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

· 1.1 Product identifier

· Trade name: 1% Sodium Azide Solution

· Article number: 40-2000-01 · Registration number Mixture

- · 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

Chemicals for synthesis Laboratory chemicals

· Uses 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 involving extreme heat use advised against.

The product is stictly 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

- $\cdot \ \textbf{Further information obtainable from:} \ \textbf{Product safety department.}$
- · 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



GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



Acute Tox. 4 H312 Harmful in contact with skin.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- · 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
- · Signal word Danger
- · Hazard-determining components of labelling:

Sodium azide

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Safety data sheet according to 1907/2006/EC, Article 31 as amended

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· Hazard statements

H312 Harmful in contact with skin.

H331 Toxic if inhaled.

H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

Do not breathe mist/vapours/spray. P260 P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

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

Store in accordance with local/regional/national/international regulations.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· 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:** Aqueous solution of the subtance(s) listed below.

•]	Dangerous	components:
-----	-----------	-------------

CAS: 26628-22-8 Sodium azide 0.25 - < 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.

May be absorbed through the skin. Seek medical advice.

· 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.

· Information for doctor:

If swallowed, initiate gastric irrigation with activated carbon.

Antidote: 4-Dimethylaminophenol (4-DMAP)

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

No further relevant information available.

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· 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 or alcohol resistant foam.

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

In case of fire, the following can be released:

Carbon monoxide (CO)

If product is allowed to dry, the solids can form explosive dust/air mixtures.

Nitrogen oxides (NOx)

- · 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.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Keep ignition sources away - no smoking.

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.

Inform respective authorities in case of seepage into water course or sewage system.

· 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.

Do not use combustible materials such as paper towels to clean up spills.

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.

See Section 13 for disposal information.

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.

Safety showers and eye wash facilities should be available at the work area.

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- · 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 acids.

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

· Further information about storage conditions:

Store in a bunded area.

Protect from frost.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

- · Storage class: 6.1 D
- · 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/m³ Long-term value: 0.1 mg/m³ (as NaN), Sk

· DNELs

26628-22-8 Sodium azide

20028-22-8 Sodium azide		
Oral	DNEL Long-term systemic effects	50 μg/kg bw/day (general population)
Dermal	DNEL Long-term systemic effects	50 μg/kg bw/day (general population)
		140 μg/kg bw/day (worker)
Inhalative	DNEL Long-term systemic effects	87 μg/m³ (general population)
		493 μg/m³ (worker)

· PNECs

26628-22-8 Sodium azide

PNEC Freshwater	350 ng/L
PNEC Freshwater - Intermittent releases	3.5 μg/L
PNEC Marine water	350 ng/L 3.5 μg/L 15 ng/L 150 ng/L
PNEC Marine Water - Intermittent releases	150 ng/L
PNEC Sewage Treatment Plant	30 μg/L
PNEC Sediment (freshwater)	30 μg/L 16.7 μg/kg 720 ng/kg
PNEC Sediment (marine water)	720 ng/kg

- · Additional information: The lists valid during the making were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Avoid contact with the eyes and skin.

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.

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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.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

· Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation.

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

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

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.

· Limitation and supervision of exposure into the environment

Do not allow to enter drains, sewers or watercourses.

· Risk management measures

The operators shall be instructed adequately.

The workplace shall be inspected regularly by competent personnel e.g. the safety representative.

SECTION 9: Physical and chemical properties

- · 9.1 Information on basic physical and chemical properties
- · General Information
- · Appearance:

Form: Fluid

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Colour:	Clear
· Odour:	Mild
· Odour threshold:	Not determined.
· pH-value at 20 °C:	10
 Change in condition Melting point/freezing point: Initial boiling point and boiling range 	Undetermined. : 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: Upper:	Not determined. Not determined.
· Vapour pressure at 20 °C:	23 hPa
 Density at 20 °C: Relative density Vapour density Evaporation rate 	1 g/cm³ Not determined. Not determined. Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity: Dynamic: Kinematic:	Not determined. Not determined.
· Solvent content: VOC (EC)	0.00 %
· 9.2 Other information	NOTE: The physical data presented above are typical values an 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 explosive and high toxic vapours/gases.

Reacts with heavy metals to form explosive compounds.

Solids resulting from evaporation may explode on heating.

- · 10.4 Conditions to avoid Heat and static discharge.
- · 10.5 Incompatible materials:

Strong acids and oxidising agents

Heavy metals and their salts.

· 10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Nitrogen oxides (NOx)

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Azides

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SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity

Harmful in contact with skin.

Toxic if inhaled.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral	LD50	2,700 mg/kg (rat)
	LD50	1,800 mg/kg (rabbit)
Inhalative	LC50/4 h	5.4 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 eve 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 substance may cause effects on the central nervous system, resulting in excitement and convulsions.

- · CMR effects (carcinogenity, 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.
- \cdot 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 biodegradable
- 12.3 Bioaccumulative potential Product is not expected to bioaccumulate.
- 12.4 Mobility in soil No further relevant information available.
- · Ecotoxical effects:
- · Remark: Toxic for fish
- · Additional ecological information:
- · General notes:

Toxic for aquatic organisms

Also poisonous for fish and plankton in water bodies.

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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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.

· 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:

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning. Container remains hazardous when empty. Continue to observe all precautions.

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. Do not mix with other waste streams.

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

· 14.1 UN-Number · ADR/RID/ADN, IMDG, IATA	UN3287
· 14.2 UN proper shipping name · ADR/RID/ADN	UN3287 TOXIC LIQUID, INORGANIC, N.O.S (SODIUM AZIDE)
· IMDG, IATA	TOXIC LIQUID, INORGANIC, N.O.S. (SODIUI AZIDE)
· 14.3 Transport hazard class(es)	
· ADR/RID/ADN, IMDG, IATA	
<u></u>	
· Class	6.1 Toxic substances.
· Label	6.1
· 14.4 Packing group	
· ADR/RID/ADN, IMDG, IATA	III
· 14.5 Environmental hazards:	
· Marine pollutant:	No

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14.6 Special precautions for user	Warning: Toxic substances.
Hazard identification number (Kemler code):	60
EMS Number:	F-A,S-A
Segregation groups	(SGG17) Azides
Stowage Category	A
Stowage Code	SW2 Clear of living quarters.
14.7 Transport in bulk according to Annex II o	f
Marpol and the IBC Code	Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.
ADR/RID/ADN	
Limited quantities (LQ)	5L
Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
Transport category	2
Tunnel restriction code	Е
IMDG	
Limited quantities (LQ)	5L
Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
UN "Model Regulation":	UN 3287 TOXIC LIQUID, INORGANIC, N.O.
-	(SODIUM AZIDE), 6.1, III

SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Poisons Act
- · Regulated explosives precursors

None of the ingredients is listed.

· Regulated poisons

None of the ingredients is listed.

· Reportable explosives precursors

None of the ingredients is listed.

· Reportable poisons

None of the ingredients is listed.

- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · Seveso category H2
- · Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t
- · Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
- · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- · DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment Annex II

None of the ingredients is listed.

- · REGULATION (EU) 2019/1148
- · Annex I RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

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· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

· Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

· Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

· 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.

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.

· Training hints

This product should only be handled by workers who have received sufficient training in the safe handling and use of chemical products.

· Department issuing SDS: Product safety department.

· 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)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

Acute Tox. 2: Acute toxicity - Category 2

Acute Tox. 1: Acute toxicity - Category 1

Acute Tox. 4: Acute toxicity – Category 4 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 3: Hazardous to the aquatic environment - long-term aquatic hazard - Category 3

* * Data compared to the previous version altered.

GB