

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 03.11.2012

Revision: 03.11.2012

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

· **Product identifier**

· **Trade name:** 10% Sodium Azide Solution

· **Article number:** 40-2010-01

· **Registration number** 01-2119457019-37

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

Transported isolated intermediate; Used in the manufacturing of other reagents (large volumes); Used in the manufacturing of other reagents (small volume); Intermediate; Laboratory chemicals used in small amounts in hospitals or medical practices; Laboratory chemical used in medium amounts for scientific research; Laboratory chemical used in universities, public research institutes; as an industrial intermediate to synthesize a drug substance.

· **Sector of Use**

SU0 Other

SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

SU9 Manufacture of fine chemicals

SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

SU24 Scientific research and development

· **Product category**

PC19 Intermediate

PC20 Products such as ph-regulators, flocculants, precipitants, neutralization agents

PC21 Laboratory chemicals

· **Process category**

PROC0: Other

PROC1 Use in closed process, no likelihood of exposure

PROC2 Use in closed, continuous process with occasional controlled exposure

PROC3 Use in closed batch process (synthesis or formulation)

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC10 Roller application or brushing

PROC15 Use as laboratory reagent

· **Environmental release category**

ERC0 Other

ERC1 Manufacture of substances

ERC2 Formulation of preparations

ERC4 Industrial use of processing aids in processes and products, not becoming part of articles

ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)

ERC6b Industrial use of reactive processing aids

ERC8a Wide dispersive indoor use of processing aids in open systems

ERC8d Wide dispersive outdoor use of processing aids in open systems

· **Application of the substance / the preparation**

Chemicals for synthesis

Laboratory reagent.

· **Details of the supplier of the safety data sheet**

Severn Biotech Ltd.

Unit 2,

Park Lane,

Kidderminster,

Worcestershire.

DY11 6TJ

UK

Tel: 0044 1562 825286

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Fax: 0044 1562 825284
email: info@severnbiotech.com

- **Further information obtainable from:** Product safety department.
- **Emergency telephone number:** Tel: 0044 1562 825286 (not 24 hours)

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.
Acute Tox. 2 H310 Fatal in contact with skin.



GHS08 health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS09 environment

Aquatic Chronic 2 H411 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.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R32: Contact with acids liberates very toxic gas.

- **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

- **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

- **Hazard pictograms** GHS06, GHS08, GHS09

- **Signal word** Danger

- **Hazard-determining components of labelling:**

Sodium azide

- **Hazard statements**

H301-EUH032 Toxic if swallowed. Contact with acids liberates very toxic gas.

H310 Fatal in contact with skin.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

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· Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.
 P102 Keep out of reach of children.
 P103 Read label before use.
 P220 Keep away from oxidising and acidic substances, as well as heavy metal compounds.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P273 Avoid release to the environment.
 P270 Do no eat, drink or smoke when using this product.
 P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

· Other hazards
· Results of PBT and vPvB assessment



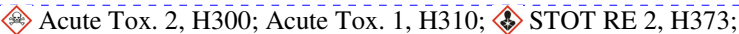

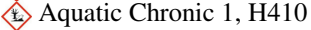
- **PBT:** Not applicable.
 · **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Substances
· CAS No. Description

26628-22-8 sodium azide

· Identification number(s)
· **EC number:** 247-852-1· **Index number:** 011-004-00-7
· Chemical characterization: Mixtures
· **Description:** An aqueous solution of sodium azide.
· Dangerous components:

CAS: 26628-22-8	Sodium azide	10-25%
EINECS: 247-852-1	 T+ R28;  N R50/53 R32	
	 Acute Tox. 2, H300; Acute Tox. 1, H310;  STOT RE 2, H373;  Aquatic Chronic 1, H410	

 · **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· Description of first aid measures
· General information:

Immediately remove any clothing soiled by the product.

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

· After inhalation:

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

If breathing is irregular or stopped, administer artificial respiration - ventilation with Ambu bag or ventilator.

As soon as possible treatment with corticoid aerosol (spray).

In the case of unconsciousness:

- Treatment with methaemoglobin forming agents (4-DMAP).

- If there is a risk of loss of consciousness, place and transport affected person in the recovery position

· After skin contact:

DO NOT DELAY!

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

MAY BE ABSORBED!

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- **After eye contact:**
DO NOT DELAY!
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
DO NOT DELAY!
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
If there is a risk of loss of consciousness, place and transport affected person in the recovery position.
Never give anything by mouth to an unconscious person.
Treatment with methaemoglobin forming agents (4-DMAP).
- **Information for doctor:**
Treatment: Symptomatic treatment and antidote administration.
Antidote: 4-Dimethylaminophenol (4-DMAP)
If ingested, irrigate the stomach.
- **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:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture**
Solids resulting from evaporation of water component:
 - Can form explosive mixtures formed with air.
 - Ignition possible by hot surfaces, sparks or naked flames.
 - Explosion/explosive decomposition of the product on heating/contact with fire probably will take place causing bursting of the container.
 - In case of fire or overheating toxic/harmful vapours may be liberated
- **Advice for firefighters**
- **Protective equipment:**
Wear fully protective suit.
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Keep ignition sources away - no smoking.
Mount respiratory protective device.
- **Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
Do not use combustible materials such as paper towels to clean up spills.
Send for recovery or disposal in suitable receptacles.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Absorb liquid into dry sand.
Use containers made of stainless steel, glass or plastic.

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Decontamination of sodium azide or its solutions should be carried out by reaction with sodium nitrite in presence of sulfuric or nitric acid.

· **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**

Keep away from heat and direct sunlight.

Store in cool, dry place in tightly closed receptacles.

Do not mix with acids.

