

**Health & Safety data sheet**  
**According to EC Directive 91/155/EC and following amendments**

Date of issue: 05 May 2004.

**SECTION 1 - IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY**

**Product name:**

- Alkali- Azide Reagent

**Application:**

- Determination of dissolved oxygen in water samples

**Manufacturer identification:**

Hanna Instruments Italia s.r.l.  
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**SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS**

*Hazardous Ingredients:*

<b>NAME (EC directives)</b>	<b>EC-Index-No.</b>	<b>CAS No.</b>	<b>LABELLING (EC directives)</b>	<b>CONTENT</b>
Sodium azide	011-004-00-7	26628-22-8	T+, N R28-32-50/53	≥ 0.1% - < 1%
Sodium hydroxide	011-002-00-6	1310-73-2	C R35	≥ 15% - < 35%

(Full text of R-Phrases in section 16).

**SECTION 3 - HAZARD IDENTIFICATION**

Harmful if swallowed. Causes severe burns. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**SECTION 4 - FIRST AID MEASURES**

Remove contaminated, soaked clothing immediately and dispose of safely.

- **After inhalation** : fresh air.
- **After skin contact** : wash off with plenty of water. Remove contaminated clothing. Call in physician.
- **After eye contact** : rinse out with plenty of water with the eyelid held wide open. Call in opthalmologist.
- **After swallowing** : if victim is still conscious, make him drink plenty of water, induce vomiting, administer activated charcoal (20 - 40 g in 10% slurry). Immediately call in physician.

**SECTION 5 – FIRE-FIGHTING MEASURES**

- **Suitable extinguishing media:**
  - In adaptation to materials stored in the immediate neighborhood.
- **Special risks:**
  - Non combustible.
  - Development of hazardous combustion gases or vapors possible in the event of fire.
  - The following may develop in the event of fire: nitrous gases.
- **Special protective equipment for fire fighting:**
  - Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.
- **Additional information:**
  - Contain escaping vapors with water.
  - Prevent fire-fighting water from entering surface water or groundwater.

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**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

- **Personal precautions:**
  - Do not inhale vapors/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.
  - Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.
- **Environmental protection measures:**
  - Do not allow to enter sewerage system.
- **Additional notes:**
  - Carefully take up dry. Forward for disposal. Clean up affected area.

**SECTION 7 - HANDLING AND STORAGE**

- **Handling:**
  - Work under hood.
  - Avoid generation of vapors/aerosols.
  - Do not inhale substance.
- **Storage:**
  - Store at room temperature (+15 to +25 °C).
  - Tightly closed in a dry and well-ventilated place.
  - Accessible only for authorized persons.

**SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION**

- **Specific control parameter**  
*EC*  
 Name: Sodium azide  
 Value: 0.1 mg/m<sup>3</sup>  
 Skin resorption: Risk of skin absorption
- **Engineering controls**
  - Safety shower and eye bath.
- **Personal protective equipment:**
  - Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.
- **Respiratory protection:**
  - Required when vapors/aerosols are generated.
  - Work under hood.
- **Protective gloves:**
  - Rubber or plastic.
- **Eye protection:**
  - Goggles or face mask.
- **Industrial hygiene:**
  - Immediately change contaminated clothing. Apply skin- protective barrier cream.
  - Wash hands and face after working with substance.
  - Work under hood. Do not inhale substance. Avoid generation of vapors/aerosols. Under no circumstances eat or drink at workplace.

**SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES**

- |                              |                    |                               |                          |
|------------------------------|--------------------|-------------------------------|--------------------------|
| • <b>Appearance</b>          | : colorless liquid | • <b>pH at 20°C</b>           | : 14                     |
| • <b>Odor</b>                | : odorless         | • <b>Density at 20°C</b>      | : 1.40 g/cm <sup>3</sup> |
| • <b>Solubility in water</b> | : soluble          | • <b>Ignition temperature</b> | : NA                     |
| • <b>Melting point</b>       | : NA               | • <b>Flash point</b>          | : NA                     |
| • <b>Boiling point</b>       | : ND               | • <b>Explosion limits</b>     | : NA                     |

**SECTION 10 - STABILITY AND REACTIVITY**

- **Conditions to be avoided:**
  - Heating.
- **Substances to be avoided:**
  - Acids.
- **Hazardous decomposition products:**
  - Toxic gases or vapors in the event of fire, see section 5.
- **Hazardous polymerization:**
  - Will not occur.

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**SECTION 11 - TOXICOLOGICAL INFORMATION**

Quantitative data on the toxicity of this product are not available.

**APPLICABLE TO PARTIAL COMPONENT(S):**

The following applies to Sodium Azide – as the pure substance:

*Acute toxicity*

LD 50 (dermal, rabbit): 20 mg/kg.

LD 50 (oral, rat): 27 mg/kg.

*Subacute to chronic toxicity*

No teratogenic effect in animal experiments.

*Further toxicological information*

After inhalation of dusts/aerosols: Severe irritations of: mucous membranes, respiratory tract.

