



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

1.1 Product identifier

Trade name: Silver nitrite Rotimetic 99.99% (4N)

Article number: 5065

CAS Number:

7783-99-5

EC number:

232-041-7

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.

1.2 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

1.3 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

1.4 Emergency telephone number:

Poison Centre Munich

Telefon +49/(0)89 19240

2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Ox. Sol. 2	H272	May intensify fire; oxidiser.
Aquatic Acute 1	H400	Very toxic to aquatic life.
Aquatic Chronic 1	H410	Very toxic to aquatic life with long lasting effects.
Acute Tox. 4	H302	Harmful if swallowed.
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

Xn; Harmful

R22: Harmful if swallowed.

Xi; Irritant

R36/38: Irritating to eyes and skin.

O; Oxidising

R8: Contact with combustible material may cause fire.

N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008**

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

Hazard pictograms

GHS03

GHS07

GHS09

Signal word Danger**Hazard statements**

H272 May intensify fire; oxidiser.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P220 Keep/Store away from clothing/combustible materials.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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.

Additional information:

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2.3 Other hazards

All chemicals are potentially dangerous. They are therefore only be handled by specially trained personnel with the necessary care.

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**3 Composition/information on ingredients****3.1 Chemical characterization: Substances****CAS No. Description**

7783-99-5 silver nitrite

Identification number(s)**EC number:** 232-041-7**Formula:** AgNO₂**Molar mass [g/mol]:** 153,87

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4 First aid measures



4.1 Description of first aid measures

General information:

Immediately remove any clothing soiled by the product.

After inhalation:

Supply fresh air; if there is any trouble seek medical help.

After skin contact:

Immediately 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 advice immediately and show the container or label.

4.2 Most important symptoms and effects, both acute and delayed

Irritations

Mucosal irritations

Nausea

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

5.1 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.

5.2 Special hazards arising from the substance or mixture

Has a fire-promoting effect due to release of oxygen.

During heating or in case of fire poisonous gases or steams are produced.

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

metal oxides

Carbon monoxide and carbon dioxide

Keep away from combustible materials.

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

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**Trade name: Silver nitrite Rotimetic 99.99% (4N)****Additional information** Prevent fire-fighting water from entering surface water or groundwater.

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6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation
Avoid formation of dust.
Wear protective clothing.
Do not breathe dust.
Avoid contact with the eyes and skin.

6.2 Environmental precautions

Do not allow to enter sewers/ground water or penetrate the soil.
Keep contaminated washing water and dispose of appropriately.

6.3 Methods and material for containment and cleaning up

Pick up mechanically.
Dispose of the material collected according to regulations.
Dispose contaminated material as waste according to item 13.

6.4 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

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
Keep containers, equipment and working place clean.

Information about fire - and explosion protection:

Keep away from combustible material.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.

Information about storage in one common storage facility:

Store away from foodstuffs.
Store away from flammable substances.

Further information about storage conditions:

None.
Keep container tightly sealed.
Protect from exposure to the light.

Recommended storage temperature: 15 - 25 °C

7.3 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.

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8.1 Control parameters**Ingredients with limit values that require monitoring at the workplace:****7783-99-5 silver nitrite**

WEL (Great Britain)	Long-term value: 0.01 mg/m ³ as Ag
IOELV (EU)	Long-term value: 0.01 mg/m ³ as Ag

Additional information:

The lists valid during the making were used as basis.

8.2 Exposure controls**Personal protective equipment:****General protective and hygienic measures:**

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.
Do not breathe dust.

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.

Respiratory protection:

When dusts are generated: protective device filter P2.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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.

As protection from splashes gloves made of the following materials are suitable:

Nitrile rubber, thickness: ≥ 0.11 mm

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Value for the permeation: Level ≥ 6 **Eye protection:**

Tightly sealed goggles

Body protection:

Protective work clothing

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties**General Information****Appearance:**

Form:	Crystalline powder
Colour:	Yellowish
Odour:	Odourless
Odour threshold:	No information available.

pH-value: No information available.

Change in condition

Melting point/Melting range: Not applicable (decomposition).
No information available.