Avoid direct contact (skin contact, ingestion and/or inhalation of fume/mist/dust) with the product.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

The occupational exposure limit value should not be exceeded during any part of the working exposure.

· **Information about fire - and explosion protection:** No special measures required.

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

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Prevent any seepage into the ground.

Storage container: Only use containers specifically permitted for the substance/product. Use containers made of stainless steel, glass or plastic.

Unsuitable materials for container/equipment: heavy metals.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with acids.

Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.

· **Further information about storage conditions:**

Store in a banded area.

Keep container tightly sealed.

Protect from frost.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Control parameters**

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

26628-22-8 Sodium azide

WEL	Short-term value: 0.3 mg/m ³ Long-term value: 0.1 mg/m ³ (as NaN ₃), Sk
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· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

Select PPE appropriate for the operations taking place taking into account the product properties.

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- **General protective and hygienic measures:**

- Pregnant women should strictly avoid inhalation or skin contact.
- Do not eat, drink, smoke or sniff while working.
- Do not inhale gases / fumes / aerosols.
- Take note of assigned Workplace Exposure Limits.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- A safe system of work must be formulated and followed to ensure that workers who may be pregnant or breastfeeding do not come into direct contact with the product.
- A safe system of work must be formulated and followed to ensure safe working with this product.
- Relevant workers must receive suitable and sufficient training and supervision.
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Depending on the degree of exposure, periodic medical examination is suggested.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Hand protection: gloves made of butyl-rubber.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:**

Impervious protective clothing
Rubber apron, rubber or plastic boots.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Fluid
Colour:	Clear
· Odour:	Characteristic
· Odour threshold:	Not determined.

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· pH-value:	approx. 10
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	approx. 100 °C
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	
Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure at 20 °C:	23 hPa
· Density at 20 °C:	1.1 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
To avoid thermal decomposition do not overheat.
- **Possibility of hazardous reactions**
Contact with acids releases explosive and high toxic vapours/gases.
Forms explosive compound in contact with copper.
Forms explosive azides in contact with heavy metals.
Solids resulting from evaporation of water component may explode on heating above melting point, especially on rapid heating. This generates fire and explosion hazard.
The product is a weak base.
Reacts with copper, lead, silver, mercury and carbon disulfide. This produces particularly shock-sensitive compounds.
Reacts with acids. This produces toxic and explosive hydrogen azide.
Intense reaction with nitrates.
- **Conditions to avoid** No further relevant information available.

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- **Incompatible materials:**
 - Strong acids and oxidising agents
 - Non-ferrous metals, heavy metals.
 - Acids, heavy metals and their salts (e.g. copper, lead), sulphur carbon, dimethylsulphate, halogenated hydrocarbon, water, dichloromethane, carbon disulphide, nitrates.
- **Hazardous decomposition products:**
 - Carbon monoxide and carbon dioxide
 - Nitrogen oxides (NO_x)
 - Hydrazoic acid under acid conditions.
 - Impact-sensitive/explosive azides in contact with heavy metals and their compounds.
 - Liberation of toxic explodable gases in contact with acids (hydrogen azides).

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values relevant for classification:
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26628-22-8 Sodium azide		
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Oral	LD50	27 mg/kg (rat)
Dermal	LD50	20 mg/kg (rabbit)
Inhalative	LC50/4 h	1.853 mg/l (rat)

- **Primary irritant effect:**
 - **on the skin:** No irritant effect.
 - **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Other information (about experimental toxicology):**
 - Routes of exposure: The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

Effects of short-term exposure: The substance is irritating to the eyes, skin and respiratory tract. Exposure slightly above the WEL could cause effects on the nervous system.

- **Additional toxicological information:**
 - The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
 - Very toxic
 - Regular medical checks recommended for relevant workers.

12 Ecological information

- **Toxicity**

· Aquatic toxicity:

26628-22-8 Sodium azide	
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EC50	4.2 mg/kg (daphnia)
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- **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.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
 - Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

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

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

· **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**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contact waste processors for recycling information.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

· **European waste catalogue**

Waste key numbers in accordance with the European Waste catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.

· **Uncleaned packaging:**

· **Recommendation:**

Container remains hazardous when empty. Continue to observe all precautions.

Do not mix with other waste streams.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· **UN-Number**

· **ADR, IMDG, IATA** UN3287

· **UN proper shipping name**

· **ADR** 3287 TOXIC LIQUID, INORGANIC, N.O.S. (SODIUM AZIDE), ENVIRONMENTALLY HAZARDOUS

· **IMDG** TOXIC LIQUID, INORGANIC, N.O.S. (SODIUM AZIDE), MARINE POLLUTANT

· **IATA** TOXIC LIQUID, INORGANIC, N.O.S. (SODIUM AZIDE)

· **Transport hazard class(es)**

· **ADR, IMDG**



· **Class** 6.1 Toxic substances.

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· Label	6.1
· IATA	
	
· Class	6.1 Toxic substances.
· Label	6.1
· Packing group	
· ADR, IMDG, IATA	III
· Environmental hazards:	Product contains environmentally hazardous substances: Sodium azide
· Marine pollutant:	Yes
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Toxic substances.
· Danger code (Kemler):	60
· EMS Number:	F-A,S-A
· Segregation groups	Azides
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Transport category	2
· Tunnel restriction code	E
· UN "Model Regulation":	UN3287, TOXIC LIQUID, INORGANIC, N.O.S. (SODIUM AZIDE), ENVIRONMENTALLY HAZARDOUS, 6.1, III

15 Regulatory information

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

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.

- **Relevant phrases**

H300 Fatal if swallowed.

H310 Fatal in contact with skin.

H373 May cause damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

R28 Very toxic if swallowed.

R32 Contact with acids liberates very toxic gas.

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