

Safety data sheet

according to 1907/2006/EC, Article 31 as amended

Printing date 12.06.2023

Version number 2

Revision: 12.06.2023

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

· **1.1 Product identifier**

· **Trade name:** 8% Sodium Azide Solution

· **Article number:** 40-2008-01

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

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

· **Product category** PC21 Laboratory chemicals

· **Application of the substance / the mixture**

Laboratory reagent

Chemicals for synthesis

· **Uses advised against**

Processes involving extreme heat use advised against.

Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).

Any use involving aerosol formation or vapour release in excess of the assigned WEL where workers are exposed without suitable RPE.

Processes where workers who may be pregnant or breastfeeding could potentially come into direct contact with the undiluted product.

The product is strictly intended for industrial or professional use only.

· **1.3 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

Fax: 0044 1562 825284

email: info@severnbiotech.com

· **Further information obtainable from:** Product safety department.

· **1.4 Emergency telephone number:**

Members of the public seeking specific information on poisons should contact:

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 2 H330 Fatal if inhaled.



environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



Acute Tox. 4 H302 Harmful if swallowed.

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- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms** GHS06, GHS09
- **Signal word** Danger
- **Hazard-determining components of labelling:**
Sodium azide
- **Hazard statements**
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H330 Fatal if inhaled.
H411 Toxic to aquatic life with long lasting effects.
- **Precautionary statements**
P220 Keep away from oxidising and acidic substances, as well as heavy metal compounds.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- **Additional information:**
EUH032 Contact with acids liberates very toxic gas.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** An aqueous solution of sodium azide.

- **Dangerous components:**

CAS: 26628-22-8	Sodium azide	2.5–<10%
EINECS: 247-852-1	Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; STOT RE 2, H373; Aquatic Chronic 1, H410	

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 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 inhalation:
 - Provide fresh air.
 - In case of breathing difficulties administer oxygen.
 - No mouth-to-mouth or mouth-to-nose resuscitation. Use respiratory bag or oxygen resuscitation apparatus.
 - Do not leave patient unattended.
 In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

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- **After eye contact:**
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
- **Information for doctor:**
Treatment: Symptomatic treatment and antidote administration.
Antidote: 4-Dimethylaminophenol (4-DMAP)
If ingested, irrigate the stomach.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray.
Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
If product is allowed to dry, the solids can form explosive dust/air mixtures.
- **5.3 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.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Keep ignition sources away - no smoking.
Wear protective equipment. Keep unprotected persons away.
Mount respiratory protective device.
- **6.2 Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow product to reach sewage system or any water course in the undiluted form.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.
Ensure adequate ventilation.
Decontamination should be carried out by reaction with sodium nitrite in presence of sulfuric or nitric acid.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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SECTION 7: Handling and storage

· **7.1 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/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

The product must only be handled by authorised, trained and experienced professionals under strictly controlled conditions.

Do not mix with acids.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Do NOT take work clothes home.

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

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

· **Storage:**

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

Prevent any seepage into the ground.

Store only in the original receptacle.

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

Store away from foodstuffs.

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

· **Further information about storage conditions:**

Store in a banded area.

Protect from frost.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

· **Storage class:** 6.1 B

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

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

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

· **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.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

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 safe working with this product. Relevant workers must receive suitable and sufficient training and supervision.

Keep away from foodstuffs, beverages and feed.

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Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

· **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.

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

· **Protection of hands:**



Protective gloves.

Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

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**

Butyl rubber, BR

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.

· **Penetration time of glove material**

Break-through time: 480 minutes

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 conforming to EN166.

· **Body protection:**



Impervious protective clothing

Flame retardant antistatic protective clothing.

Do not get on skin or clothing. Wear clothing and footwear that cannot be penetrated by the product. Suitable protective equipment may include: Chemical resistant boots, Chemical resistant apron, Full chemical protective suit with a hood, Chemical protective suit consisting of a jacket and trousers. The jacket should be buttoned up to the neck, sleeves sealed at the gloves, and trouser legs worn outside the boots. These precautions are required to prevent the clothing from accidentally trapping product against the skin.

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Fluid

Colour: Clear

· **Odour:** Mild

· **Odour threshold:** Not determined.

