

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 04.11.2010

Version 2.5

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

### 1.1 Product identifier

Catalogue No.	106688
Product name	Sodium azide extra pure
REACH 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

Identified uses	Materials for use in technical applications For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merck-chemicals.com">www.merck-chemicals.com</a> ).
-----------------	--

### 1.3 Details of the supplier of the safety data sheet

Responsible Department	EQ-EPS * e-mail: <a href="mailto:prodsafe@merck.de">prodsafe@merck.de</a>
Regional representation:	Merck Chemicals Ltd * Boulevard Industrial Park * Padge Road * Beeston * Nottingham * NG9 2JR * Tel. 01159 430840 * <a href="mailto:information@merckchem.co.uk">information@merckchem.co.uk</a> .

1.4 Emergency telephone number	+49 (0) 6151 722440
--------------------------------	---------------------

## 2. Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 2, Oral, H300

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 1, H410

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

#### Classification (67/548/EEC or 1999/45/EC)

T+; R28

N; R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

##### Hazard pictograms



SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 106688  
Product name Sodium azide extra pure

---

*Signal word*

Danger

*Hazard statements*

H300 Fatal if swallowed.  
H410 Very toxic to aquatic life with long lasting effects.  
EUH032 Contact with acids liberates very toxic gas.

*Precautionary statements*

P273 Avoid release to the environment.  
P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

**Reduced labelling (≤125 ml)**

*Hazard pictograms*



*Signal word*

Danger

*Hazard statements*

H300 Fatal if swallowed.  
EUH032 Contact with acids liberates very toxic gas.

*Precautionary statements*

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

*Index-No.* 011-004-00-7

**Labelling (67/548/EEC or 1999/45/EC)**

Symbol(s)	T+ N	Very toxic Dangerous for the environment
R-phrases(s)	28-32-50/53	Very toxic if swallowed. Contact with acids liberates very toxic gas. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases(s)	28-45-60-61	After contact with skin, wash immediately with plenty of soap and water. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/ Safety data sheets.

EC-No. 247-852-1 EC Label

**Reduced labelling (≤125 ml)**

Symbol(s)	T+ N	Very toxic Dangerous for the environment
R-phrases(s)	28-32	Very toxic if swallowed. Contact with acids liberates very toxic gas.
S-phrases(s)	28-45	After contact with skin, wash immediately with plenty of water. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**2.3 Other hazards**

None known.

---

**3. Composition/information on ingredients**

The Safety Data Sheets for catalogue items are available at [www.merck-chemicals.com](http://www.merck-chemicals.com)

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 106688  
Product name Sodium azide extra pure

---

Formula	NaN <sub>3</sub>	N <sub>3</sub> Na (Hill)
CAS-No.	26628-22-8	
Index-No.	011-004-00-7	
EC-No.	247-852-1	
Molar mass	65,01 g/mol	

---

#### 4. First aid measures

##### 4.1 Description of first aid measures

*General advice*

First aider needs to protect himself.

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

After skin contact: wash off with plenty of water. Remove contaminated clothing. Call a physician immediately.

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

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.

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

Irritation and corrosion, irritant effects, Cough, Shortness of breath, Dizziness, Unconsciousness, Nausea, Vomiting, collapse, Circulatory collapse, Headache, Convulsions, CNS disorders

##### 4.3 Indication of immediate medical attention and special treatment needed

No information available.

---

#### 5. Fire-fighting measures

##### 5.1 Extinguishing media

*Suitable extinguishing media*

Special powder against metal fire, Sand, Cement

*Unsuitable extinguishing media*

Water, Foam

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

Not combustible.

Ambient fire may liberate hazardous vapours.

Risk of dust explosion.

Fire may cause evolution of:

nitrous gases

##### 5.3 Advice for firefighters

*Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

---

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 106688  
Product name Sodium azide extra pure

---

*Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

---

**6. Accidental release measures**

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

Advice for non-emergency personnel: Avoid generation of dusts; do not inhale dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

**6.2 Environmental precautions**

Do not empty into drains.

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

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7.2 and 10.5).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

Sodium azide and other inorganic azides (including explosive heavy metal azides) can be rendered harmless by spraying with or immersion into a 0.1 N solution of ammonium(IV) nitrate in 2 N perchloric acid.

**6.4 Reference to other sections**

Indications about waste treatment see section 13.

---

**7. Handling and storage**

**7.1 Precautions for safe handling**

Keep workplace dry. Do not allow product to come into contact with water.

Observe label precautions.

**7.2 Conditions for safe storage, including any incompatibilities**

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

Store at +15°C to +25°C.

**7.3 Specific end uses**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

---

**8. Exposure controls/personal protection**

**8.1 Control parameters**

**Components with workplace control parameters**

*Components*

Basis	Value	Threshold limits	Ceiling Limit Value, Remarks
-------	-------	------------------	------------------------------

*Sodium azide (26628-22-8)*

ECTLV	Skin designation:		Can be absorbed through the skin.
	Short Term Exposure Limit (STEL):	0,3 mg/m <sup>3</sup>	
	Time Weighted Average (TWA):	0,1 mg/m <sup>3</sup>	

---

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 106688  
Product name Sodium azide extra pure

---

EH40 WEL	Skin designation:		Can be absorbed through the skin. Expressed as: as NaN <sub>3</sub>
	Short Term Exposure Limit (STEL):	0,3 mg/m <sup>3</sup>	Expressed as: as NaN <sub>3</sub>
	Time Weighted Average (TWA):	0,1 mg/m <sup>3</sup>	Expressed as: as NaN <sub>3</sub>

#### Recommended monitoring procedures

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

## 8.2 Exposure controls

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

### 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.

#### *Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. Keep workplace dry. Do not allow product to come into contact with water. Work under hood. Do not inhale substance.

