

# Safety data sheet

## according to Regulation (EC) No. 1907/2006



Printing date 31.08.2012

Version number 1

Revision: 31.08.2012

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

· **Product identifier**

· **Trade name:** Potassium dicyanoaurate, extra pure

· **Article number:** 3959

· **CAS Number:**

13967-50-5

· **EC number:**

237-748-4

· **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](mailto: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**



GHS06 skull and crossbones

Acute Tox. 2      H300 Fatal if swallowed.

Acute Tox. 1      H310 Fatal in contact with skin.

Acute Tox. 1      H330 Fatal if inhaled.



GHS09 environment

Aquatic Acute 1      H400 Very toxic to aquatic life.

Aquatic Chronic 1      H410 Very toxic to aquatic life with long lasting effects.

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



T+; Very toxic

R26/27/28:      Very toxic by inhalation, in contact with skin and if swallowed.



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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R32: Contact with acids liberates very toxic gas.

- **Label elements**

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

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

- **Hazard pictograms**



GHS06

GHS09

- **Signal word** Danger

- **Hazard statements**

H300+H310+H330+EUH032 Fatal if swallowed, in contact with skin or if inhaled. Contact with acids liberates very toxic gas.

H410 Very toxic to aquatic life with long lasting effects.

- **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

P405 Store locked up.

- **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**

13967-50-5 potassium dicyanoaurate

- **Identification number(s)**

- **EC number:** 237-748-4

### 4 First aid measures



- **Description of first aid measures**

- **General information:**

Take affected persons out of danger area and lay down.

Immediately remove any clothing soiled by the product.

Keep warm, position comfortably and cover well.

- **After inhalation:**

Remove to fresh air. If breathing is difficult, give oxygen. Administer artificial respiration if breathing has stopped. Seek medical advice immediately.

Use a respiratory bag or breathing device.

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**· After skin contact:**

Immediately wash with water and soap and rinse thoroughly.  
Medical advice absolutely required!

**· After eye contact:**

Rinse immediately for 15 minutes with plenty of water with the eyelid held wide open. Seek medical advice.

**· After swallowing:**

Rinse out mouth and drink a glass of water. Do not induce vomiting.  
Call for a doctor immediately and show the container or label.

**· Information for doctor:****· Most important symptoms and effects, both acute and delayed**

After inhalation:

Breathing difficulty

Cramp

Vomiting

CNS disorders

Unconsciousness

**· 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.  
CO<sub>2</sub>, 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**

Product non-combustible.

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Hydrogen cyanide (HCN)

Nitrogen oxides (NO<sub>x</sub>)

**· Advice for firefighters****· Protective equipment:**

Mouth respiratory protective device.

Wear self-contained respiratory protective device.

Wear fully protective suit.

**· Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Prevent fire-fighting water from entering surface water or groundwater.

## 6 Accidental release measures

**· Personal precautions, protective equipment and emergency procedures**

Do not breathe dust.

Avoid contact with the eyes and skin.

Mount respiratory protective device.

Ensure adequate ventilation

Avoid formation of dust.

**· Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ground water or penetrate the soil.

Keep contaminated washing water and dispose of appropriately.

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- **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.
- Ensure adequate ventilation.

- **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**

- Keep containers, equipment and working place clean.
- Handling corresponding to laboratory safety guidelines.
- Ensure good ventilation/exhaustion at the workplace.
- Handle and open container with care.
- Prevent formation of dust.

- **Information about fire - and explosion protection:** Keep respiratory protective device available.

- **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:**

- Do not store together with acids.
- Store away from foodstuffs.

- **Further information about storage conditions:**

- Store under lock and key and with access restricted to technical experts or their assistants only.
- Store receptacle in a well ventilated area.
- This product is hygroscopic.
- 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:**

- Danger through skin adsorption.

13967-50-5 potassium dicyanoaurate	
WEL (Great Britain)	Long-term value: 5 mg/m <sup>3</sup> as CN; Sk

- **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.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.

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- **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:**



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.

Required when dusts are generated.

