

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 21.02.2019

Version 10.12

**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Catalogue No.	822335
Product name	Sodium azide for synthesis
REACH Registration Number	01-2119457019-37-XXXX
CAS-No.	26628-22-8

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merckgroup.com">www.merckgroup.com</a> ).
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**1.3 Details of the supplier of the safety data sheet**

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

**1.4 Emergency telephone number** **Please contact the regional company representation in your country.****SECTION 2. Hazards identification****2.1 Classification of the substance or mixture**  
**Classification (REGULATION (EC) No 1272/2008)**

Acute toxicity, Category 2, Oral, H300  
Acute toxicity, Category 2, Inhalation, H330  
Acute toxicity, Category 1, Dermal, H310  
Specific target organ toxicity - repeated exposure, Category 2, brain, H373  
Short-term (acute) aquatic hazard, Category 1, H400  
Long-term (chronic) aquatic hazard, Category 1, H410  
For the full text of the H-Statements mentioned in this Section, see Section 16.

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## 2.2 Label elements

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

#### Hazard pictograms



*Signal word*  
Danger

#### Hazard statements

H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.  
H373 May cause damage to organs (brain) through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.  
EUH032 Contact with acids liberates very toxic gas.

#### Precautionary statements

Prevention

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

### Reduced labelling ( $\leq 125$ ml)

#### Hazard pictograms



*Signal word*  
Danger

#### Hazard statements

H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.  
EUH032 Contact with acids liberates very toxic gas.

#### Precautionary statements

P280 Wear protective gloves/ protective clothing.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

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

## 2.3 Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

### 3.1 Substance

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

### Hazardous components (REGULATION (EC) No 1272/2008)

*Chemical name (Concentration)*

CAS-No.	Registration number	Classification
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sodium azide (>= 80 % - <= 100 % )

26628-22-8	01-2119457019-37-XXXX	Acute toxicity, Category 2, H300 Acute toxicity, Category 2, H330 Acute toxicity, Category 1, H310 Specific target organ toxicity - repeated exposure, Category 2, H373 Short-term (acute) aquatic hazard, Category 1, H400 Long-term (chronic) aquatic hazard, Category 1, H410 M-Factor: 1
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For the full text of the H-Statements mentioned in this Section, see Section 16.

### 3.2 Mixture

Not applicable

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

*General advice*

First aider needs to protect himself.

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

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

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

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.

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

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

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

No information available.

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## SECTION 5. Firefighting 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

Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

Risk of dust explosion.

Fire may cause evolution of:

nitrous gases, nitrogen oxides

May not get in touch with:

Water

Caution! in contact with water product releases:

Hydrazoic acid, sodium

### 5.3 Advice for firefighters

*Special protective equipment 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*

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

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## SECTION 6. Accidental release measures

### 6.1 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.

Advice for emergency responders:

Protective equipment see section 8.

### 6.2 Environmental precautions

Do not let product enter 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 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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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 cerium(IV) nitrate in 2 N perchloric acid.

## 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

#### *Advice on safe handling*

Observe label precautions.

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.

### 7.2 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 authorised persons.

Recommended storage temperature see product label.

### 7.3 Specific end use(s)

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

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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

### 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.

#### *Eye/face protection*

Safety glasses

#### *Hand protection*

full contact:

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

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 devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

### **Environmental exposure controls**

Do not let product enter drains.

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## **SECTION 9. Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Form	solid
Colour	white
Odour	odourless
Odour Threshold	Not applicable
pH	No information available.
Melting point	275 °C (decomposition)

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Boiling point/boiling range	300 °C at 1.013 hPa (rigorous decomposition)
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable. Flammability (solids)
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	1,85 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	408 g/l at 20 °C
Partition coefficient: n-octanol/water	Not applicable for inorganic substances
Auto-ignition temperature	309 °C Method: Relative self-ignition temperature for solids
Decomposition temperature	> 275 °C
Viscosity, dynamic	No information available.
Explosive properties	Method: Koenen-test Not classified as explosive.
Oxidizing properties	none
<b>9.2 Other data</b>	
Particle size	Mean particle size 285,1 µm

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

highly reactive

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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:

Heavy metals, Bromine, dimethylsulfate, Acid, dichloromethane, carbon disulfide, sulphuric acid, Halogenated hydrocarbon, Copper, Lead, chromyl chloride

Generates dangerous gases or fumes in contact with:

Acids

Water, with, Heat

Violent reactions possible with:

nitrates, benzoyl chloride

## 10.4 Conditions to avoid

Strong heating (decomposition).

