
Substance is not listed.  
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.  
Substance is not listed.  
Annex XIV of the REACH Regulations (requiring Authorisation for use)  
Substance is not listed.  
Chemical safety assessment:  
A Chemical Safety Assessment has not been carried out.

---

## **SECTION 16. OTHER INFORMATION**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our 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. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.





## SAFETY DATA SHEET

Preparation Date: 6/23/2017

Revision Date: 6/23/2017

Revision Number: G1

### 1. IDENTIFICATION

#### Product identifier

**Product code:** Z1052  
**Product Name:** ZINC CITRATE, DIHYDRATE, REAGENT

#### Other means of identification

**Synonyms:** Citric acid zinc salt dihydrate  
**CAS #:** 5990-32-9  
**RTECS #** Not available  
**CI#:** Not available

#### Recommended use of the chemical and restrictions on use

**Recommended use:** No information available.  
**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:** Martin LaBenz (West Coast)

**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

#### Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

#### Label elements

Not classified

#### Hazards not otherwise classified (HNOC)

Not Applicable

#### Other hazards

May be harmful if swallowed

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Product code:** Z1052

**Product name:** ZINC CITRATE,  
DIHYDRATE, REAGENT

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Components	CAS-No.	Weight %
Zinc Citrate, Dihydrate	5990-32-9	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.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.
- Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. In case of shortness of breath, give oxygen. Get medical attention. If not breathing, give artificial respiration.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

##### Most important symptoms and effects, both acute and delayed

- Symptoms** May cause eye irritation. May cause skin irritation. May cause irritation of respiratory tract. May cause digestive (gastrointestinal) tract irritation.

##### 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:** Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray mist or foam. Water spray. Foam.

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

##### Specific hazards arising from the chemical

**Hazardous Combustion Products:** Carbon Dioxide, Carbon Monoxide. Zinc oxides.

**Specific hazards:** May be combustible at high temperatures.

##### 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:** Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Remove all sources of ignition. Avoid breathing dust.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### Methods and material for containment and cleaning up

**Methods for containment** Cover with plastic sheet to prevent spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. All equipment used when handling the product must be grounded. Keep away from incompatible materials.

#### **Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not ingest. Do not breathe dust. Keep away from heat and sources of ignition. 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. Store away from incompatible materials. Keep away from heat and sources of ignition.

#### **Incompatible Materials:**

Oxidizing agents

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **National occupational exposure limits**

##### **United States**

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WHEEL
Zinc Citrate, Dihydrate	5990-32-9	None	None	None	None

##### **Canada**

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Zinc Citrate, Dihydrate	5990-32-9	None	None	None	None

##### **Australia and Mexico**

Components	CAS-No.	Australia	Mexico
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Product code: Z1052

Product name: ZINC CITRATE,  
DIHYDRATE, REAGENT

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Zinc Citrate, Dihydrate	5990-32-9	None	None
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**Appropriate engineering controls**

**Engineering measures to reduce exposure:** Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Individual protection measures, such as personal protective equipment**

**Personal Protective Equipment**

**Eye protection:** Safety glasses with side-shields or Goggles

**Skin and body protection:** Long sleeved clothing  
Chemical resistant apron  
Gloves

**Respiratory protection:** Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

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

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical state:</b> Solid	<b>Appearance:</b> Powder.	<b>Color:</b> White.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available.	<b>Formula:</b> C12H10O14Zn3.2H2O
<b>Molecular/Formula weight:</b> 610.35	<b>Flammability:</b> No information available	<b>Flashpoint (°C/°F):</b> No information available.
<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Lower Explosion Limit (%):</b> No information available
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> 334 °C/633.2 °F	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> No information available	<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> No information available
<b>Specific gravity:</b> No information available	<b>pH:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b>	<b>Partition coefficient</b>	

No information available

**(n-octanol/water):**  
No information available

**Viscosity:**  
No information available

**Miscibility:**  
No information available

**Solubility:**  
No information available

## 10. STABILITY AND REACTIVITY

**Reactivity**  
No information available

### Chemical stability

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Avoid dust formation. Incompatible materials.

