

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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Liquid Urea Nitrogen (BUN) R1

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

1.1 Product identifier

Product Name: Liquid Urea Nitrogen (BUN) R1

Product code: B7552-R1

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

Relevant identified uses: For quantitative determination of Urea Nitrogen in serum.

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

1.3 Details of the manufacturer/supplier of the safety data sheet

Manufacturer:

United States

HORIBA Instruments Incorporated

5449 Research Drive

Canton, MI 48188

734-487-8300

horiba.com

1.4 Emergency telephone number:

United States

HORIBA Instruments Incorporated

1-800-445-9853 (24 hours per day)

France

Organisme de conseil/centre antipoison national

+33 1 45 42 59 59 (24 hours per day)

Portugal

Órgão consultor nacional/Centro Antivenenos

+351 800 250 250 (24 hours per day)

Spain

Centro de información toxicológica/organismo asesor nacional

+34 91 562 04 20 (24 hours per day)

Czech Republic

Národní poradní orgán/toxikologické středisko

+420 224 919 293 (24 hours per day)

Greece

Εθνικό συμβουλευτικό όργανο/Κέντρο Δηλητηριάσεων

+30 210 779 3777 (24 hours per day)

Italy

Organismo ufficiale di consultazione nazionale/Centro antiveneni

+39 06 305 4343 (24 hours per day)

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Romania

Organism consultativ național/Centru pentru otrăviri
+40 21 3183606 (24 hours per day)

Poland

Krajowa instytucja doradcza/Ośrodek zatruc
+48 22 619 66 54 (24 hours per day)

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No. 1272/2008 (CLP):

Specific target organ toxicity - single exposure, category 3, respiratory tract irritation

Hazard-determining components of labeling:

2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride

Sodium azide

Additional Information: None

2.2 Label elements

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

Hazard pictograms:



Signal Word: Warning

Hazard statements:

H335 May cause respiratory irritation

Precautionary statements:

P261 Avoid breathing dust/fume/gas/mist/vapours/spray

P271 Use only outdoors or in a well-ventilated area

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P403+P233 Store in a well-ventilated place. Keep container tightly closed

P501 Dispose of contents in accordance with local regulations.

2.3 Other hazards: None known

SECTION 3: Composition/information on ingredients

3.1 Substance: Not applicable.

3.2 Mixture:

Identification	EU REACH Registration No.	Name	Classification according to Regulation (EC) No. 1272/2008 (CLP)	Weight %
CAS number: 1185-53-1 EC number: 214-684-5	-	2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Not classified;	1.17

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CAS number: 26628-22-8 EC number: 247-852-1	-	Sodium azide	Acute Tox. 2 (Oral); H300 Aquatic Acute 1; H400 Acute Tox. 1 (Dermal); H310 Acute Tox. 2 (Inh); H330 Aquatic Chronic 1; H410 STOT RE 2; H373 M-Factor: 1 EUH032	0.1
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Additional information: None

Full Text of H and EUH statements: See section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes:

Show this Safety Data Sheet to the doctor in attendance.

Following inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention.

Following skin contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention.

Following eye contact:

Rinse eyes with plenty of water for several minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention.

Following ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

Self-Protection of the first aider:

Not determined or not available.

4.2 Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Inhalation may have adverse effects on the respiratory tract. Symptoms may include cough, breathing difficulties, sore throat and inflammation of the mucous membrane lining the respiratory tract.

Delayed symptoms and effects:

Not determined or not available.

4.3 Indication of any immediate medical attention and special treatment needed

Specific treatment:

If respiratory symptoms persist, seek medical attention.

Notes for the doctor:

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

Unsuitable extinguishing media:

Do not use water jet.

5.2 Special hazards arising from the substance or mixture:

Thermal decomposition may produce irritating/toxic fumes/gases.

5.3 Advice for firefighters

Personal protection equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

6.2 Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

6.4 Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

7.2 Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10). Store between 2-8 °C

7.3 Specific end use(s):

Refer to Section 1 (Recommended Use).

