



Safety Data Sheet

Arsenic (III) oxide

Section 1: Chemical Product and Company Identification

Product Name: Arsenic(III) oxide

Catalog Codes: 518

CAS#: 1327-53-3

RTECS: CG3325000

Synonym: Arsenous acid
Arsenic trioxide

Chemical Name: Arsenic (III) oxide

Chemical Formula: As₂O₃

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Arsenic(III) oxide	1327-53-3	100

Toxicological Data on Ingredients: LD50 Oral - Rat - 14,6 mg/kg.

Section 3: Hazards Identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 2), H300

Skin corrosion (Sub-category 1B), H314

Serious eye damage (Category 1), H318

Carcinogenicity (Category 1A), H350

Long-term (chronic) aquatic hazard (Category 1), H410

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

Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal Word	Danger
Hazard statement(s)	
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 statement(s)	
P260	Do not breathe dusts or mists.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none
Restricted to professional users.	

Reduced Labeling (<= 125 ml)

Pictogram



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P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
none

Supplemental Hazard
Statements

Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Section 4: First Aid Measures

Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.
Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 3) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Fire and Explosion Data

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Nature of decomposition products not known.

Not combustible.

Ambient fire may liberate hazardous vapours.

Advice 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

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6: Accidental Release Measures**Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

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 carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage**Precautions for safe handling****Advice on safe handling**

Work under hood. Do not inhale substance/mixture.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 3.

Conditions for safe storage, including any incompatibilities**Storage conditions**

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage class

Storage class (TRGS 510): 6.1B: Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

Section 8: Exposure Controls/Personal Protection**Control parameters****Ingredients with workplace control parameters****Exposure controls****Personal protective equipment****Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

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).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

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).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

Body Protection

protective clothing

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

Section 9: Physical and Chemical Properties**Information on basic physical and chemical properties**

a) Physical state	powder
b) Color	white, light gray
c) Odor	odorless
d) Melting point/freezing point	Melting point/range: 312.2 °C
e) Initial boiling point and boiling range	465 °C at 1.013 hPa
f) Flammability (solid, gas)	The product is not flammable. - Regulation (EC) No. 440/2008, Annex, A.10
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	Not applicable
i) Autoignition temperature	No data available
j) Decomposition temperature	No data available
k) pH	6.0-8.0
l) Viscosity	Viscosity, kinematic: No data available

	Viscosity, dynamic: No data available
m) Water solubility	17,8 g/l at 20 °C - OECD Test Guideline 105
n) Partition coefficient: n-octanol/water	Not applicable for inorganic substances
o) Vapor pressure	0,000001 hPa at 66 °C
p) Density	3,738 g/cm ³
Relative density	3,87 at 22,3 °C - OECD Test Guideline 109
q) Relative vapor density	
r) Particle characteristics	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

Other safety information
No data available

Section 10: Stability and Reactivity Data

Reactivity

No data available

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions

Risk of explosion with:

Aluminum
magnesium
Zinc

Violent reactions possible with:

halogens
Hydrogen halides
strong reducing agents
Bromine
Fluorine
halogen-halogen compounds
Hydrogen fluoride
nitrates

chlorates
Mercury

Conditions to avoid

Heat.
no information available

Incompatible materials

Oxidizing agents, Metals, Strong oxidizing agents

Hazardous decomposition products

In the event of fire: see section 5

Section 11: Toxicological Information

Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 14,6 mg/kg

Remarks: (IUCLID)
(Lit.)

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

Remarks: (in analogy to similar products)

Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli

Result: negative

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

Carcinogenicity

May cause cancer. Positive evidence from human epidemiological studies.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

RTECS: CG3325000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated., Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache

Section 12: Ecological Information

Toxicity

Toxicity to fish flow-through test - Pimephales promelas (fathead minnow) - 12,6 mg/l - 96 h (US-EPA)
Remarks: The value is given in analogy to the following substances: sodium arsenite

Toxicity to bacteria Remarks: (ECHA) (Arsenic trioxide)

Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

Bioaccumulation Lepomis cyanellus(Arsenic trioxide)
Bioconcentration factor (BCF): 236

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at

levels of 0.1% or higher.

Endocrine disrupting properties

Product:

Assessment

: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other adverse effects

No data available

Section 13: Disposal Considerations

Waste treatment methods

Product

Waste material must be disposed of in accordance with the national and local regulations.

Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself

Section 14: Transport Information

UN number

ADR/RID: 1561

IMDG: 1561

IATA: 1561

UN proper shipping name

ADR/RID: ARSENIC TRIOXIDE

IMDG: ARSENIC TRIOXIDE

IATA: Arsenic trioxide

Transport hazard class(es)

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

Packaging group

ADR/RID: II

IMDG: II

IATA: II

Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

Special precautions for user

No data available

Section 15: Other Regulatory Information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Arsenic trioxide

This product contains a substance listed on Annex XIV of the REACH Regulation (EC) Nr. 1907/2006.

Listed substance / Sunset Date : Arsenic trioxide / 21.05.2015

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Arsenic trioxide

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : ACUTE TOXIC

: ENVIRONMENTAL HAZARDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

Section 16: Other Information

References: Not available

Other Special Considerations: Not available

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