#### *Eye/face protection*

Safety glasses

#### *Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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](http://www.kcl.de)).

#### *Other protective equipment:*

protective clothing

#### *Respiratory protection*

required when dusts are generated.

Recommended Filter type: Filter P 3 (acc. to DIN 3181) for solid and liquid particles of toxic and very toxic substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 106688  
Product name Sodium azide extra pure

---

devices are carried out according to the instructions of the producer. These measures have to be properly documented.

*Environmental exposure controls*  
Do not empty into drains.

---

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	solid
Colour	white
Odour	odourless
Odour Threshold	No information available.
pH	No information available.
Melting point	275 °C (decomposition)
Boiling point/boiling range	300 °C (rigorous decomposition)
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Relative density	1,85 g/cm <sup>3</sup> at 20 °C
Water solubility	420 g/l at 17 °C
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	> 275 °C
Viscosity, dynamic	No information available.
Explosive properties	No information available.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 106688  
Product name Sodium azide extra pure

---

Oxidizing properties No information available.

## 9.2 Other data

none

---

## 10. Stability and reactivity

### 10.1 Reactivity

highly reactive  
Risk of dust explosion.

### 10.2 Chemical stability

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

### 10.3 Possibility of hazardous reactions

A risk of explosion and/or of toxic gas formation exists with the following substances:

Water, Heavy metals, metallic salts, Bromine, dimethylsulfate, Acid, dichloromethane, carbon disulfide, sulphuric acid, Halogenated hydrocarbon, Copper, acids

Violent reactions possible with:

nitrates

### 10.4 Conditions to avoid

Strong heating.  
Exposure to moisture.

### 10.5 Incompatible materials

Aluminium

### 10.6 Hazardous decomposition products

in the event of fire: See chapter 5.

---

## 11. Toxicological information

### 11.1 Information on toxicological effects

#### *Acute oral toxicity*

LD50 rat

Dose: 27 mg/kg

(RTECS)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

#### *Acute inhalation toxicity*

Symptoms: severe mucosal irritations, Inhalation may lead to the formation of oedemas in the respiratory tract., Symptoms may be delayed.

#### *Acute dermal toxicity*

LD50 rabbit

Dose: 20 mg/kg

(RTECS)

absorption

#### *Skin irritation*

slight irritation

---

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 106688  
Product name Sodium azide extra pure

---

*Eye irritation*  
slight irritation

*CMR effects*  
Teratogenicity:  
Did not show teratogenic effects in animal experiments.

*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.

*Aspiration hazard*  
No aspiration toxicity classification

## 11.2 Further information

*Further information*  
Systemic effects:

CNS disorders, Circulatory collapse, tachycardia, drop in blood pressure, Cough, Shortness of breath, Convulsions, Headache, Dizziness, Nausea, Vomiting, collapse, Unconsciousness

Further data:

This substance should be handled with particular care.

---

## 12. Ecological information

### 12.1 Toxicity

*Toxicity to fish*

LC50  
Species: *Lepomis macrochirus* (Bluegill sunfish)  
Dose: 0,7 mg/l  
Exposure time: 96 h  
(ECOTOX Database)

*Toxicity to daphnia and other aquatic invertebrates.*

EC50  
Species: *Daphnia pulex* (Water flea)  
Dose: 4,2 mg/l  
Exposure time: 48 h  
(ECOTOX Database)

*Toxicity to algae*

IC50  
Species: mixed culture of green algae  
Dose: 272 mg/l  
(Lit.)

*Toxicity to bacteria*

EC50  
Species: *Photobacterium phosphoreum*  
Dose: 38,5 mg/l  
(Lit.)

### 12.2 Persistence and degradability

No information available.

### 12.3 Bioaccumulative potential

No information available.

### 12.4 Mobility in soil

No information available.

---

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 106688  
Product name Sodium azide extra pure

---

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### 12.6 Other adverse effects

#### *Additional ecological information*

Biological effects:

Forms toxic mixtures in water, dilution measures notwithstanding.

Herbicide

Nematocidal effect.

Further information on ecology

Do not allow to run into surface waters, wastewater, or soil.

---

## 13. Disposal considerations

### *Waste treatment methods*

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

---

## 14. Transport information

### **ADR/RID**

UN 1687 SODIUM AZIDE, 6.1, II

### **IATA**

UN 1687 SODIUM AZIDE, 6.1, II

### **IMDG**

UN 1687 SODIUM AZIDE, 6.1, II

EmS F-A S-A

The transport regulations are cited according to international regulations and in the form applicable in Germany. Possible national deviations in other countries are not considered.

---

## 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard	96/82/EC
Legislation	Very toxic
	1
	Quantity 1: 5 t
	Quantity 2: 20 t

	96/82/EC
	Dangerous for the environment
	9a
	Quantity 1: 100 t
	Quantity 2: 200 t

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 106688  
Product name Sodium azide extra pure

---

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers.

*National legislation*

Storage class VCI 6.1A Combustible substances, toxic

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

---

### 16. Other information

#### Full text of H-Statements referred to under sections 2 and 3.

H300 Fatal if swallowed.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

#### Full text of R-phrases referred to under sections 2 and 3

R28 Very toxic if swallowed.  
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Training advice

Provide adequate information, instruction and training for operators.

#### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

---

*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*