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Austria	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	STEL: 0.3 mg/m ³ (4 x 15 min)
Belgium	Sodium azide	26628-22-8	Ceiling Limit: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Bulgaria	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	TWA: 0.1 mg/m ³
Croatia	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Czech Republic	Sodium azide	26628-22-8	Ceiling Limit: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Estonia	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
European Union	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³ ([SCOEL])
France	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Germany (MAK)	Sodium azide	26628-22-8	8-Hour TWA: 0.2 mg/m ³ (inhalable fraction)
	Sodium azide	26628-22-8	15-Minute STEL: 0.4 mg/m ³ (inhalable fraction)
Greece	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³ (0.1 ppm)
	Sodium azide	26628-22-8	8-Hour TWA: 0.3 mg/m ³ (0.1 ppm)
Hungary	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Italy	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³

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Country (Legal Basis)	Substance	Identifier	Permissible concentration
Latvia	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Lithuania	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Luxembourg	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	TWA: 0.1 mg/m ³
Poland	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Portugal	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Romania	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Slovakia	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Slovenia	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
Spain	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Sweden	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	Ceiling Limit: 0.3 mg/m ³
The Netherlands	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
United Kingdom	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
Cyprus	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³

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Country (Legal Basis)	Substance	Identifier	Permissible concentration
Malta	Sodium azide	26628-22-8	TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
Denmark	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	STEL: 0.3 mg/m ³
Finland	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
Germany (TRGS 900)	Sodium azide	26628-22-8	8-Hour TWA: 0.2 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.4 mg/m ³
Ireland	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):

Ingredient Name: 2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride

CAS #: 1185-53-1

Workers - Systemic Effects	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	152.8 mg/m ³
	Chronic - Dermal	216.6 mg/kg bw/day
Workers - Local Effects	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified
General Population - Systemic Effects	Acute - Oral	No hazard identified
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	10.8 mg/kg bw/day
	Chronic - Inhalation	37.7 mg/m ³
	Chronic - Dermal	108.3 mg/kg bw/day

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General Population - Local Effect	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified

Ingredient Name: Sodium azide

CAS #: 26628-22-8

Workers - Systemic Effects	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	Hazard identified but no DNEL available
	Acute - Dermal	Hazard identified but no DNEL available
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	0.493 mg/m ³
	Chronic - Dermal	0.14 mg/kg bw/day
Workers - Local Effects	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified
General Population - Systemic Effects	Acute - Oral	Hazard identified but no DNEL available
	Acute - Inhalation	Hazard identified but no DNEL available
	Acute - Dermal	Hazard identified but no DNEL available
	Chronic - Oral	0.05 mg/kg bw/day
	Chronic - Inhalation	0.087 mg/m ³
	Chronic - Dermal	0.05 mg/kg bw/day
General Population - Local Effect	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified

Predicted No Effect Concentration (PNEC):

Ingredient Name: 2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride

CAS #: 1185-53-1

Environmental Protection Target	PNEC
Fresh water	No hazard identified
Freshwater sediments	No hazard identified
Marine water	No hazard identified
Marine sediments	No hazard identified
Microorganisms in sewage treatment	No hazard identified
Soil (agricultural)	No hazard identified
Air	No hazard identified
Oral (Secondary Poisoning)	No exposure expected

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Ingredient Name: Sodium azide

CAS #: 26628-22-8

Environmental Protection Target	PNEC
Fresh water	0.35 µg/L
Freshwater sediments	0.0167 mg/kg sediment dw
Marine water	0.015 µg/L
Marine sediments	0.00072 mg/kg sediment dw
Microorganisms in sewage treatment	30 µg/L
Soil (agricultural)	No hazard identified
Air	No hazard identified
Food chain	No exposure expected

Information on monitoring procedures:

Not determined or not applicable.

8.2 Exposure controls

Appropriate engineering controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

Personal protection equipment

Eye and face protection:

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin and body protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Respiratory protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

General hygienic measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

Environmental exposure controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Product (substance / mixture) related measures to prevent exposure:	Not determined or not applicable.
Instruction measures to prevent exposure:	Not determined or not applicable.
Organisational measures to prevent exposure:	Not determined or not applicable.
Technical measures to prevent exposure:	Not determined or not applicable.

