

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 12.07.2017

Version 7.0

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

1.1 Product identifier

Catalogue No. 102856

Product name Cesium nitrate 99+ for analysis EMSURE®

REACH 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.

CAS-No. 7789-18-6

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

Identified uses Reagent for analysis, Chemical production
For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).

1.3 Details of the supplier of the safety data sheet

Company Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0

Responsible Department LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number Please contact the regional company representation in your country.

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

Product name Cesium nitrate 99+ for analysis EMSURE®

Oxidizing solid, Category 1, H271

Acute toxicity, Category 4, Oral, H302

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H271 May cause fire or explosion; strong oxidizer.

H302 Harmful if swallowed.

Precautionary statements

Prevention

P210 Keep away from heat.

P221 Take any precaution to avoid mixing with combustibles, heavy-metal compounds, acids and alkalis.

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H271 May cause fire or explosion; strong oxidizer.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

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Precautionary statements

P210 Keep away from heat.

CAS-No. 7789-18-6

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

Formula	CsNO ₃ (Hill)
EC-No.	232-146-8
Molar mass	194,91 g/mol

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
cesium nitrate (<= 100 %)		
7789-18-6	*)	

Oxidizing solid, Category 1, H271

Acute toxicity, Category 4, H302

*) 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.

For the full text of the H-Statements mentioned in this Section, see Section 16.

3.2 Mixture

Not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

Product name Cesium nitrate 99+ for analysis EMSURE®

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

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

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The following applies to nitrites/nitrates in general: methaemoglobinaemia after the uptake of large quantities.

4.3 Indication of any immediate medical attention and special treatment needed

No information 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

Not combustible.

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

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

nitrogen oxides

5.3 Advice for firefighters

Special protective equipment for firefighters

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

Product name Cesium nitrate 99+ for analysis EMSURE®

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. 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

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

Product name Cesium nitrate 99+ for analysis EMSURE®

Storage conditions

Tightly closed. Do not store near combustible materials.

Recommended storage temperature see product label.

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

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

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.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

Product name Cesium nitrate 99+ for analysis EMSURE®

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

protective clothing

Respiratory protection

required when dusts are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

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.

required when dusts are generated.

Environmental exposure controls

Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form crystalline

Colour off-white

Odour odourless

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

Product name Cesium nitrate 99+ for analysis EMSURE®

Odour Threshold Not applicable

pH ca. 5,0 - 7,5
at 50 g/l
20 °C

Melting point 401 °C
at 1.013,25 hPa
Method: OECD Test Guideline 102

Boiling point No information available.

Flash point Not applicable

Evaporation rate No information available.

Flammability (solid, gas) The product is not flammable.
Flammability (solids)

Lower explosion limit No information available.

Upper explosion limit No information available.

Vapour pressure No information available.

Relative vapour density No information available.

Density 3,64 g/cm³
at 20 °C
Method: OECD Test Guideline 109

Relative density No information available.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

Product name Cesium nitrate 99+ for analysis EMSURE®

Water solubility 239,5 g/l
at 20 °C
Method: OECD Test Guideline 105

Partition coefficient: n-octanol/water No information available.

Auto-ignition temperature > 400 °C
Method: Relative self-ignition temperature for solids

Decomposition temperature No information available.

Viscosity, dynamic No information available.

Explosive properties Not classified as explosive.

Oxidizing properties The substance or mixture is classified as oxidizing with the category 1.

9.2 Other data

Bulk density ca.1.500 kg/m3

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Violent reactions possible with:

organic combustible substances, Reducing agents, ammonium compounds, Alcohols, Aluminium, nitrous gases, acids

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

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10.4 Conditions to avoid

no information available

10.5 Incompatible materials

no information 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 oral toxicity

LD50 Rat: > 300 - < 2.000 mg/kg

OECD Test Guideline 423

Acute inhalation toxicity

This information is not available.

Acute dermal toxicity

LD50 Rat: > 2.000 mg/kg

OECD Test Guideline 402

Skin irritation

In vitro study

Result: No skin irritation

OECD Test Guideline 439

Eye irritation

In vitro study

Result: No eye irritation

OECD Test Guideline 438

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

Product name Cesium nitrate 99+ for analysis EMSURE®

Sensitisation

Local lymph node assay (LLNA) Mouse

Result: negative

Method: OECD Test Guideline 429

Germ cell mutagenicity

Genotoxicity in vitro

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Repeated dose toxicity

Rat

male and female

Oral

28 d

NOAEL: 100 mg/kg

OECD Test Guideline 407

Aspiration hazard

This information is not available.

11.2 Further information

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

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The following applies to nitrites/nitrates in general: methaemoglobinaemia after the uptake of large quantities.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

12.1 Toxicity

No information available.

12.2 Persistence and degradability

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Discharge into the environment must be avoided.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

Product name Cesium nitrate 99+ for analysis EMSURE®

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number	UN 1451
14.2 Proper shipping name	CAESIUM NITRATE
14.3 Class	5.1
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 1451
14.2 Proper shipping name	CAESIUM NITRATE
14.3 Class	5.1
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

Sea transport (IMDG)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

Product name Cesium nitrate 99+ for analysis EMSURE®

14.1 UN number UN 1451

14.2 Proper shipping name CAESIUM NITRATE

14.3 Class 5.1

14.4 Packing group III

14.5 Environmentally hazardous --

14.6 Special precautions for yes

user

EmS F-A S-Q

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard SEVESO III

Legislation OXIDIZING LIQUIDS AND SOLIDS

P8

Quantity 1: 50 t

Quantity 2: 200 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102856

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Substances of very high concern (SVHC)

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of $\geq 0.1\%$ (w/w).

National legislation

Storage class 5.1B

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H271 May cause fire or explosion; strong oxidizer.

H302 Harmful if swallowed.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Danger

Hazard statements

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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.