**Incompatible Materials:** Oxidizing agents

**Hazardous decomposition products:** Carbon monoxide. Carbon dioxide. Zinc oxides.

**Other Information**  
**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Ingestion. Inhalation.

### Acute Toxicity

### Component Information

Zinc Citrate, Dihydrate
CAS-No.   5990-32-9

**LD50/oral/rat** = No information available  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = No information available

### Product Information

**LD50/oral/rat** =  
**VALUE- Acute Tox Oral** = No information available

**LD50/oral/mouse** =

**Product code:** Z1052

**Product name:** ZINC CITRATE,  
DIHYDRATE, REAGENT

Value - Acute Tox Oral = 1290 mg/kg

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

**Symptoms**

**Skin Contact:** May cause skin irritation.

**Eye Contact:** May cause eye irritation.

**Inhalation** May cause respiratory tract irritation.

**Ingestion** Health injuries are not known or expected under normal use. May cause digestive (gastrointestinal) tract irritation.

**Aspiration hazard** No information available.

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

**Chronic Toxicity** No information available.

**Sensitization:** No information available.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Zinc Citrate, Dihydrate	5990-32-9	Not listed	Not listed	Not listed	Not listed	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:** No information available

### Specific Target Organ Toxicity

STOT - single exposure No information available.  
STOT - repeated exposure No information available.  
Target Organs: No information available.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Ecotoxicity effects: No data available.  
Persistence and degradability: No information available  
Bioaccumulative potential: No information available.  
Mobility: 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

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Zinc Citrate, Dihydrate	5990-32-9	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Class: No information available  
Packing group: No information available  
Emergency Response Guide Number: No information available  
Marine Pollutant: No data available  
DOT RQ (lbs): No information available  
Special Provisions: No Information available  
Symbol(s): No information available  
Description: No information available

### TDG (Canada)

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Risk: No information available  
Packing Group: No information available  
Marine Pollutant: No Information available

Product code: Z1052

Product name: ZINC CITRATE,  
DIHYDRATE, REAGENT

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Description: No information available

#### ADR

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Packing Group: No information available  
Subsidiary Risk: No information available

#### IMO / IMDG

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Risk: No information available  
Packing Group: No information available  
Marine Pollutant: No information available

#### RID

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Risk: No information available  
Packing Group: No information available

#### ICAO

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Risk: No information available  
Packing Group: No information available

#### IATA

UN-No: Not Regulated  
Proper Shipping Name: No information available  
Hazard Class: No information available  
Subsidiary Risk: No information available  
Packing Group: No information available  
ERG Code: No information available  
Special Provisions: No information available

### 15. REGULATORY INFORMATION

#### International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Zinc Citrate, Dihydrate	5990-32-9	Not Listed	Not present	Not present	Not present	Not present	Not present	Not present

#### U.S. Regulations

##### Zinc Citrate, Dihydrate

New Jersey RTK Hazardous Substance List: Present (listed as Zinc compounds)

California Directors List of Hazardous Substances: Present (listed as Zinc compounds)

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

##### Chemicals Known to the State of California to Cause Cancer:

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

Product code: Z1052

Product name: ZINC CITRATE,  
DIHYDRATE, REAGENT

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**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)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Zinc Citrate, Dihydrate	5990-32-9	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Components	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
Zinc Citrate, Dihydrate	5990-32-9	None	None	None	Zinc compounds	1.0%

**U.S. TSCA**

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Zinc Citrate, Dihydrate	5990-32-9	Not Applicable	Not Applicable

**Canada****WHMIS 2015 - GHS Classifications**

WHMIS 2015 Hazard Classification Information: Not a dangerous product according to HPR classification criteria.

