

**1 Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** Arsenic(III) oxide ROTI®METIC 99,995%**Article number:** 5094**CAS Number:**

1327-53-3

**EC number:**

215-481-4

**Index number:**

033-003-00-0

**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](mailto: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**

Acute Tox. 2 H300 Fatal if swallowed.

Carc. 1A H350 May cause cancer.

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

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

R28: Very toxic if swallowed.

T; Toxic

Carc. Cat. 1

R45: May cause cancer.

C; Corrosive

R34: Causes burns.

N; Dangerous for the environment

(Contd. on page 2)

# Safety data sheet

according to Regulation (EC) No. 1907/2006



Printing date 18.07.2013

Version number 1

Revision: 18.07.2013

**Trade name: Arsenic(III) oxide ROTI@METIC 99,995%**

(Contd. of page 1)

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

**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**

GHS05

GHS06

GHS08

GHS09

**Signal word** Danger**Hazard statements**

H300 Fatal if swallowed.

H314 Causes severe skin burns and eye damage.

H350 May cause cancer.

H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

P281 Use personal protective equipment as required.

P260 Do not breathe dust.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Additional information:**

Restricted to professional users.

**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**

1327-53-3 diarsenic trioxide

**Identification number(s)****EC number:** 215-481-4**Index Number:** 033-003-00-0**Formula:** As<sub>2</sub>O<sub>3</sub>**Molar mass [g/mol]:** 197,84**SVHC**

1327-53-3 | diarsenic trioxide

(Contd. on page 3)

**Trade name: Arsenic(III) oxide ROTI@METIC 99,995%**

(Contd. of page 2)

## 4 First aid measures



### 4.1 Description of first aid measures

**General information:**

Immediately remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

**After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

**After skin contact:**

Immediately rinse with water.

Seek medical treatment.

**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.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

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

Breathing difficulty

Coughing

Nausea

Vomiting

CNS disorders

Irritations

**Hazards** Danger of pulmonary oedema.

### 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.

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.

### 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

In the event of fire development of hazardous combustion gases or vapours possible.

Arsenic oxide

Carbon monoxide and carbon dioxide

(Contd. on page 4)

**Trade name: Arsenic(III) oxide ROTI@METIC 99,995%**

(Contd. of page 3)

**5.3 Advice for firefighters****Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

**Additional information** Prevent fire-fighting water from entering surface water or groundwater.**6 Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid formation of dust.

Mount respiratory protective device.

**6.2 Environmental precautions**

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.

**6.3 Methods and material for containment and cleaning up**

Pick up mechanically.

Dispose of the material collected according to regulations.

Ensure adequate ventilation.

**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**

Work only in fume cupboard.

Handling corresponding to laboratory safety guidelines.

Ensure good ventilation/exhaustion at the workplace.

Handle and open container with care.

**Information about fire - and explosion protection:**

Keep respiratory protective device available.

**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.

**Further information about storage conditions:**

Store under lock and key and with access restricted to technical experts or their assistants only.

Keep container tightly sealed.

**Recommended storage temperature:** 15 - 25 °C**7.3 Specific end use(s)**

No further relevant information available.

(Contd. on page 5)

**Trade name: Arsenic(III) oxide ROTI@METIC 99,995%**

(Contd. of page 4)

## 8 Exposure controls/personal protection

### Additional information about design of technical facilities:

No further data; see item 7.

### 8.1 Control parameters

#### Ingredients with limit values that require monitoring at the workplace:

##### 1327-53-3 diarsenic trioxide

WEL (Great Britain)	Long-term value: 0.1 mg/m <sup>3</sup> as As; Carc
---------------------	---

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

##### 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:



Required when dusts are generated: filter P3.

#### 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.

(Contd. on page 6)

Trade name: Arsenic(III) oxide ROTI@METIC 99,995%

(Contd. of page 5)

**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:**

<b>Form:</b>	Solid
<b>Colour:</b>	White
<b>Odour:</b>	Odourless
<b>Odour threshold:</b>	No information available.

**pH-value:** No information available.

**Change in condition**

<b>Melting point/Melting range:</b>	312.3 °C
<b>Boiling point/Boiling range:</b>	457.2 °C

**Flash point:** Not applicable.

**Flammability (solid, gaseous):** Product is not flammable.

**Ignition temperature:** No information available

**Decomposition temperature:** No information available

**Self-igniting:** No information available

**Danger of explosion:** Product does not present an explosion hazard.

**Explosion limits:**

<b>Lower:</b>	No information available.
<b>Upper:</b>	No information available.