Composite filter: B-(P3) (colour code: grey-white)

- **Protection of hands:**



Protective gloves

Due to missing tests no recommendation to the glove material can be given for the product.

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**

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**

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:

White

- **Odour:**

Odourless

- **Odour threshold:**

Not determined.

- **pH-value:**

Not applicable.

- **Change in condition**

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

Undetermined.

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· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Product is not flammable.
· <b>Ignition temperature:</b>	No information available
· <b>Decomposition temperature:</b>	Not determined.
· <b>Self-igniting:</b>	Not determined.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
Lower:	Not determined.
Upper:	Not determined.
· <b>Vapour pressure:</b>	Not applicable.
· <b>Density at 20°C:</b>	3.45 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with water at 20°C:</b>	500 g/l
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** Reacts with acids.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Acids
- **Hazardous decomposition products:**  
Hydrogen cyanide (prussic acid)  
Nitrogen oxides  
In case of fire: see item 5.
- **Additional information:** Hygroscopic

## 11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:**
  - **LD/LC50 values relevant for classification:**
- |      |      |                |
|------|------|----------------|
| Oral | LD50 | 29 mg/kg (rat) |
|------|------|----------------|
- **Specific symptoms in biological assay:** No information available.
  - **Primary irritant effect:**
  - **on the skin:**  
Slight irritations.  
Danger through skin adsorption.

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- **on the eye:** Slight irritations
- **after inhalation:** Irritations in the respiratory tract, coughing, dyspnoea.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** No information available.
- **Additional toxicological information:**  
Systemic effects: headache, nausea, vomiting, spasms, unconsciousness, respiratory arrest.  
After swallowing excitation, cramps, heart cycle disturbances, CNS disorders.  
Very toxic  
Danger through skin adsorption.
- **Further information:** The product should be handled with the care usual when dealing with chemicals.
- **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 (carcinogenity, 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!  
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Also poisonous for fish and plankton in water bodies.  
Very toxic for fish
- **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

- |                                  |  |
|----------------------------------|--|
| · <b>UN-Number</b>               |  |
| · <b>ADR, IMDG, IATA</b>         | UN1588   |
| · <b>UN proper shipping name</b> |  |
| · <b>ADR</b>                     | 1588 CYANIDES, INORGANIC, SOLID, N.O.S. (potassium dicyanoaurate), ENVIRONMENTALLY HAZARDOUS |

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· <b>IMDG</b>	CYANIDES, INORGANIC, SOLID, N.O.S. (potassium dicyanoaurate), MARINE POLLUTANT
· <b>IATA</b>	CYANIDES, INORGANIC, SOLID, N.O.S.
· <b>Transport hazard class(es)</b>	
· <b>ADR, IMDG</b>	
 	
· <b>Class</b>	6.1 Toxic substances.
· <b>Label</b>	6.1
· <b>IATA</b>	
	
· <b>Class</b>	6.1 Toxic substances.
· <b>Label</b>	6.1
· <b>Packing group</b>	
· <b>ADR, IMDG, IATA</b>	I
· <b>Environmental hazards:</b>	Environmentally hazardous substance, solid; Marine Pollutant
· <b>Marine pollutant:</b>	Yes (P)
· <b>Special marking (ADR):</b>	Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Toxic substances.
· <b>Danger code (Kemler):</b>	66
· <b>EMS Number:</b>	F-A,S-A
· <b>Segregation groups</b>	Cyanides
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Transport category</b>	1
· <b>Tunnel restriction code</b>	E
· <b>UN "Model Regulation":</b>	UN1588, CYANIDES, INORGANIC, SOLID, N.O.S. (potassium dicyanoaurate), ENVIRONMENTALLY HAZARDOUS, 6.1, I

## 15 Regulatory information

- **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.
- **Waterhazard class:** Water hazard class 3 (Assessment by list): extremely hazardous for water.

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· **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.

· **Relevant phrases**

Very toxic by inhalation and if swallowed.  
Very toxic in contact with skin.  
Very toxic in contact with skin and if swallowed.

· **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  
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

· **\* Data compared to the previous version altered.**

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