· **pH-value at 20 °C:** 10

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· Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	approx. 100 °C
· Flash point:	Not applicable.
· Flammability (solid, gas):	Not applicable.
· Decomposition temperature:	Not determined.
· Ignition temperature:	Product is not self-igniting.
· Explosive properties:	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:	1.06 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.
· 9.2 Other information	NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
To avoid thermal decomposition do not overheat.
- **10.3 Possibility of hazardous reactions**
Contact with acids releases toxic gases.
Reacts with heavy metals.
Risk of explosion on contact with combustible substances or incompatible substances.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
Substances specifically listed in section 10.3 as incompatible.
Strong acids and oxidising agents
Heavy metals and their salts.
- **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
Toxic and explosive azides.

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SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity

Harmful if swallowed.

Toxic in contact with skin.

Fatal if inhaled.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral	LD50	338 mg/kg (rat)
Dermal	LD50	225 mg/kg (rabbit)
Inhalative	LC50/4 h	0.68 mg/l (rat)

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Oral	LD50	27 mg/kg (rat)
Dermal	LD50	18 mg/kg (rabbit)
Inhalative	LC50/4 h	0.054 mg/l (rat)

· Primary irritant effect:

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.

· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.

· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

· Additional toxicological information:

ROUTES OF EXPOSURE: Can be absorbed into the body by ingestion, by inhalation (mist and vapour) and through the skin.

EFFECTS OF SHORT-TERM EXPOSURE: The product is irritating to the eyes and the respiratory tract. May cause effects on the central nervous system.

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

· **Carcinogenicity** Based on available data, the classification criteria are not met.

· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· **STOT-single exposure** Based on available data, the classification criteria are not met.

· **STOT-repeated exposure** Based on available data, the classification criteria are not met.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

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EC50 (96 h)	0.348 mg/l (Algae)
EC50 (3 h)	5.6 mg/L (Bacteria)

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· Ecotoxicological effects:

· **Remark:** Toxic for fish

· Additional ecological information:

· General notes:

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

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.

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- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Recommended Hierarchy of Controls:
 - Minimise waste;
 - Reuse if not contaminated;
 - Recycle, if possible; or
 - Safe disposal (if all else fails).

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.
- **Uncleaned packaging:**
- **Recommendation:**
Container remains hazardous when empty. Continue to observe all precautions.
Do not mix with other waste streams.
Containers, even those that are "empty," may contain residues that can develop hazardous gases and vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR/RID/ADN, IMDG, IATA | UN3287 |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR/RID/ADN · IMDG · IATA | UN3287 TOXIC LIQUID, INORGANIC, N.O.S. (SODIUM AZIDE), ENVIRONMENTALLY HAZARDOUS
TOXIC LIQUID, INORGANIC, N.O.S. (SODIUM AZIDE), MARINE POLLUTANT
TOXIC LIQUID, INORGANIC, N.O.S. (SODIUM AZIDE) |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR/RID/ADN, IMDG <div style="display: flex; align-items: center; gap: 10px;">   </div> <ul style="list-style-type: none"> · Class · Label | 6.1 Toxic substances.
6.1 |
| <ul style="list-style-type: none"> · IATA <div style="display: flex; align-items: center; gap: 10px;">  </div> <ul style="list-style-type: none"> · Class | 6.1 Toxic substances. |

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· Label	6.1
· 14.4 Packing group · ADR/RID/ADN, IMDG, IATA	II
· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR/RID/ADN):	Product contains environmentally hazardous substances: Sodium azide Yes Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Segregation groups · Stowage Category · Stowage Code	Warning: Toxic substances. 60 F-A,S-A (SGG17) Azides B SW2 Clear of living quarters.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR/RID/ADN · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code	100 ml Code: E4 Maximum net quantity per inner packaging: 1 ml Maximum net quantity per outer packaging: 500 ml 2 D/E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	100 ml Code: E4 Maximum net quantity per inner packaging: 1 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 3287 TOXIC LIQUID, INORGANIC, N.O.S. (SODIUM AZIDE), 6.1, II, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**
H2
E2
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 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.

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H310 Fatal in contact with skin.

H330 Fatal if inhaled.

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

H410 Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 2: Acute toxicity – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 1: Acute toxicity – Category 1

Acute Tox. 3: Acute toxicity – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

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