

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 11.09.2018

Version 8.0

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**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Catalogue No.	108780
Product name	Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO
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.	7440-66-6

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

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merckgroup.com">www.merckgroup.com</a> ).
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**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: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

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

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**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. 108780

Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

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Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 1, H410

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*

Warning

#### *Hazard statements*

H410 Very toxic to aquatic life with long lasting effects.

#### *Precautionary statements*

Prevention

P273 Avoid release to the environment.

### Reduced labelling (≤125 ml)

#### *Hazard pictograms*



#### *Signal word*

Warning

CAS-No. 7440-66-6

## 2.3 Other hazards

None known.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780  
Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

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## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	Zn	Zn (Hill)
EC-No.	231-175-3	
Molar mass	65,39 g/mol	

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

*Chemical name (Concentration)*

CAS-No.	Registration number	Classification
zinc; metallic, grains, coarse powder $\geq 0.3\text{mm}$ ( $\leq 100\%$ )		
7440-66-6	*)	

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 1, H410

\*) 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

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

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

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

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The Safety Data Sheets for catalogue items are available at [www.merckgroup.com](http://www.merckgroup.com)

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780

Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

---

pain, Fever, Nausea, Vomiting, cardiovascular disorders, muscular symptoms

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

No information available.

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### 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.

Ambient fire may liberate hazardous vapours.

#### 5.3 Advice for firefighters

##### *Special protective equipment for firefighters*

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

##### *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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### 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.

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

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# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780  
Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

---

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.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

#### *Advice on safe handling*

Observe label precautions.

#### *Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

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

#### *Storage conditions*

Tightly closed. Dry.

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.

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## 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.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780

Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

---

## 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

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](http://www.kcl.de)).

### *Respiratory protection*

required when dusts are generated.

Recommended Filter type: Filter P 1 (acc. to DIN 3181) for solid particles of inert 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.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780  
Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

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## Environmental exposure controls

Do not let product enter drains.

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## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	granules
Colour	silver
Odour	odourless
Odour Threshold	Not applicable
pH	No information available.
Melting point	419 °C
Boiling point/boiling range	906 °C at 1.013 hPa
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	Not applicable
Relative vapour density	No information available.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780  
Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

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Density 7,13 g/cm<sup>3</sup>  
at 20 °C

Relative density No information available.

Water solubility 0,1 - 0,4 mg/l  
at 20 °C

Partition coefficient: n-  
octanol/water Not applicable

Auto-ignition temperature does not ignite

Decomposition temperature No information available.

Viscosity, dynamic No information available.

Explosive properties Not classified as explosive.

Oxidizing properties none

## 9.2 Other data

Particle size Particle size  
0,3 - 8 mm

Viscosity, kinematic Not applicable

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## 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) .



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780

Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

---

## 10.3 Possibility of hazardous reactions

Risk of explosion with:

ammonium compounds, azides, Barium nitrate, barium peroxide, chlorates, cadmium, chromium(VI) oxide, hydroxylamine, hydrazine and derivatives, Halogenated hydrocarbon, Hydrogen, metal catalysts, Nitric acid, Nitro compounds, nitrates, potassium chlorate, potassium nitrate, performic acid, sulfur, sodium chlorate, SODIUM PEROXIDE, tetrachloromethane, Oxidizing agents

ammonium nitrate, with, Water

iodine, with, Water

Risk of ignition or formation of inflammable gases or vapours with:

Arsenic oxides, alkali hydroxides, alkalines, Fluorine, Nitrobenzene, Sodium hydroxide, selenium, Tellurium

Chlorine, with, Moisture.

Exothermic reaction with:

carbon disulfide, acids, halogen-halogen compounds, hexachloroethane, silver

## 10.4 Conditions to avoid

Exposure to moisture

## 10.5 Incompatible materials

no information available

## 10.6 Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

*Acute oral toxicity*

LD50 Rat: > 2.000 mg/kg

OECD Test Guideline 401

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780

Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

---

## *Acute inhalation toxicity*

LC50 Rat: > 5,41 mg/l; 4 h ; dust/mist

OECD Test Guideline 403

## *Acute dermal toxicity*

This information is not available.