**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

**WHMIS 1988 Hazard Class**

Non-controlled

**Canada Controlled Products Regulation:**

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

**Inventory**

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Zinc Citrate, Dihydrate	5990-32-9	Not Listed	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Zinc Citrate, Dihydrate	5990-32-9	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Zinc Citrate, Dihydrate	5990-32-9	Not listed

**EU Classification****EU GHS - SV - CLP 172/2008**

Components	CAS-No.	EU GHS - SV - CLP (172/2008)
Zinc Citrate, Dihydrate	5990-32-9	

**EU - CLP (1272/2008)**

Product code: Z1052

Product name: ZINC CITRATE,  
DIHYDRATE, REAGENT

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**R-phrase(s)**

not determined (not applicable)

**S -phrase(s)**

none

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Zinc Citrate, Dihydrate	5990-32-9		No information	

**The product is classified in accordance with Annex VI to Directive 67/548/EEC****Indication of danger:**

Not dangerous

**16. OTHER INFORMATION**

**Preparation Date:** 6/23/2017  
**Revision Date:** 6/23/2017  
**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**

1 CITY OF NORTH SALT LAKE  
2 PLANNING COMMISSION MEETING  
3 ANCHOR LOCATION: CITY HALL  
4 10 EAST CENTER STREET, NORTH SALT LAKE  
5 NOVEMBER 12, 2024

6  
7 **DRAFT**  
8

9 Commission Chair Larson called the meeting to order at 6:30 p.m.

10  
11 PRESENT: Commission Chair BreAnna Larson  
12 Commissioner Ryan Holbrook  
13 Commissioner Ron Jorgensen  
14 Commissioner Johnathan Marsh  
15 Commissioner Irene Stone  
16 Commissioner Brandon Tucker  
17 Commissioner William Ward  
18

19 STAFF PRESENT: Sherrie Pace, Community Development Director; Mackenzie Johnson,  
20 Planner.  
21

22 OTHERS PRESENT: Dee Lalliss, resident.  
23

24 1. PUBLIC COMMENTS  
25

26 There were no public comments.  
27

28 2. CONSIDERATION OF A CONDITIONAL USE PERMIT FOR AMANI  
29 AGRICULTURE AND PRIME 90 AT 190 NORTH CUTLER DRIVE, SUITES B AND  
30 C, BYRON TARBET, APPLICANT  
31

32 Mackenzie Johnson explained the City received a code enforcement complaint in July 2024  
33 related to a business creating a nuisance odor from inside the building and dust in the parking lot  
34 with a cement mixer at Suites B and C at 190 North Cutler Drive. She said staff determined that  
35 the tenant, Bryon Tarbet, was operating three businesses at the location without licensing. She  
36 noted that the first business was Amani Agriculture which manufactured soil amendments  
37 designed to restore bacterial balance and reduce water usage. She shared that the product was  
38 created with nontoxic species of bacteria and minerals that were mixed into a dry powder and  
39 packaged. She mentioned the equipment used for this business included a forklift, small cement  
40 mixer, ribbon blender designed for soil, and plastic pails for the finished product.  
41

42 Mackenzie Johnson reviewed the second business, Prime 90, which manufactured nutritional  
43 supplements for dogs, cats, livestock, and humans by mixing trace minerals. She added that the

44 finished product was liquid or dried on a carrier such as rice bran and the manufacturing of the  
45 product included dissolving the minerals into water. She stated that the liquid was then sprayed  
46 onto the rice bran and dried by convection in a cement mixer dedicated to making the product.  
47 Ms. Johnson continued that the third business, The CBD Doctors, used the location for drop  
48 shipping and office work only. She noted that manufacturing and packing of the product was  
49 done offsite.

50  
51 Mackenzie Johnson shared that the property was a four unit building in the General Commercial  
52 (CG) zone. She indicated that the tenant in Suite A, Mountain West Lethal Precision and TruTech  
53 Laser Corp., was the owner of the building. She noted that Suite D was occupied by Ideal  
54 Sciences and Wine Cellars. She added that there were 33 shared parking stalls and the applicant  
55 was allotted 10 stalls which met the minimum parking standard. She continued that the City  
56 received a complete conditional use permit application prior to the City Council's formal  
57 initiation of the code amendment for conditional uses including the update of the land use table  
58 on August 15, 2024 and therefore was not subject to the provisions of State Code Section 10-9a-  
59 509 regarding pending ordinances and may be processed.