Risk management measures to control exposure:

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Not determined or not applicable.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Reagent is provided as a two part liquid.
Color	Reagents are clear and colorless.
Odor/Odor threshold	Odorless
pH	Reagent = 7.85
Melting point/freezing point	Not Available
Initial boiling point/range	Not determined or not available.
Flash point (closed cup)	Not Available
Flammability	Not determined or not available.
Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Vapor pressure	Not Available
Relative vapor density	Not determined or not available.
Density	Not determined or not available.
Relative density	Not determined or not available.
Solubilities	Soluble in water
Partition coefficient (n-octanol/water)	Not determined or not available.
Auto/Self-ignition temperature	Not Available
Decomposition temperature	Not determined or not available.
Kinematic viscosity	Not determined or not available.
Particle characteristics	Not Available

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosives	No data available/Not applicable
Flammable gases	No data available/Not applicable
Aerosols	No data available/Not applicable
Oxidizing gases	No data available/Not applicable
Gases under pressure	No data available/Not applicable
Flammable liquids	No data available/Not applicable
Flammable solids	No data available/Not applicable
Self-reactive substances and mixtures	No data available/Not applicable
Pyrophoric liquids	No data available/Not applicable
Pyrophoric solids	No data available/Not applicable
Self-heating substances and mixtures	No data available/Not applicable
Substances and mixtures, which emit flammable gases in contact with water	No data available/Not applicable
Oxidizing liquids	No data available/Not applicable
Oxidizing solids	No data available/Not applicable

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Organic peroxides	No data available/Not applicable
Corrosive to metals	No data available/Not applicable
Desensitized explosives	No data available/Not applicable

9.2.2 Other safety characteristics

None.

SECTION 10: Stability and reactivity

10.1 Reactivity:

Not reactive under recommended handling and storage conditions.

10.2 Chemical stability:

Stable under recommended handling and storage conditions.

10.3 Possibility of hazardous reactions:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

10.4 Conditions to avoid:

Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

10.5 Incompatible materials:

Caution, contains Sodium Azides, in contact with heavy metals, may form explosive metal azides

10.6 Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Route	Result
2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	oral	LD50 Rat: >5000 mg/kg
	dermal	LD50 Rat: >5000 mg/kg
Sodium azide	oral	LD50 Rat: 42 mg/kg
	dermal	LD50 Rabbit: 5 mg/kg
	inhalation	LC50 Rat: >0.054 mg/L (4 hr [Dust])

Skin corrosion/irritation

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Serious eye damage/irritation

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Respiratory or skin sensitization

Assessment: Based on available data, the classification criteria are not met.

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Product data:

No data available.

Substance data: No data available.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC):

Name	Classification
2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Not Applicable
Sodium azide	Not Applicable

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Reproductive Toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment:

May cause respiratory irritation.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data:

Name	Result
Sodium azide	May cause damage to the brain through prolonged or repeated exposure.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Information on likely routes of exposure:

No data available.

Symptoms related to the physical, chemical and toxicological characteristics:

No data available.

11.2 Information on other hazards

Endocrine disrupting properties:

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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Substance data: No data available.

Other information:

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Result
2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Fish LC50 <i>Leuciscus idus melanotus</i> : 460 mg/L (96 hr [read-across])
	Aquatic Invertebrates EC50 <i>Daphnia magna</i> : >117 mg/L (48 hr [mobility])
	Aquatic Plants EC50 <i>Raphidocelis subcapitata</i> : 397 mg/L (72 hr [cell number])
Sodium azide	Fish LC50 <i>Gasterosteus aculeatus</i> : 0.8 mg/L (96 hr)
	Aquatic Plants EC50 <i>Pseudokirchneriella subcapitata</i> : 0.35 mg/L (96 hr [cell number])

Chronic (long-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

12.2 Persistence and degradability

Product data: No data available.

Substance data:

Name	Result
Sodium azide	Biodegradation studies do not apply to inorganic substances.
2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	The substance is readily biodegradable. 100% degradation, measured by O ₂ consumption, after 28 days. [Read-across data]

12.3 Bioaccumulative potential

Product data: No data available.

Substance data:

Name	Result
2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	The substance is not expected to accumulate in organisms, based on its low log K _{ow} value <=3.

12.4 Mobility in soil

Product data: No data available.

Substance data:

Name	Result
2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	The substance has a low potential for adsorption to soil and sediment. Log P _{ow} : 3.6

12.5 Results of PBT and vPvB assessment

Product data:

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance data:

PBT assessment:

2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	The substance is not PBT.
Sodium azide	PBT assessment does not apply to inorganic substance.

vPvB assessment:

2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	The substance is not vPvB.
Sodium azide	vPvB assessment does not apply to inorganic substances.