## *Skin irritation*

Result: No skin irritation

The value is given in analogy to the following substances: Zinc oxide

## *Eye irritation*

Rabbit

Result: slight irritation

OECD Test Guideline 405

No eye irritation

## *Sensitisation*

This information is not available.

## *Germ cell mutagenicity*

### *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

(IUCLID)

## *Carcinogenicity*

No indication of carcinogenic activity. (IUCLID)

## *Reproductive toxicity*

No impairment of reproductive performance suspected. (IUCLID)

## *Teratogenicity*

No indication of teratogenic properties. (IUCLID)

## *Specific target organ toxicity - single exposure*

This information is not available.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780

Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

---

### *Specific target organ toxicity - repeated exposure*

This information is not available.

### *Aspiration hazard*

This information is not available.

## 11.2 Further information

After absorption:

Fever, muscular symptoms, pain, cardiovascular disorders, Nausea, Vomiting

On the basis of the morphology of the product, no hazardous properties are to be expected when it is handled and used with appropriate care.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### 12.1 Toxicity

#### *Toxicity to fish*

flow-through test LC50 Fish: 0,439 mg/l; 96 h

Analytical monitoring: yes

(ECHA)

#### *Toxicity to daphnia and other aquatic invertebrates*

static test EC50 Ceriodaphnia dubia (water flea): 0,416 mg/l; 48 h

Analytical monitoring: yes

OECD Test Guideline 202

#### *Toxicity to algae*

static test NOEC Pseudokirchneriella subcapitata (green algae): 0,05 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201

static test IC50 Pseudokirchneriella subcapitata (green algae): 0,150 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201

#### *Toxicity to bacteria*

static test IC50 activated sludge: 0,35 mg/l; 4 h

ISO 9509

(in analogy to similar products) Zinc sulphate

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780

Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

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## *Toxicity to fish (Chronic toxicity)*

flow-through test NOEC Fish: 0,169 mg/l; 30 d

Analytical monitoring: yes

(ECHA)

## *Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)*

semi-static test NOEC Daphnia magna (Water flea): 0,082 mg/l; 21 d

Analytical monitoring: yes

OECD Test Guideline 211

(in analogy to similar products) zinc chloride

## **12.2 Persistence and degradability**

### *Biodegradability*

Not applicable for inorganic substances

## **12.3 Bioaccumulative potential**

### *Partition coefficient: n-octanol/water*

Not applicable

## **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. 108780  
Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

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## SECTION 13. Disposal considerations

### *Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14. Transport information

### Land transport (ADR/RID)

14.1 UN number UN 3077  
14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (ZINC)  
14.3 Class 9  
14.4 Packing group III  
14.5 Environmentally hazardous yes  
14.6 Special precautions for user yes  
Tunnel restriction code -  
Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

14.1 UN number UN 3077  
14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (ZINC)  
14.3 Class 9  
14.4 Packing group III  
14.5 Environmentally hazardous yes

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780  
Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

---

**14.6 Special precautions for user** no

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

## Sea transport (IMDG)

**14.1 UN number** UN 3077

**14.2 Proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC)

**14.3 Class** 9

**14.4 Packing group** III

**14.5 Environmentally hazardous** yes

**14.6 Special precautions for user** yes

EmS F-A S-F

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

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

Not relevant

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## 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 ENVIRONMENTAL HAZARDS  
E1  
Quantity 1: 100 t  
Quantity 2: 200 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

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

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780  
Product name Zinc granular for analysis, particle size about 3-8 mm EMSURE® ISO

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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

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 10 - 13

## 15.2 Chemical safety assessment

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

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## SECTION 16. Other information

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

H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

*Hazard pictograms*



*Signal word*

Warning

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 108780

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## *Hazard statements*

H410 Very toxic to aquatic life with long lasting effects.

## *Precautionary statements*

Prevention

P273 Avoid release to the environment.

## **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](http://www.wikipedia.org).

## **Regional representation**

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

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*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.*