

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

· **Product details**

· **Trade name:** diarsenic trioxide

· **Article number:** 89880114

· **Application of the substance / the preparation** Active pharmaceutical ingredients

· **Manufacturer/Supplier:**

W.C. Heraeus GmbH  
Chemicals Division - Pharmaceutical Ingredients  
Heraeusstr. 12-14, D-63450 Hanau  
Germany/ Deutschland

· **Further information obtainable from:**

Michael Schwarz Tel: +49-(0)6181-355255  
e-mail: michael.schwarz@heraeus.com  
Dr. Wissmann Tel: +49-(0)6181-354303  
e-mail: friedrich.wissmann@heraeus.com

· **Information in case of emergency:**

factory security offices: +49 - (0)6181-35213  
werkschutz@heraeus.com

**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.



GHS08 health hazard

Carc. 1A H350 May cause cancer.



GHS05 corrosion

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



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

R28: Very toxic if swallowed.



T; Toxic

R45; Carc. Cat. 1: May cause cancer.



C; Corrosive

R34: Causes burns.



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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· **Information concerning particular hazards for human and environment:** Not applicable.· **Label elements**· **Labelling according to Regulation (EC) No 1272/2008**· **Hazard pictograms**

GHS05   GHS06   GHS08   GHS09

· **Signal word** *Danger*· **Hazard statements***Fatal if swallowed.**Causes severe skin burns and eye damage.**May cause cancer.**Very toxic to aquatic life.**Very toxic to aquatic life with long lasting effects.*· **Precautionary statements***Avoid release to the environment.**Obtain special instructions before use.**Do not breathe dust.**IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Labelling according to EU guidelines:***The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.*· **Code letter and hazard designation of product:***Carc. Cat. 1**T+ Very toxic**N Dangerous for the environment*· **Risk phrases:**45 *May cause cancer.*28 *Also very toxic if swallowed.*34 *Causes burns.*50/53 *Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*· **Safety phrases:**53 *Avoid exposure - obtain special instructions before use.*45 *In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).*60 *This material and its container must be disposed of as hazardous waste.*61 *Avoid release to the environment. Refer to special instructions/safety data sheets.*

### 3 Composition/information on ingredients

· **Chemical characterization:**· **CAS No. Description**

1327-53-3 diarsenic trioxide

· **Identification number(s)**· **EINECS Number:** 215-481-4· **Index number:** 033-003-00-0

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· **Chemical characterization**· **SVHC**

1327-53-3 diarsenic trioxide

**4 First aid measures**· **General information:**

Immediately remove any clothing soiled by the product.

Remove breathing equipment only after contaminated clothing have been completely removed.

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

In case of accident or if you feel unwell, seek medical advice immediately.

· **After inhalation:**

Supply fresh air.

Call a doctor immediately.

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

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Immediately remove all soiled and contaminated clothing

Seek medical treatment.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Induce vomiting and call for medical help.

**5 Firefighting measures**· **Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards caused by the substance, its products of combustion or resulting gases:** Metal oxide· **Protective equipment:**

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 any seepage into the ground.

**6 Accidental release measures**· **Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Avoid formation of dust.

Ensure adequate ventilation

· **Measures for environmental protection:**

Do not allow to penetrate the ground/soil.

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

· **Measures for cleaning/collecting:**

Pick up mechanically.

Send for recovery or disposal in suitable receptacles.

Dispose contaminated material as waste according to item 13.

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## 7 Handling and storage

- **Handling:**
- **Information for safe handling:**  
Wear protective equipment. Keep unprotected persons away.  
Store under lock and key and with access restricted to technical experts or their assistants only.  
Ensure good ventilation/exhaustion at the workplace.  
The usual precautionary measures are to be adhered to when handling chemicals.
- **Information about fire - and explosion protection:**  
Formation of toxic gases is possible during heating or in case of fire.  
see chapter 5
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Store in cool, dry conditions in well sealed receptacles.  
Ensure adequate ventilation
- **Information about storage in one common storage facility:**  
Do not store with materials which release oxygen.  
Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.