12.6 Endocrine disrupting properties

Substance data: No data available.

12.7 Other adverse effects: No data available.

12.8 Hazard to the ozone layer

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

13.1.1 Product / Packaging disposal:

Dilute with large volumes of water and dispose of into sewer system, if in accordance with local regulations.

Waste codes / waste designations according to LoW: Not determined or not available.

13.1.2 Waste treatment-relevant information: Not determined or not available.

13.1.3 Sewage disposal-relevant information: Not determined or not available.

13.1.4 Other disposal recommendations: It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

SECTION 14: Transport information

International Carriage of Dangerous Goods by Road/Rail (ADR/RID)

UN number or ID number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Carriage of Dangerous Goods by Inland Waterways (ADN)

UN number or ID number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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Packing group	None
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number or ID number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number or ID number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

Maritime Transport in Bulk according to IMO Instruments

Bulk Name	None
Ship type	None
Pollution category	None
IMO hazard class	None
Environmental hazards	None
Material hazardous only in bulk	None
Cargo Group	None

SECTION 15: Regulatory information

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

European regulations

Inventory listing (EINECS): All ingredients are listed or exempt.

REACH SVHC candidate list: None of the ingredients are listed.

REACH SVHC Authorizations: None of the ingredients are listed.

REACH Restriction: None of the ingredients are listed.

Water hazard class (WGK) (Product): Not determined.

Water hazard class (WGK) (Substance):

Ingredient Name	CAS	Class
2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	1185-53-1	Water hazard class 1: slightly hazardous to water
Sodium azide	26628-22-8	Water hazard class 2: obviously hazardous to water

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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Other regulations

Germany TA Luft: None of the ingredients are listed.

Additional information: Not determined.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other information

Abbreviations and Acronyms: None

Classification procedure:

Classification according to Regulation (EC) No. 1272/2008 (CLP)	Method Used
Specific target organ toxicity - single exposure, category 3, respiratory tract irritation	Calculation method

Summary of classification(s) in section 3:

Acute Tox. 2 (Oral)	Acute toxicity (oral), category 2
Aquatic Acute 1	Acute aquatic hazard, category 1
Acute Tox. 1 (Dermal)	Acute toxicity (dermal), category 1
Acute Tox. 2 (Inh)	Acute toxicity (inhalation), category 2
Aquatic Chronic 1	Chronic aquatic hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2

Summary of hazard statements in section 3:

H300	Fatal if swallowed
H400	Very toxic to aquatic life
H310	Fatal in contact with skin
H330	Fatal if inhaled
H410	Very toxic to aquatic life with long lasting effects
H373	May cause damage to organs (state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)

Summary of EUH Statement(s) in section 3:

EUH032	Contact with acids liberates very toxic gas
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Disclaimer:

This product has been classified in accordance with EC No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and EC No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation, and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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End of Safety Data Sheet

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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Liquid Urea Nitrogen (BUN) R2

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

1.1 Product identifier

Product Name: Liquid Urea Nitrogen (BUN) R2

Product code: B7552-R2

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

Relevant identified uses: For quantitative determination of Urea Nitrogen in serum.

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

1.3 Details of the manufacturer/supplier of the safety data sheet

Manufacturer:

United States

HORIBA Instruments Incorporated

5449 Research Drive

Canton, MI 48188

734-487-8300

horiba.com

1.4 Emergency telephone number:

United States

HORIBA Instruments Incorporated

1-800-445-9853 (24 hours per day)

France

Organisme de conseil/centre antipoison national

+33 1 45 42 59 59 (24 hours per day)

Portugal

Órgão consultor nacional/Centro Antivenenos

+351 800 250 250 (24 hours per day)

Spain

Centro de información toxicológica/organismo asesor nacional

+34 91 562 04 20 (24 hours per day)

Czech Republic

Národní poradní orgán/toxikologické středisko

+420 224 919 293 (24 hours per day)

Greece

Εθνικό συμβουλευτικό όργανο/Κέντρο Δηλητηριάσεων

+30 210 779 3777 (24 hours per day)

Italy

Organismo ufficiale di consultazione nazionale/Centro antiveneni

+39 06 305 4343 (24 hours per day)

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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Romania

Organism consultativ național/Centru pentru otrăviri
+40 21 3183606 (24 hours per day)

