

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**

- **Trade name:** Ceric(IV) sulphate tetrahydrate ≥98 %, p.a.

- **Article number:** P014

- **CAS Number:**

10294-42-5

- **EC number:**

237-029-5

- **Registration number**

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

No further relevant information available.

- **Application of the substance / the preparation** Laboratory chemical

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

- **Manufacturer/Supplier:**

Carl Roth GmbH + Co. KG

Schoemperlenstraße 3-5

76185 Karlsruhe

Germany

Telefon: +49/(0)721 5606-0

Telefax: +49/(0)721 5606-149

E-Mail: sicherheit@carlroth.de

- **Further information obtainable from:** Department Health, Safety and Environment

- **Emergency telephone number:** Poison Centre Munich

Telefon +49/(0)89 19240

2 Hazards identification

- **Classification of the substance or mixture**

- **Classification according to Regulation (EC) No 1272/2008**



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xi; Irritant

R36/38: Irritating to eyes and skin.

- **Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms**



GHS07

- **Signal word** Warning

- **Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

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Precautionary statements

- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P337 If eye irritation persists:

Other hazards

All chemicals are potentially dangerous. They should only be handled by specially trained personnel.

Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
10294-42-5 Cerium(IV) disulphate tetrahydrate
- **Identification number(s)**
- **EC number:** 237-029-5

4 First aid measures



Description of first aid measures

- **General information:** Remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; if there is any trouble seek medical help.
- **After skin contact:**
Rinse with water
If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for 10 minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and drink a glass of water. Do not induce vomiting.
Seek medical treatment.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
Use fire extinguishing methods suitable to surrounding conditions.
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:**
For this substance/mixture no limitations of extinguishing agents are given.
- **Special hazards arising from the substance or mixture**
In the event of fire development of hazardous combustion gases or vapours possible.
Carbon monoxide (CO)
Sulphure oxides (SO_x)

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- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Do not breathe dust.
Avoid contact with the eyes and skin.
Ensure adequate ventilation
Avoid formation of dust.
- **Environmental precautions:** Do not allow to enter sewers/ground water or penetrate the soil.
- **Methods and material for containment and cleaning up:**
Pick up mechanically.
Dispose of the material collected according to regulations.
- **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.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Handling corresponding to laboratory safety guidelines.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
Store in dry conditions.
Keep container tightly sealed.
- **Recommended storage temperature:** 15-25 °C
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Do not eat, drink, smoke or sniff while working.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Individual protection measures**
Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

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· **Respiratory protection:**



When dusts are generated: protective device filter P1.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Nitrile, thickness: > 0.11 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

Value for the permeation: Level ≥ 6

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Solid
Colour:	Orange
Odour:	Odourless
Odour threshold:	Not determined.

· **pH-value (10 g/l) at 20°C:** ~ 1.6

· **Change in condition**

Melting point/Melting range:	180 - 200°C
Boiling point/Boiling range:	Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Product is not flammable.

· **Ignition temperature:** No information available

· **Decomposition temperature:** > 350°C

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· Self-igniting:	Not determined.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not applicable.
· Density at 20°C:	5.02 g/cm ³
· Bulk density at 20°C:	650-850 kg/m ³
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with water at 50°C:	38 g/l
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Loss of constitutional water on heating.
- **Possibility of hazardous reactions** No information available.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Strong oxidizing agents.
- **Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Sulphur oxides (SO_x)
In case of fire: see item 5.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values relevant for classification:** Quantitative data on the toxicity of this product are not available.
- **Specific symptoms in biological assay:** No information available.
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **after inhalation:** Slight irritations.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** No information available.
- **Additional toxicological information:**
After swallowing irritations in the mouth, throat, oesophagus and gastrointestinal tract.
- **Further information:**
To the best of our knowledge, the toxicological properties have not been thoroughly investigated. Further hazardous properties cannot be excluded.
The product should be handled with the care usual when dealing with chemicals.

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- **Toxicokinetics, metabolism and distribution** No information available.
- **Acute effects (acute toxicity, irritation and corrosivity)** No information available.
- **Sensitisation** No information available.
- **Repeated dose toxicity** No information available.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** No information available

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** Quantitative data on the ecological effect of this product are not available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Do not allow to enter waters, waste water, or soil!
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
This material and its container must be disposed of as hazardous waste.
The disposal is regionally differently regulated, therefore the kind of disposal is to be inquired at the responsible authorities.
- **Uncleaned packaging:**
- **Recommendation:** Disposal according to official regulations.

14 Transport information

<ul style="list-style-type: none"> · UN-Number · ADR, ADN, IMDG, IATA 	Void
<ul style="list-style-type: none"> · UN proper shipping name · ADR, ADN, IMDG, IATA 	Void
<ul style="list-style-type: none"> · Transport hazard class(es) · ADR, ADN, IMDG, IATA · Class 	Void
<ul style="list-style-type: none"> · Packing group · ADR, IMDG, IATA 	Void
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	No
<ul style="list-style-type: none"> · Special precautions for user 	Not applicable.
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.

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<ul style="list-style-type: none"> · Transport/Additional information: · ADR · Remarks: Not subject to transport regulations. · UN "Model Regulation": - 	
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15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations:**
- **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
In dealing with chemicals the national laws must be observed.
- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing MSDS:** Department: Health, Safety and Environment

- **Contact:** Herr Heine

- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

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

- *** Data compared to the previous version altered.**