

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 16.05.2021

Revision: 16.05.2021

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

· 1.1 Product identifier

- **Trade name:** Sodium Azide powder
- **Article number:** 40-1999-01
- **CAS Number:**
26628-22-8
- **EC number:**
247-852-1
- **Index number:**
011-004-00-7
- **Registration number** 01-2119457019-37

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

· **Product category**

- PC11 Explosives
- PC19 Intermediate
- PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
- PC21 Laboratory chemicals

· **Article category** AC2 Machinery, mechanical appliances, electrical/electronic articles

· **Application of the substance / the mixture** Laboratory reagent.

· **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 or dust release in excess of the assigned workplace exposure limits where workers are exposed without suitable respiratory protective equipment (RPE).

Processes involving the use of incompatible substances - refer to section 10.

Processes involving extreme heat use advised against.

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:

UK National Poisons Information Service. E-mail: npis.birmingham@nhs.net; Tel: +44 (0)344 892 0111

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. 2 H300 Fatal if swallowed.

Acute Tox. 1 H310 Fatal in contact with skin.

Acute Tox. 2 H330 Fatal if inhaled.

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health hazard

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



environment

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

· 2.2 Label elements

· Labelling according to Regulation (EC) No 1272/2008

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

· Hazard pictograms GHS06, GHS08, GHS09

· Signal word Danger

· Hazard statements

H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.

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

H410 Very toxic to aquatic life with long lasting effects.

· Precautionary statements

P220 Keep away from acids.

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+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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

· 3.1 Chemical characterisation: Substances

· CAS No. Description

26628-22-8 sodium azide

· Identification number(s)

· EC number: 247-852-1

· Index number: 011-004-00-7

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.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· 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:

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- 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!
- **After eye contact:**
DO NOT DELAY!
Rinse opened eye for several minutes under running water. Then consult a doctor.
Check for and remove any contact lenses.
- **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.
- **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:**
Extinguishing powder. Do not use water.
Dry sand
- **For safety reasons unsuitable extinguishing agents:** Water
- **5.2 Special hazards arising from the substance or mixture**
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
- **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**
Mount respiratory protective device.
Avoid formation of dust.
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
Keep ignition sources away - no smoking.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.

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Do not allow to enter sewers/ surface or ground water.

Do not allow to penetrate the ground/soil.

· **6.3 Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.

Use containers made of stainless steel, glass or plastic.

Decontamination of sodium azide or its solutions 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**

Prevent formation of dust.

Ensure good ventilation/exhaustion at the workplace.

Keep away from heat and direct sunlight.

Open and handle receptacle with care.

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.

Do NOT expose to friction or shock.

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

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect from heat.

Protect against electrostatic charges.

Prevent impact and friction.

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

· **Storage:**

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

Store in a cool location.

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:**

Do not store together with acids.

Do not store together with oxidising and acidic materials as well as heavy-metal compounds.

Store away from foodstuffs.

· **Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Store in a banded area.

· **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 item 7.

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· 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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· DNELs

Workers - Hazard via inhalation route

Systemic effects

Long term exposure

- DNEL (Derived No Effect Level): 0.164 mg/m³

Workers - Hazard via dermal route

Systemic effects

Long term exposure

- DNEL (Derived No Effect Level): 46.7 µg/kg bw/day

General Population - Hazard via inhalation route

Systemic effects

Long term exposure

- DNEL (Derived No Effect Level): 29 µg/m³

General Population - Hazard via dermal route

Systemic effects

Long term exposure

- DNEL (Derived No Effect Level): 16.7 µg/kg bw/day

General Population - Hazard via oral route

Systemic effects

Long term exposure

- DNEL (Derived No Effect Level): 16.7 µg/kg bw/day

· PNECs

PNEC aqua (freshwater): 0.35 µg/L

PNEC aqua (marine water): 15 ng/L

PNEC STP: 30 µg/L

PNEC sediment (freshwater): 16.7 µg/kg sediment dw

PNEC sediment (marine water): 0.72 µg/kg sediment dw

Secondary poisoning: no potential for bioaccumulation

· Additional information: The lists valid during the making were used as basis.

· 8.2 Exposure controls
· Personal protective equipment:
· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

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 breath dust

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.

· 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.

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

· **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.

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.

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

· **Form:** Crystalline

· **Colour:** White

· **Odour:** Mild

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· **Melting point/freezing point:** decomp. °C

· **Initial boiling point and boiling range:** Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** approx. 309 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Not determined.

· **Explosive properties:** Product does not present an explosion hazard.

· **Explosion limits:**

· **Lower:** Not determined.

· **Upper:** Not determined.

· **Vapour pressure:** Not determined.

· **Density at 20 °C:** 1.85 g/cm³

· **Relative density** Not determined.

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· Vapour density	Not determined.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with water at 20 °C:	414 g/l
· 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.
Decomposes before melting.
- **10.3 Possibility of hazardous reactions**
Explosive mixtures are formed with air.
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.
May explode on heating above melting point, especially on rapid heating. This generates fire and explosion hazard.
The solution in water 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.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 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.
- **10.6 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).
When heated: formation of sodium metal possible, which may react explosively with water.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Fatal if swallowed, in contact with skin or if inhaled.

· LD/LC50 values relevant for classification:		
Oral	LD50	27 mg/kg (rat)
Dermal	LD50	20 mg/kg (rabbit)

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Inhalative	LC50/4 h	1.853 mg/l (rat)
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- **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.
- **Other information (about experimental toxicology):**
Routes of exposure: The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

Inhalation risk: Evaporation at 20 degs. C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.

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

- **Additional toxicological information:** Regular medical checks recommended for relevant workers.
- **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**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

EC50	4.2 mg/kg (daphnia)
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- **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:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Assessment by list): 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.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **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).

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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:**

Disposal must be made according to official regulations.

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

Containers, even those that are "empty," may contain residues that can develop flammable and/or hazardous 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.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN1687

· **14.2 UN proper shipping name**

· **ADR**

1687 SODIUM AZIDE, ENVIRONMENTALLY HAZARDOUS

· **IMDG, IATA**

SODIUM AZIDE

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class**

6.1 Toxic substances.

· **Label**

6.1

· **IMDG, IATA**



· **Class**

6.1 Toxic substances.

· **Label**

6.1

· **14.4 Packing group**

· **ADR, IMDG, IATA**

II

· **14.5 Environmental hazards:**

Environmentally hazardous substance, liquid

· **Marine pollutant:**

No

· **Special marking (ADR):**

Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Toxic substances.

· **Hazard identification number (Kemler code):**

-

· **EMS Number:**

F-A,S-A

· **Segregation groups**

Azides

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

500 g

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· Transport category	2
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1687, SODIUM AZIDE, ENVIRONMENTALLY HAZARDOUS, 6.1, II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **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.

- **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

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

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

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. 1: Acute toxicity – Category 1

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

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