Poland

Krajowa instytucja doradcza/Ośrodek zatruc
+48 22 619 66 54 (24 hours per day)

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No. 1272/2008 (CLP):

Acute toxicity (dermal), category 4

Hazard-determining components of labeling:

Sodium azide

Additional Information: None

2.2 Label elements

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

Hazard pictograms:



Signal Word: Warning

Hazard statements:

H312 Harmful in contact with skin

Precautionary statements:

P280 Wear protective gloves, protective clothing, eye protection and face protection.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

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

P363 Wash contaminated clothing before reuse

P501 Dispose of container in accordance with local regulations.

2.3 Other hazards: None known

SECTION 3: Composition/information on ingredients

3.1 Substance: Not applicable.

3.2 Mixture:

Identification	EU REACH Registration No.	Name	Classification according to Regulation (EC) No. 1272/2008 (CLP)	Weight %

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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CAS number: 26628-22-8 EC number: 247-852-1	-	Sodium azide	Acute Tox. 2 (Oral); H300 Aquatic Acute 1; H400 Acute Tox. 1 (Dermal); H310 Acute Tox. 2 (Inh); H330 Aquatic Chronic 1; H410 STOT RE 2; H373 M-Factor: 1 EUH032	1
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Additional information: None

Full Text of H and EUH statements: See section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes:

Show this Safety Data Sheet to the doctor in attendance. Take precautions to ensure your own safety before attempting rescue. Wear appropriate safety eyewear, gloves, protective clothing and respiratory protection to prevent exposure. See Section 8 of this SDS for personal protective equipment recommendations. Do not use the mouth to mouth method if victim has ingested or inhaled the product. Give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper device.

Following inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If symptoms develop or persist, seek medical advice/attention.

Following skin contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention.

Following eye contact:

Rinse eyes with plenty of water for several minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention.

Following ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

Self-Protection of the first aider:

Not determined or not available.

4.2 Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Acute dermal exposure may lead to dizziness, drowsiness, headache, breathing difficulties, nausea, vomiting, abdominal pain, and lowering of consciousness. Adverse effects are dependent on exposure (dose, concentration, contact time).

Delayed symptoms and effects:

Symptoms of exposure may be delayed.

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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4.3 Indication of any immediate medical attention and special treatment needed

Specific treatment:

Not determined or not available.

Notes for the doctor:

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

Unsuitable extinguishing media:

Do not use water jet.

5.2 Special hazards arising from the substance or mixture:

Thermal decomposition may produce irritating/toxic fumes/gases.

5.3 Advice for firefighters

Personal protection equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Do not get on skin, eyes or on clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling. Remove contaminated clothing and laundry before reuse.

6.2 Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up:

Harmful in contact with skin. Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Avoid breathing dust, mist, fumes, vapors or spray. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

6.4 Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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7.2 Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).
Store between 2-8 °C

7.3 Specific end use(s):

Refer to Section 1 (Recommended Use).

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Austria	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	STEL: 0.3 mg/m ³ (4 x 15 min)
Belgium	Sodium azide	26628-22-8	Ceiling Limit: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Bulgaria	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	TWA: 0.1 mg/m ³
Croatia	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Czech Republic	Sodium azide	26628-22-8	Ceiling Limit: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Estonia	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
European Union	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³ ([SCOEL])
France	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Germany (MAK)	Sodium azide	26628-22-8	8-Hour TWA: 0.2 mg/m ³ (inhalable fraction)
	Sodium azide	26628-22-8	15-Minute STEL: 0.4 mg/m ³ (inhalable fraction)
Greece	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³ (0.1 ppm)
	Sodium azide	26628-22-8	8-Hour TWA: 0.3 mg/m ³ (0.1 ppm)

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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Country (Legal Basis)	Substance	Identifier	Permissible concentration
Hungary	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Italy	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Latvia	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Lithuania	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Luxembourg	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	TWA: 0.1 mg/m ³
Poland	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Portugal	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Romania	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Slovakia	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Slovenia	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
Spain	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
Sweden	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	Ceiling Limit: 0.3 mg/m ³
The Netherlands	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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Country (Legal Basis)	Substance	Identifier	Permissible concentration
United Kingdom	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
Cyprus	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
Malta	Sodium azide	26628-22-8	TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
Denmark	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	STEL: 0.3 mg/m ³
Finland	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³
Germany (TRGS 900)	Sodium azide	26628-22-8	8-Hour TWA: 0.2 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.4 mg/m ³
Ireland	Sodium azide	26628-22-8	8-Hour TWA: 0.1 mg/m ³
	Sodium azide	26628-22-8	15-Minute STEL: 0.3 mg/m ³