Boiling point/Boiling range: Undetermined.

Flash point: Not applicable.

Flammability (solid, gaseous): Contact with combustible material may cause fire.

Ignition temperature: No information available

Decomposition temperature: 140 °C

Self-igniting: No information available

Danger of explosion: No information available

Explosion limits:

Lower: No information available.

Upper: No information available.

Oxidizing properties: May intensify fire; oxidiser.

Vapour pressure: Not applicable.

Density at 20 °C: 4.453 g/cm³

Relative density No information available.

Vapour density No information available

Evaporation rate No information available

Solubility in / Miscibility with

water at 20 °C: 4.15 g/l

Partition coefficient (n-octanol/water): No information available

Viscosity:

Dynamic: No information available.

Kinematic: No information available.

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9.2 Other information

No further relevant information available.

10 Stability and reactivity**10.1 Reactivity**

See section 10.3

10.2 Chemical stability**Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactionsStrong reaction possible with:

strong reducing agents

metals in powder form

organic combustible substances

10.4 Conditions to avoid

Exposure to light

10.5 Incompatible materials:

No information available.

10.6 Hazardous decomposition products:

In case of fire: see item 5.

11 Toxicological information**11.1 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:

Irritations in the respiratory tract, coughing, dyspnoea.

Sensitization:

No sensitizing effects known.

CMR effects:**Germ cell mutagenicity:**

No known significant effects or critical hazards.

Carcinogenicity:

No known significant effects or critical hazards.

Reproductive toxicity:

No known significant effects or critical hazards.

Aspiration hazard:

No aspiration toxicity classification.

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Specific target organ toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Additional toxicological information:

After swallowing large quantities:

Nausea

Vomiting

After swallowing irritations in the mouth, throat, oesophagus and gastrointestinal tract.

Further information:

The product should be handled with the care usual when dealing with chemicals.

Further hazardous properties cannot be excluded.

12 Ecological information**12.1 Toxicity****Aquatic toxicity:**

Quantitative data on the ecological effect of this product are not available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Ecotoxicological effects:**Remark:**

Do not allow to enter waters, waste water, or soil!

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 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.

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Safety data sheet

according to Regulation (EC) No. 1907/2006



Printing date 17.07.2013

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14 Transport information

14.1 UN-Number	
ADR, IMDG, IATA	UN2627
14.2 UN proper shipping name	
ADR	2627 NITRITES, INORGANIC, N.O.S. (silver nitrite), ENVIRONMENTALLY HAZARDOUS
IMDG	NITRITES, INORGANIC, N.O.S., MARINE POLLUTANT
IATA	NITRITES, INORGANIC, N.O.S.
14.3 Transport hazard class(es)	
ADR, IMDG	
Class	5.1 Oxidising substances.
Label	5.1
IATA	
Class	5.1 Oxidising substances.
Label	5.1
14.4 Packing group	
ADR, IMDG, IATA	II
14.5 Environmental hazards:	Environmentally hazardous substance, solid; Marine Pollutant
Marine pollutant:	Yes (P) Symbol (fish and tree)
Special marking (ADR):	Symbol (fish and tree)
14.6 Special precautions for user	Warning: Oxidising substances.
Danger code (Kemler):	50
EMS Number:	F-A,S-Q
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
ADR	
Limited quantities (LQ)	1 kg
Transport category	2
Tunnel restriction code	E

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according to Regulation (EC) No. 1907/2006



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UN "Model Regulation":

UN2627, NITRITES, INORGANIC, N.O.S. (silver nitrite), ENVIRONMENTALLY HAZARDOUS, 5.1, II

15 Regulatory information

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

National regulations:

Information about limitation of use:

In dealing with chemicals the national laws must be observed.
Employment restrictions concerning juveniles must be observed.

Breakdown regulations:

Waterhazard class:

Water hazard class 3 (Self-assessment): extremely hazardous for water.

15.2 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 Dr. Hagel

Abbreviations and acronyms:

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

P: Marine Pollutant

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

LD50*: Lethal Dose, 50 percent (Not relevant for classification)

LD50*: Lethal Concentration, 50 percent (Not relevant for classification)