

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

- **Product identifier**
- **Trade name:** diarsenic trioxide
- **Article number:** 89880114
- **CAS Number:**  
1327-53-3
- **EC number:**  
215-481-4
- **Index number:**  
033-003-00-0
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation** Active pharmaceutical ingredients
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Heraeus Precious Metals GmbH & Co. KG  
Chemicals Division - Pharmaceutical Ingredients  
Heraeusstr. 12-14, D-63450 Hanau  
Germany/ Deutschland
- **Further information obtainable from:**  
Herr Dr. Friedrich Wissmann  
Phone: +49 6181 35-4303  
mobile: +49 151 12543294  
Fax: +49 6181 35-4302  
E-Mail: [friedrich.wissmann@heraeus.de](mailto:friedrich.wissmann@heraeus.de)
- **Emergency telephone number:** Tel: +49 151 12543294

**2 Hazards identification**

- **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  
R50/53:   Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **Information concerning particular hazards for human and environment:** Not applicable.
- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The substance is classified and labelled according to the CLP regulation.

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**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 with long lasting effects.**Restricted to professional users.***Precautionary statements***Obtain special instructions before use.**Avoid release to the environment.**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.***Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**3 Composition/information on ingredients****Chemical characterization: Substances****CAS No. Description**

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**Identification number(s)****EC number:** 215-481-4**Index number:** 033-003-00-0**SVHC**

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**4 First aid measures****Description of 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*

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- *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.*
- **Information for doctor:**  
· **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
- **Indication of any immediate medical attention and special treatment needed**  
*No further relevant information available.*

## 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
*CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*
- **Special hazards arising from the substance or mixture** *Metal oxide*
- **Advice for firefighters**
- **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

- **Personal precautions, protective equipment and emergency procedures**  
*Wear protective equipment. Keep unprotected persons away.*  
*Avoid formation of dust.*  
*Ensure adequate ventilation*
- **Environmental precautions:**  
*Do not allow to penetrate the ground/soil.*  
*Do not allow product to reach sewage system or any water course.*
- **Methods and material for containment and cleaning up:**  
*Pick up mechanically.*  
*Send for recovery or disposal in suitable receptacles.*  
*Dispose contaminated material as waste according to item 13.*
- **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**  
*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.*

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- **Information about fire - and explosion protection:**  
Formation of toxic gases is possible during heating or in case of fire.  
see chapter 5
- **Conditions for safe storage, including any incompatibilities**
- **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.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** Ensure good ventilation/exhaustion at the workplace.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

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WEL	Long-term value: 0.1 mg/m <sup>3</sup> as As; Carc
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- **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.
- **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

## · Information on basic physical and chemical properties

## · General Information

## · Appearance:

Form:	Solid
Colour:	White Beige
· Odour:	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

· Other information No further relevant information available.

## 10 Stability and reactivity

## · Reactivity

## · Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions No dangerous reactions known.

· Conditions to avoid No further relevant information available.

· Incompatible materials: No further relevant information available.

## · Hazardous decomposition products:

Hydrogen cyanide (prussic acid)  
cyanogen

## 11 Toxicological information

## · Information on toxicological effects

## · Acute toxicity:

## · LD/LC50 values relevant for classification:

Oral	LD50	15.1 mg/kg (rat)
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- **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.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Carc. 1A

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information 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.
- **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.
- **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**  
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

- |                                  |                       |
|----------------------------------|-----------------------|
| · <b>UN-Number</b>               |                       |
| · <b>ADR, IMDG, IATA</b>         | 1561                  |
| · <b>UN proper shipping name</b> |                       |
| · <b>ADR</b>                     | 1561 ARSENIC TRIOXIDE |
| · <b>IMDG, IATA</b>              | ARSENIC TRIOXIDE      |

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· **Transport hazard class(es)**

· **ADR**



· **Class** 6.1 Toxic substances.  
· **Label** 6.1

· **IMDG, IATA**



· **Class** 6.1 Toxic substances.  
· **Label** 6.1

· **Packing group**

· **ADR, IMDG, IATA** II

· **Environmental hazards:** Environmentally hazardous substance, solid; Marine Pollutant  
· **Marine pollutant:** No  
· **Special marking (ADR):** Symbol (fish and tree)

· **Special precautions for user** Warning: Toxic substances.  
· **Danger code (Kemler):** 60  
· **EMS Number:** F-A,S-A

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADR**  
· **Tunnel restriction code** D/E

· **UN "Model Regulation":** UN1561, ARSENIC TRIOXIDE, 6.1, II

### 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **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.

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**· 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*

*ICAO: International Civil Aviation Organization*

*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*

GB