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):

Ingredient Name: Sodium azide

CAS #: 26628-22-8

Workers - Systemic Effects	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	Hazard identified but no DNEL available
	Acute - Dermal	Hazard identified but no DNEL available
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	0.493 mg/m ³
	Chronic - Dermal	0.14 mg/kg bw/day
Workers - Local Effects	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified

Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

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General Population - Systemic Effects	Acute - Oral	Hazard identified but no DNEL available
	Acute - Inhalation	Hazard identified but no DNEL available
	Acute - Dermal	Hazard identified but no DNEL available
	Chronic - Oral	0.05 mg/kg bw/day
	Chronic - Inhalation	0.087 mg/m ³
	Chronic - Dermal	0.05 mg/kg bw/day
General Population - Local Effect	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified

Predicted No Effect Concentration (PNEC):

Ingredient Name: Sodium azide

CAS #: 26628-22-8

Environmental Protection Target	PNEC
Fresh water	0.35 µg/L
Freshwater sediments	0.0167 mg/kg sediment dw
Marine water	0.015 µg/L
Marine sediments	0.00072 mg/kg sediment dw
Microorganisms in sewage treatment	30 µg/L
Soil (agricultural)	No hazard identified
Air	No hazard identified
Food chain	No exposure expected

Information on monitoring procedures:

Not determined or not applicable.

8.2 Exposure controls

Appropriate engineering controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

Personal protection equipment

Eye and face protection:

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin and body protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Respiratory protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

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General hygienic measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

Environmental exposure controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Product (substance / mixture) related measures to prevent exposure:	Not determined or not applicable.
Instruction measures to prevent exposure:	Not determined or not applicable.
Organisational measures to prevent exposure:	Not determined or not applicable.
Technical measures to prevent exposure:	Not determined or not applicable.

Risk management measures to control exposure:

Not determined or not applicable.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Reagent is provided as a two part liquid.
Color	Reagents are clear and colorless.
Odor/Odor threshold	Odorless
pH	Reagent = 7.85
Melting point/freezing point	Not Available
Initial boiling point/range	Not Available
Flash point (closed cup)	Not Available
Flammability	Not Available
Upper flammability/explosive limit	Not Available
Lower flammability/explosive limit	Not Available
Vapor pressure	Not determined or not available.
Relative vapor density	Not determined or not available.
Density	Not Available
Relative density	Not determined or not available.
Solubilities	Soluble in water
Partition coefficient (n-octanol/water)	Not Available
Auto/Self-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
Kinematic viscosity	Not Available
Particle characteristics	Not Available

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosives	No data available/Not applicable
Flammable gases	No data available/Not applicable
Aerosols	No data available/Not applicable
Oxidizing gases	No data available/Not applicable

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Gases under pressure	No data available/Not applicable
Flammable liquids	No data available/Not applicable
Flammable solids	No data available/Not applicable
Self-reactive substances and mixtures	No data available/Not applicable
Pyrophoric liquids	No data available/Not applicable
Pyrophoric solids	No data available/Not applicable
Self-heating substances and mixtures	No data available/Not applicable
Substances and mixtures, which emit flammable gases in contact with water	No data available/Not applicable
Oxidizing liquids	No data available/Not applicable
Oxidizing solids	No data available/Not applicable
Organic peroxides	No data available/Not applicable
Corrosive to metals	No data available/Not applicable
Desensitized explosives	No data available/Not applicable

9.2.2 Other safety characteristics

None.

SECTION 10: Stability and reactivity

10.1 Reactivity:

Not reactive under recommended handling and storage conditions.

10.2 Chemical stability:

Stable under recommended handling and storage conditions.

10.3 Possibility of hazardous reactions:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

10.4 Conditions to avoid:

Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

10.5 Incompatible materials:

Caution, contains Sodium Azides, in contact with heavy metals, may form explosive metal azides

10.6 Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Assessment:

Harmful in contact with skin.