Exposure to moisture

## 10.5 Incompatible materials

Aluminium, Heavy metals

## 10.6 Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

*Acute oral toxicity*

LD50 Rat: 27 mg/kg

(RTECS)

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

*Acute inhalation toxicity*

LC50 Rat: 0,054 - 0,52 mg/l; 4 h ; dust/mist

US-EPA

Symptoms: Possible damages:, mucosal irritations

Symptoms: Irritation symptoms in the respiratory tract., Inhalation may lead to the formation of oedemas in the respiratory tract., Symptoms may be delayed.

*Acute dermal toxicity*

LD50 Rabbit: 20 mg/kg

(RTECS)

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## *Skin irritation*

In vitro study

Result: No skin irritation

OECD Test Guideline 439

## *Eye irritation*

In vitro study

Result: No eye irritation

OECD Test Guideline 437

## *Sensitisation*

Local lymph node assay (LLNA) Mouse

Result: negative

Method: OECD Test Guideline 429

## *Germ cell mutagenicity*

### *Genotoxicity in vitro*

unscheduled DNA synthesis assay

Chinese hamster lung cells

Result: negative

Method: OECD Test Guideline 482

sister chromatid exchange assay

Chinese hamster ovary cells

Result: negative

Method: OECD Test Guideline 479

## *Carcinogenicity*

This information is not available.

## *Reproductive toxicity*

This information is not available.

## *Teratogenicity*

This information is not available.

## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

May cause damage to organs through prolonged or repeated exposure.

Target Organs: brain

## *Aspiration hazard*

This information is not available.

## **11.2 Further information**

After absorption:

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

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 12. Ecological information**

### **12.1 Toxicity**

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### *Toxicity to fish*

flow-through test LC50 *Oncorhynchus mykiss* (rainbow trout): 2,96 mg/l; 96 h

Analytical monitoring: yes

OECD Test Guideline 203

### *Toxicity to algae*

static test ErC50 *Pseudokirchneriella subcapitata* (green algae): 0,348 mg/l; 96 h

OECD Test Guideline 201

### *Toxicity to bacteria*

static test EC10 activated sludge: 0,687 mg/l; 3 h

OECD Test Guideline 209

## **12.2 Persistence and degradability**

### *Biodegradability*

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

## **12.3 Bioaccumulative potential**

### *Partition coefficient: n-octanol/water*

Not applicable for inorganic substances

## **12.4 Mobility in soil**

No information available.

## **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.

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

### *Waste treatment methods*

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.

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## SECTION 14. Transport information

### Land transport (ADR/RID)

<b>14.1 UN number</b>	UN 1687
<b>14.2 Proper shipping name</b>	SODIUM AZIDE
<b>14.3 Class</b>	6.1
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	yes
<b>14.6 Special precautions for user</b>	yes
Tunnel restriction code	D/E

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

<b>14.1 UN number</b>	UN 1687
<b>14.2 Proper shipping name</b>	SODIUM AZIDE
<b>14.3 Class</b>	6.1
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	yes
<b>14.6 Special precautions for user</b>	no

### Sea transport (IMDG)

<b>14.1 UN number</b>	UN 1687
<b>14.2 Proper shipping name</b>	SODIUM AZIDE
<b>14.3 Class</b>	6.1
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	yes
<b>14.6 Special precautions for user</b>	yes
EmS	F-A S-A

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## 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

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## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard Legislation SEVESO III  
ENVIRONMENTAL HAZARDS  
E1  
Quantity 1: 100 t  
Quantity 2: 200 t

SEVESO III  
ACUTE TOXIC  
H1  
Quantity 1: 5 t  
Quantity 2: 20 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of  $\geq 0.1\%$  (w/w).

#### *National legislation*

Storage class 6.1B

### 15.2 Chemical safety assessment

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

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## SECTION 16. Other information

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

H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

*Hazard pictograms*



*Signal word*

Danger

*Hazard statements*

H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.  
H373 May cause damage to organs (brain) through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.  
EUH032 Contact with acids liberates very toxic gas.

*Precautionary statements*

Prevention

P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing.

Response

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P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/physician.

### 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).

### Regional representation

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This information is given on the authorised Safety Data Sheet for your country.

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*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.*

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