Possible damages: pulmonary oedema. Latency time until onset of action.

After skin contact: Slight irritations. Danger of skin absorption.

After eye contact: Slight irritations.

After swallowing: irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Systemic effects: CNS disorders, cardiovascular failure, tachycardia, drop in blood pressure, coughing, dyspnoea, spasms, headache, dizziness, nausea, vomiting, collapse, unconsciousness.

**APPLICABLE TO PARTIAL COMPONENT(S):**

The following applies to Sodium hydroxide – as the pure substance

*Acute toxicity*

Quantitative data on the toxicity of this product are not available.

*Specific symptoms in animal studies:*

Eye irritation test (rabbit): burns.

Skin irritation test (rabbit): burns.

*Subacute to chronic toxicity*

Mutagenicity (mammal cell test): micronucleus negative.

Bacterial mutagenicity: Escherichia coli: negative.

Bacterial mutagenicity: Ames test: negative.

No teratogenic effect in animal experiments.

Property of this product must be anticipated on the basis from the components of the preparation:

- **In case of inhalation** : Burns of mucosal membranes.
- **In case of skin contact** : Burns. Danger of skin absorption.
- **In case of eye contact** : Burns. Risk of blindness!
- **In case of ingestion** : Burns in mouth, throat, oesophagus and gastrointestinal tract.
  
- **Further data** : The product should be handled with particular care.

**SECTION 12 - ECOLOGICAL INFORMATION**

Quantitative data on the ecotoxicity of this product are not available.

**APPLICABLE TO PARTIAL COMPONENT(S):**

The following applies to Sodium Azide – as the pure substance:

*Ecotoxic effects:**Biological effects:*

Highly toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Forms toxic mixtures in water, dilution measures notwithstanding. Herbicidal effect. Nematocidal effect.

Fish toxicity: *L. macrochirus* LC<sub>50</sub> : 0.7 mg/l /96 h

Daphnia toxicity: *Daphnia pulex* EC<sub>50</sub> : 4.2 mg/l /96 h

Algal toxicity: mixed culture of green algae IC<sub>50</sub> : 272 mg/l

Bacterial toxicity: *Photobacterium phosphoreum* EC<sub>50</sub> : 38.5 mg/l

*Pseudomonas fluorescens* EC<sub>5</sub> : 2.6 mg/l

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**APPLICABLE TO PARTIAL COMPONENT(S):**

The following applies to Sodium hydroxide – as the pure substance

*Biologic degradation:*

Methods for the determination of biodegradability are not applicable to inorganic substances.

*Behavior in environmental compartments:*

Concentration in organisms is not to be expected.

*Ecotoxic effects:**Biological effects:*

Harmful effect on aquatic organisms. Toxic effect on fish and plankton. Harmful effect due to pH shift. Forms corrosive mixtures with water even if diluted. Does not cause biological oxygen deficit.

Neutralization possible in waste water treatment plants.

*Fish toxicity:*

Onchorhynchus mykiss LC<sub>50</sub> : 45.4 mg/l /96 h (in hard water).

L.macrochirus LC<sub>50</sub> : 99 mg/l /48h.

*Daphnia toxicity:*

Daphnia magna EC<sub>50</sub> : 76 mg/l /24 h.

**Further ecological data** : Do not allow to enter waters, waste water, or soil!

**SECTION 13 - DISPOSAL CONSIDERATIONS**

- **Waste disposal:**

- Chemical residues are generally classified as special waste and thus covered by local regulations. Contact local authorities or disposal companies for advice.
- Handle contaminated packaging in the same way as the substance itself.

**SECTION 14 - TRANSPORT INFORMATION**

- **Land transport**

ADR/RID	: 9, II
UN-No.	: 3316
Name	: CHEMICAL KIT
- **Sea transport**

IMDG	: 9/UN 3316/PG II
Name	: CHEMICAL KIT
Marine pollutant	: no
Severe marine pollutant	: no
- **Air transport**

ICAO/IATA	: 9/UN 3316/PG II
Name	: CHEMICAL KIT

These transport data apply to the COMPLETE KIT!

**SECTION 15 - REGULATORY INFORMATION****Labeling according to EC Directives:**

Symbol:	<b>C</b>	Corrosive.
R-phrases:	22-35-52/53	Harmful if swallowed. Causes severe burns. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases:	26-37/39-45	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Contains: Sodium hydroxide,  
Sodium azide.

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**SECTION 16 - OTHER INFORMATION**

- **Text of any R phrases referred to under heading 2:**
  - 28 : Very toxic if swallowed.
  - 32 : Contact with acids liberates very toxic gas.
  - 35 : Causes severe burns.
  - 50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
  
- **Supersedes edition of** : June 2002.
  
- **Reason for revision** : change in labeling due to reevaluation of constituents.  
: general update.
  
- **Legend** : NA Not applicable  
: ND Not determined

THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF THE PRODUCT.