60  
61 Ms. Johnson shared that the possible source of the reported chlorine odor may be from the  
62 manufacturing of a product called SaniMax CL02 (chlorine dioxide) sanitizing liquid. She said  
63 the applicant agreed to discontinue the manufacture, sale, or storage of SaniMax at this location  
64 and all remaining chemical sodium chlorite and other associated materials associated with the  
65 manufacture of the product were removed. She noted that the applicant would be required to  
66 submit quantities, storage plans, and Safety Data Sheets (SDS) to the South Davis Metro Fire for  
67 all chemicals/materials stored and use on the premises. She explained that per the Fire Marshal if  
68 a chemical/material was corrosive or flammable it must be stored in a special storage  
69 system/cabinet and may be limited in total quantity permitted on site. She said all other  
70 noncorrosive or nonflammable chemicals/material which were under the maximum allowable  
71 quantity must be stored using good storage practices as defined by City code.

72  
73 Mackenzie Johnson noted that the applicant submitted a business license application, conditional  
74 use permit application, and has made efforts to seal the walls of Suites B and C in an attempt to  
75 reduce potential impact to the neighboring unit from discernable odors created by the  
76 manufacturing and storage process. She mentioned the applicant also removed the  
77 chemicals/materials that were believed to have caused the chlorine odor and said the City has not  
78 received any new complaints related to the odor since that time. She shared that the City  
79 Attorney recommended that if the Planning Commission approved the conditional use permit  
80 that the following conditions be included:

- 81
- 82 1) the businesses shall not create any discernable odors from or related to the storage,  
83 manufacturing, or use of chemicals, materials, or other substances;
  - 84 2) the applicant permits City staff entry to the premises to inspect the unit and warehouse  
85 whenever requested to ensure compliance with the conditions of approval.

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126

She stated that the Development Review Committee (DRC) also recommended the following conditions for approval:

- 1) The applicant complies with all applicable regulations related to the storage and quantity limits for associated chemicals, manufacturing materials, or other substances as determined by South Davis Metro Fire;
- 2) The applicant shall inform the City and South Davis Metro Fire Agency prior to any additional chemicals, materials, or other regulated substances are stored, used, or manufactured on site which are not listed in the Safety Data Sheets submitted as part of this application for inclusion or amendment of the conditional use permit, as applicable;
- 3) All manufacturing and storage activities shall be conducted indoors only;
- 4) The businesses shall not create any odors discernable from outside the premises from or related to the storage or use of chemicals, materials, or other substances used in the manufacturing processes.

Commissioner Jorgensen mentioned that this was not the ideal location for the various chemicals as it was not in the industrial zone. He mentioned the need for safety to the employees and neighboring tenants. He suggested that the first recommended condition of approval be amended to include other applicable regulating or jurisdictional agencies for storage and emergency response procedures, etc. He also spoke on limiting access to nonauthorized individuals due to the chemicals used and stored onsite and proposed several additions to the conditions. Mackenzie Johnson replied that to her knowledge, the applicant was not at the building every day and as the sole employee the two suites would be locked when he was not onsite.

Commissioner Holbrook spoke on the condition permitting City staff entry to the premises to inspect the unit and warehouse whenever requested to ensure compliance with the conditions of approval. He asked about entry for South Davis Fire District and the addition of entry to inspect whenever as well. Sherrie Pace replied that it could be added to the conditions of approval to include South Davis Fire District and clarified that if there was a fear of imminent danger then South Davis Fire District could enter the building.

Commissioner Stone asked about the verification of the Safety Data Sheets. Sherrie Pace responded that the Fire Marshal would be responsible for reviewing these items and could issue violations as needed.

Commissioner Stone also expressed concerns about the lack of prior business licenses. Sherrie Pace said the City would monitor the situation and could only take the applicant on his word that he would be in compliance going forward. She said any future violation could result in the revocation of the business license or conditional use permit.

127 Commissioner Marsh asked about due process. Sherrie Pace clarified as it was a conditional use  
128 permit the Commission had to determine if there were conditions that could be placed to mitigate  
129 any negative or harmful effects of the business. She said if there were not conditions to  
130 sufficiently address those then it could be denied but if there were conditions which could allow  
131 for operation and compliance then approval and issuance of the conditional use permit was  
132 required. She noted that staff, including the City Attorney, felt that the conditions would allow  
133 the conditional use permit to be approved.

134

135 Staff noted that the Planning Commission could table this item until the applicant was present to  
136 answer questions.