**Oxidizing properties:** No information available.

**Vapour pressure at 20 °C:** 0 hPa

**Density at 20 °C:** 3.738 g/cm<sup>3</sup>

**Bulk density at 20 °C:** 2250 kg/m<sup>3</sup>

**Relative density** No Information available.

**Vapour density** No information available

**Evaporation rate** No information available

**Solubility in / Miscibility with water at 20 °C:** 20 g/l

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

**Viscosity:**

<b>Dynamic:</b>	No information available.
<b>Kinematic:</b>	No information available.

(Contd. on page 7)

**Trade name: Arsenic(III) oxide ROTI@METIC 99,995%**

(Contd. of page 6)

**9.2 Other information**

No further relevant information available.

**10 Stability and reactivity****10.1 Reactivity**

No information available

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

No decomposition if used and stored according to specifications.

**10.3 Possibility of hazardous reactions**Danger of explosion with:

Magnesium

powdered aluminium

Zincpowder

Strong reaction possible with:

Bromine

fluorine

Strong oxidizing agents

Mercury

**10.4 Conditions to avoid**

No information available.

**10.5 Incompatible materials:**

various metals

**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:**

Oral | LD50 | 14.6 mg/kg (rat) (TOXNET)

**Specific symptoms in biological assay:**

No information available.

Primary irritant effect:**on the skin:**

Caustic effect on skin and mucous membranes.

**on the eye:**

Strong caustic effect.

**after inhalation:**

Pulmonary oedema latency period until onset of action.

Irritations in the respiratory tract, coughing, dyspnoea.

**Sensitization:**

No sensitizing effects known.

CMR effects:

Carc. 1A

(Contd. on page 8)

# Safety data sheet

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



Printing date 18.07.2013

Version number 1

Revision: 18.07.2013

**Trade name: Arsenic(III) oxide ROTI@METIC 99,995%**

(Contd. of page 7)

**Germ cell mutagenicity:**

No information available.

**Carcinogenicity:**

May cause cancer.

**Reproductive toxicity:**

No information available.

**Aspiration hazard:**

No information available.

**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: burns in the mouth, throat, oesophagus and gastrointestinal tract, risk of perforation in the oesophagus and gastrointestinal tract.

Dyspnoea

Vomiting

Nausea

gastrointestinal complaints

cardiovascular failure

**Further information:**

To the best of our knowledge, the toxicological properties have not been thoroughly investigated. Further hazardous properties cannot be excluded.

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

## 12 Ecological information

**12.1 Toxicity****Aquatic toxicity:****Fish toxicity:**

LC50	20.2 mg/l/96 h (Onchorhynchus mykiss) (GESTIS)
------	--

**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.

Must not reach sewage water or drainage ditch undiluted or unneutralized.

Also poisonous for fish and plankton in water bodies.

**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Other adverse effects**

No further relevant information available.

(Contd. on page 9)



**Safety data sheet**  
according to Regulation (EC) No. 1907/2006



Printing date 18.07.2013

Version number 1

Revision: 18.07.2013

**Trade name: Arsenic(III) oxide ROTI@METIC 99,995%**

(Contd. of page 8)

### 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

#### 14.1 UN-Number

ADR, IMDG, IATA UN1561

#### 14.2 UN proper shipping name

ADR 1561 ARSENIC TRIOXIDE, ENVIRONMENTALLY HAZARDOUS  
IMDG ARSENIC TRIOXIDE, MARINE POLLUTANT  
IATA ARSENIC TRIOXIDE

#### 14.3 Transport hazard class(es)

ADR, IMDG



Class 6.1 Toxic substances.  
Label 6.1

IATA



Class 6.1 Toxic substances.  
Label 6.1

#### 14.4 Packing group

ADR, IMDG, IATA II

#### 14.5 Environmental hazards:

Environmentally hazardous substance, solid; Marine Pollutant

Marine pollutant:

Symbol (fish and tree)

Special marking (ADR):

Symbol (fish and tree)

#### 14.6 Special precautions for user

Warning: Toxic substances.

Danger code (Kemler):

60

(Contd. on page 10)

# Safety data sheet

according to Regulation (EC) No. 1907/2006



Printing date 18.07.2013

Version number 1

Revision: 18.07.2013

**Trade name: Arsenic(III) oxide ROTI@METIC 99,995%**

(Contd. of page 9)

<b>EMS Number:</b>	F-A,S-A
<b>14.7 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>	
Limited quantities (LQ)	500 g
Transport category	2
Tunnel restriction code	D/E
<b>UN "Model Regulation":</b>	UN1561, ARSENIC TRIOXIDE, ENVIRONMENTALLY HAZARDOUS, 6.1, 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:

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

Employment restrictions concerning juveniles must be observed.

#### Breakdown regulations:

Class	Share in %
I	100.0

#### Waterhazard class:

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

#### Other regulations, limitations and prohibitive regulations

#### Substances of very high concern (SVHC) according to REACH, Article 57

1327-53-3	diarsenic trioxide
-----------	--------------------

### 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 Heine

#### 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

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)