Product data: No data available.

Substance data:

Name	Route	Result
Sodium azide	oral	LD50 Rat: 42 mg/kg
	dermal	LD50 Rabbit: 5 mg/kg
	inhalation	LC50 Rat: >0.054 mg/L (4 hr [Dust])

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Skin corrosion/irritation

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Serious eye damage/irritation

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Respiratory or skin sensitization

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC):

Name	Classification
Sodium azide	Not Applicable

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Reproductive Toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data:

Name	Result
Sodium azide	May cause damage to the brain through prolonged or repeated exposure.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

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Product data:

No data available.

Substance data: No data available.

Information on likely routes of exposure:

No data available.

Symptoms related to the physical, chemical and toxicological characteristics:

No data available.

11.2 Information on other hazards

Endocrine disrupting properties:

Substance data: No data available.

Other information:

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Result
Sodium azide	Fish LC50 <i>Gasterosteus aculeatus</i> : 0.8 mg/L (96 hr)
	Aquatic Plants EC50 <i>Pseudokirchneriella subcapitata</i> : 0.35 mg/L (96 hr [cell number])

Chronic (long-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

12.2 Persistence and degradability

Product data: No data available.

Substance data:

Name	Result
Sodium azide	Biodegradation studies do not apply to inorganic substances.

12.3 Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

12.4 Mobility in soil

Product data: No data available.

Substance data: No data available.

12.5 Results of PBT and vPvB assessment

Product data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance data:

PBT assessment:

Sodium azide	PBT assessment does not apply to inorganic substance.
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vPvB assessment:

Sodium azide	vPvB assessment does not apply to inorganic substances.
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12.6 Endocrine disrupting properties

Substance data: No data available.

12.7 Other adverse effects: No data available.

12.8 Hazard to the ozone layer

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

13.1.1 Product / Packaging disposal:

Dilute with large volumes of water and dispose of into sewer system, if in accordance with local regulations.

Waste codes / waste designations according to LoW: Not determined or not available.

13.1.2 Waste treatment-relevant information: Not determined or not available.

13.1.3 Sewage disposal-relevant information: Not determined or not available.

13.1.4 Other disposal recommendations: It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

SECTION 14: Transport information

International Carriage of Dangerous Goods by Road/Rail (ADR/RID)

UN number or ID number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Carriage of Dangerous Goods by Inland Waterways (ADN)

UN number or ID number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number or ID number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

Safety Data Sheet

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International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number or ID number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

Maritime Transport in Bulk according to IMO Instruments

Bulk Name	None
Ship type	None
Pollution category	None
IMO hazard class	None
Environmental hazards	None
Material hazardous only in bulk	None
Cargo Group	None

SECTION 15: Regulatory information

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

European regulations

Inventory listing (EINECS): All ingredients are listed or exempt.

REACH SVHC candidate list: None of the ingredients are listed.

REACH SVHC Authorizations: None of the ingredients are listed.

REACH Restriction: None of the ingredients are listed.

Water hazard class (WGK) (Product): Not determined.

Water hazard class (WGK) (Substance):

Ingredient Name	CAS	Class
Sodium azide	26628-22-8	Water hazard class 2: obviously hazardous to water

Other regulations

Germany TA Luft: None of the ingredients are listed.

Additional information: Not determined.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other information

Abbreviations and Acronyms: None

Classification procedure:

Classification according to Regulation (EC) No. 1272/2008 (CLP)	Method Used
Acute toxicity (dermal), category 4	Expert judgement

Summary of classification(s) in section 3:

Acute Tox. 2 (Oral)	Acute toxicity (oral), category 2
Aquatic Acute 1	Acute aquatic hazard, category 1
Acute Tox. 1 (Dermal)	Acute toxicity (dermal), category 1

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Acute Tox. 2 (Inh)	Acute toxicity (inhalation), category 2
Aquatic Chronic 1	Chronic aquatic hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2

Summary of hazard statements in section 3:

H300	Fatal if swallowed
H400	Very toxic to aquatic life
H310	Fatal in contact with skin
H330	Fatal if inhaled
H410	Very toxic to aquatic life with long lasting effects
H373	May cause damage to organs (state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)

Summary of EUH Statement(s) in section 3:

EUH032	Contact with acids liberates very toxic gas
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Disclaimer:

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End of Safety Data Sheet