137

138 **Commissioner Stone moved that the Planning Commission table the conditional use permit**  
139 **for Amani Agriculture and Prime 90 at 190 North Cutler Drive, Suites B and C pending**  
140 **discussion with the applicant. Commissioner Ward seconded the motion. The motion was**  
141 **approved by Commissioners Holbrook, Jorgensen, Larson, Stone, and Tucker, and Ward.**  
142 **Commissioner Marsh voted in opposition to the motion.**

143

144 3. WORK SESSION: PENDING CODE AMENDMENT

145 a. CONDITIONAL USE STANDARDS AND LAND USE TABLE

146

147 Sherrie Pace provided the Commission with a revised land use table. She spoke on the  
148 conditional use permit ordinance and reorganizing the land uses into categories including:  
149 accessory uses, agricultural, automotive, banking, building contracting & construction supplies,  
150 education/schools, entertainment, general office, healthcare, hospitality, manufacturing &  
151 assembly, mining & support activities, personal services, religious institutions, retail trade, social  
152 services, transportation/freight, utilities and public services, and warehousing and wholesale  
153 trade. She shared the tables and spoke on which items were permitted, conditional, or prohibited  
154 uses. She also highlighted uses that needed to be reviewed. She mentioned discussing car  
155 dealerships in the commercial shopping (CS) zone including issues related to vehicle storage,  
156 minimum lot sizes, and outdoor vehicle display.

157

158 The Commission had a brief discussion and was not in favor of car dealerships in the CS zone.

159

160 Sherrie Pace then spoke on the wholesale of motor vehicles in the CG and MD zones and  
161 proposed restrictions. She reviewed specific uses in certain zones including check cashing, title  
162 loans, pawn shops, outdoor storage for contractor services, defining “educational support  
163 services” such as tutoring or occupational therapy, etc., where to allow professional schools such  
164 as CDL driving schools, amusement and theme parks, parking requirements for athletic  
165 club/fitness,/recreational sports, addition of botanical gardens/nature park as permitted use, golf  
166 course in commercial zone, museums, racetracks, go carts, drive in movie theater, call centers,  
167 hospitals/surgical centers, medical spas, bars, banquet/reception, breweries, heavy or light  
168 manufacturing or assembly, repair of commercial or industrial machinery, manufacturing of

169 nonmetallic mineral product, concrete services and batching plants, mining, mineral extraction,  
170 oil/gas refinery and support activities, personal services, pet services, cemetery, and  
171 crematorium.

172

173 Staff to further review pet services, cemeteries, new cremation techniques (aquamation or those  
174 with less environmental impact). Staff then requested the Commission review the categories and  
175 uses and note those that should be prohibited, edited, or require standards.

176

177 4. REPORT ON CITY COUNCIL ACTIONS ON ITEMS RECOMMENDED BY  
178 PLANNING COMMISSION

179

180 Sherrie Pace reported on the October 29<sup>th</sup> City Council meeting related to the Hatch Park  
181 redesign including the monument, pavilions, living room area options. She noted the City  
182 Council approved the site plan for Lofts North Salt Lake and the changes to the development  
183 agreement during their November 6<sup>th</sup> meeting. She mentioned the General Plan Steering  
184 Committee meeting on Monday as well as the December 3<sup>rd</sup> joint meeting with the City Council.

185

186 5. APPROVAL OF MINUTES

187

188 The Planning Commission meeting minutes of October 8, 2024 were reviewed and approved.

189

190 **Commissioner Jorgensen moved to approve the meeting minutes for the October 8, 2024**  
191 **Planning Commission meeting as drafted. Commissioner Holbrook seconded the motion.**  
192 **The motion was approved by Commissioners Holbrook, Jorgensen, Larson, Marsh, Stone,**  
193 **and Tucker, and Ward.**

194

195 6. ADJOURN

196

197 Commission Chair Larson adjourned the meeting at 7:41 p.m.

198

199

200 *The foregoing was approved by the Planning Commission of the City of North Salt Lake on*  
201 *Tuesday, November 26, 2024 by unanimous vote of all members present.*

202

203

204

205

206 \_\_\_\_\_  
*Wendy Page, City Recorder*