

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 30.07.2018

Version 9.4

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

Catalogue No.	105125
Product name	Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur
REACH Registration Number	01-2119543697-26-XXXX
CAS-No.	333-20-0

**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.**

**SECTION 2. Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Acute toxicity, Category 4, Oral, H302

Acute toxicity, Category 4, Inhalation, H332

Acute toxicity, Category 4, Dermal, H312

Chronic aquatic toxicity, Category 3, H412

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

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125

Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

#### *Hazard pictograms*



#### *Signal word*

Warning

#### *Hazard statements*

H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.

H412 Harmful to aquatic life with long lasting effects.

EUH032 Contact with acids liberates very toxic gas.

#### *Precautionary statements*

Prevention

P273 Avoid release to the environment.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

### Reduced labelling (≤125 ml)

#### *Hazard pictograms*



#### *Signal word*

Warning

#### *Hazard statements*

H412 Harmful to aquatic life with long lasting effects.

*Index-No.* 615-004-00-3

## 2.3 Other hazards

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125  
Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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None known.

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## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	KSCN	CKNS (Hill)
Index-No.	615-004-00-3	
EC-No.	206-370-1	
Molar mass	97,18 g/mol	

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

*Chemical name (Concentration)*

CAS-No.	Registration number	Classification
Potassium thiocyanate (<= 100 % )		
333-20-0	01-2119543697-26-XXXX	Acute toxicity, Category 4, H302 Acute toxicity, Category 4, H332 Acute toxicity, Category 4, H312 Chronic aquatic toxicity, Category 3, H412

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. If breathing stops: mouth-to-mouth breathing or artificial respiration.

Oxygen if necessary. Immediately call in physician.

After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

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

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# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125

Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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

Subsequently administer: activated charcoal (20 - 40 g in 10% slurry).

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

irritant effects, agitation, spasms, cardiovascular disorders, ataxia (impaired locomotor coordination), CNS disorders

#### 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.

Fire may cause evolution of:

Sulphur oxides, nitrogen oxides, Hydrogen cyanide (hydrocyanic acid)

#### 5.3 Advice for firefighters

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

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

##### *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.

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### SECTION 6. Accidental release measures

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

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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. 105125

Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

---

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 empty into 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.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

#### *Advice on safe handling*

Work under hood. Do not inhale substance/mixture.

Observe label precautions.

#### *Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face 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.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125

Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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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.

#### 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.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125

Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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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)).

### *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.

### **Environmental exposure controls**

Do not empty into drains.

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## **SECTION 9. Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Form	solid
Colour	white
Odour	odourless
Odour Threshold	Not applicable
pH	5,3 - 8,5 at 50 g/l 20 °C

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125  
Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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4,8  
at 1.070 g/l  
20,1 °C

Melting point 177 °C  
at 1.013 hPa  
Method: OECD Test Guideline 102

Boiling point/boiling range > 400 °C  
at 1.013 hPa  
Method: OECD Test Guideline 103

Flash point does not flash

Evaporation rate No information available.

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

Lower explosion limit Not applicable

Upper explosion limit Not applicable

Vapour pressure < 0,001 hPa  
at 20 °C  
Method: OECD Test Guideline 104  
low

Relative vapour density No information available.

Density 1,91 g/cm<sup>3</sup>  
at 20 °C  
Method: OECD Test Guideline 109



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125  
Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

---

Relative density	No information available.
Water solubility	> 1.000 g/l at 20 °C Method: OECD Test Guideline 105
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	500 °C
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	The product has been shown not to be oxidizing in a test following Directive 67/548/EEC (Method A17, Oxidizing properties).

## 9.2 Other data

Ignition temperature	not combustible
Bulk density	ca.750 - 1.000 kg/m <sup>3</sup>
Particle size	Method: OECD Test Guideline 110 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. 105125

Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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## 10.3 Possibility of hazardous reactions

A risk of explosion and/or of toxic gas formation exists with the following substances:

Acids, Strong oxidizing agents, perchloryl fluoride

Possible formation of:

Hydrogen cyanide (hydrocyanic acid)

## 10.4 Conditions to avoid

Strong heating (decomposition).

## 10.5 Incompatible materials

no information available

## 10.6 Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

*Acute oral toxicity*

LDLO human: 80 mg/kg

(RTECS)

LD50 Rat: 854 mg/kg

(RTECS)

*Acute inhalation toxicity*

Acute toxicity estimate: 1,6 mg/l; dust/mist

Expert judgement

Symptoms: Possible damages:, May cause irritation of respiratory tract.

*Acute dermal toxicity*

Acute toxicity estimate : 1.100,1 mg/kg

Expert judgement

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125

Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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## *Skin irritation*

In vitro study

Result: No skin irritation

OECD Test Guideline 439

The value is given in analogy to the following substances: sodium thiocyanate

## *Eye irritation*

In vitro study

Result: non-corrosive

OECD Test Guideline 437

The value is given in analogy to the following substances: sodium thiocyanate

## *Sensitisation*

Local lymph node assay (LLNA) Mouse

Result: Does not cause skin sensitisation.

Method: OECD Test Guideline 429

The value is given in analogy to the following substances: sodium thiocyanate

## *Germ cell mutagenicity*

### *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

Mutagenicity (mammal cell test): chromosome aberration.

Human lymphocytes

Result: negative

Method: OECD Test Guideline 473

In vitro mammalian cell gene mutation test

Mouse lymphoma test

Result: negative

Method: OECD Test Guideline 476

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125

Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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## *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.

## *Aspiration hazard*

This information is not available.

## **11.2 Further information**

After absorption of large quantities:

agitation, spasms, ataxia (impaired locomotor coordination)

Systemic effects:

CNS disorders, cardiovascular disorders

After long-term exposure to the chemical:

Changes in the blood count

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 12. Ecological information**

### **12.1 Toxicity**

#### *Toxicity to fish*

LC50 *Oncorhynchus mykiss* (rainbow trout): 11 mg/l; 96 h  
(ECOTOX Database)

static test LC50 *Oncorhynchus mykiss* (rainbow trout): 65 mg/l; 96 h

Analytical monitoring: yes

OECD Test Guideline 203

The value is given in analogy to the following substances: Ammonium thiocyanate

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125

Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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## *Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 2,8 mg/l; 96 h  
(ECOTOX Database)

## *Toxicity to fish (Chronic toxicity)*

flow-through test NOEC Pimephales promelas (fathead minnow): 1,84 mg/l; 124 d

(ECHA)

### **12.2 Persistence and degradability**

#### *Biodegradability*

80 %; 28 d; aerobic

OECD Test Guideline 301D

The value is given in analogy to the following substances:

Readily biodegradable Ammonium thiocyanate

### **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.

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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 - 14.6** Not classified as dangerous in the meaning of transport regulations.

### **Inland waterway transport (ADN)**

Not relevant

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125  
Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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## Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

## Sea transport (IMDG)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

## 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 Not applicable

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

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).

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125

Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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## *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.

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

#### *Hazard pictograms*



#### *Signal word*

Warning

#### *Hazard statements*

H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.

H412 Harmful to aquatic life with long lasting effects.

EUH032 Contact with acids liberates very toxic gas.

#### *Precautionary statements*

Prevention

P273 Avoid release to the environment.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105125

Product name Potassium thiocyanate for analysis EMSURE® ACS,ISO,Reag. Ph Eur

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## Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

## 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.*