## 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:**  
Ensure good ventilation/exhaustion at the workplace.
  - **Ingredients with limit values that require monitoring at the workplace:**
- |                                     |   |
|-------------------------------------|---|
| <b>1327-53-3 diarsenic trioxide</b> |   |
| WEL                                 | Long-term value: 0.1 mg/m <sup>3</sup><br>as As; Carc |

- **Additional information:** The lists valid during the making were used as basis.
- **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.
- **Respiratory protection:**  
Use respiratory protective device against the effects of dust/aerosol.  
Filter P3
- **Protection of hands:**



Protective gloves

- **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.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**  
Butyl rubber, BR

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· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Protective work clothing**9 Physical and chemical properties**· **General Information**· **Appearance:**

<b>Form:</b>	Solid
<b>Colour:</b>	White Beige
<b>Odour:</b>	Odourless

· **Change in condition**

**Melting point/Melting range:** 280°C  
**Boiling point/Boiling range:** Not applicable.

· **Flash point:** Not applicable.· **Flammability (solid, gaseous):** Product is not flammable.· **Self-igniting:** Product is not self igniting.· **Danger of explosion:** Product does not present an explosion hazard.· **Density at 20°C:** 3.74 g/cm<sup>3</sup>· **Solubility in / Miscibility with water at 20°C:** 21 g/l**10 Stability and reactivity**· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.· **Materials to be avoided:**· **Dangerous reactions** No dangerous reactions known.· **Dangerous decomposition products:**Hydrogen cyanide (prussic acid)  
cyanogen**11 Toxicological information**· **Acute toxicity:**· **LD/LC50 values relevant for classification:**

Oral LD50 15.1 mg/kg (rat)

· **Primary irritant effect:**· **on the skin:** Caustic effect on skin and mucous membranes.· **on the eye:** Strong caustic effect.· **Sensitization:** No sensitizing effects known.· **Additional toxicological information:**

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Carc. Cat. 1

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### 12 Ecological information

- **Additional ecological information:**
- **General notes:**  
Very toxic for aquatic organisms.  
The material is harmful to the environment.  
Do not allow to enter sewers/ surface or ground water.  
Do not allow to penetrate the ground/soil.

### 13 Disposal considerations

- **Product:**
- **Recommendation**  
Waste requires supervision.  
If residues of products are classified as waste use the legal requirements to assign the appropriate Waste Code.  
Disposal must be made according to official regulations.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- **Land transport ADR/RID (cross-border)**



- **ADR/RID class:** 6.1 Toxic substances.
- **Danger code (Kemler):** 60
- **UN-Number:** 1561
- **Packaging group:** II
- **Hazard label:** 6.1
- **Special marking:** Symbol (fish and tree)
- **Description of goods:** 1561 ARSENIC TRIOXIDE
- **Tunnel restriction code D/E**

- **Maritime transport IMDG:**



- **IMDG Class:** 6.1
- **UN Number:** 1561
- **Label:** 6.1
- **Packaging group:** II
- **EMS Number:** F-A,S-A
- **Marine pollutant:** No

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· **Proper shipping name:** ARSENIC TRIOXIDE· **Air transport ICAO-TI and IATA-DGR:**

· **ICAO/IATA Class:** 6.1  
 · **UN/ID Number:** 1561  
 · **Label:** 6.1  
 · **Packaging group:** II  
 · **Proper shipping name:** ARSENIC TRIOXIDE

· **UN "Model Regulation":** UN1561, ARSENIC TRIOXIDE, 6.1, II  
 · **Environmental hazards:** Environmentally hazardous substance, solid; Marine Pollutant

## 15 Regulatory information

· **Chemical safety assessment** A Chemical Safety Assessment has not been carried out.

· **National regulations:**

· **Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

Class	Share in %
I	100.0

## 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:** HH-US

· **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)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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)

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