

Date of issue: 13 January 2005.

### 1 - Identification of the product and of the company

**Product name:**

- NH<sub>3</sub>-2 Ammonia Reagent 2.

**Application:**

- Determination of ammonia in water samples.

**Manufacturer identification:**

Milwaukee s.r.l.  
c.so Leonardo da Vinci 48/50  
21013 Gallarate (VA), Italy  
tel.: +39 0331 268009

**Emergency Telephone n. °:** +39-02-66101029  
CENTRO ANTIVELENI  
OSPEDALE NIGUARDA (MI) - ITALY

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### 2 - Composition/information on ingredients

The percent content of the (mercury) compound refers to the amount of the pure metallic element therein.

*Hazardous Ingredients:*

<b>NAME</b> (EC directives)	<b>EC-Index-No.</b>	<b>CAS No.</b>	<b>LABELLING</b> (EC directives)	<b>CONTENT</b>
Sodium hydroxide	011-002-00-6	1310-73-2	C R 35	≥ 5% - < 20%
Mercury (II) iodide	080-002-00-6	7774-29-0	T+, N R 26/27/28-33-50/53	≥ 2% - < 10%

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

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### 3 - Hazard identification

Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Causes severe burns. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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### 4 - First aid measures

Remove contaminated, soaked clothing immediately and dispose of safely.

- After inhalation** : fresh air. If necessary, apply mouth-to-mouth resuscitation or mechanical ventilation. Summon doctor.
- After skin contact** : wash off with plenty of water. Immediately remove contaminated clothing.
- After eye contact** : rinse out immediately with plenty of water and seek medical advice.
- After swallowing** : drink plenty of water (if necessary several liters), avoid vomiting (risk of perforation!). Immediately seek medical advice. Do not attempt to neutralize.

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### 5 - Fire-fighting measures

- Suitable extinguishing media**  
- In adaptation to materials stored in the neighborhood.

Health & Safety data sheet

According to EC Directive 91/155/EC and following amendments

- **Special risks:**
  - Development of hazardous combustion gases or vapors possible in the event of fire.
  - Hydrogen may form upon contact with metals (danger of explosion!).
  - The following may develop in event of fire: mercury vapors, iodine, hydrogen iodide.
- **Special protective equipment for fire fighting:**
  - Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.
- **Additional information:**
  - Product itself is non-combustible. Cool container with spray water from a safe distance. Contain escaping vapors with water. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

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**6 - Accidental release measures**

- **Personal precautions:**
  - Do not inhale vapors/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.
- **Environmental precautions:**
  - Do not discharge into the drains/surface waters/groundwater.
- **Additional notes:**
  - Render harmless: neutralize with diluted sulfuric acid solution.

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**7 - Handling and storage**

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| <ul style="list-style-type: none"><li>• <b>Handling:</b><ul style="list-style-type: none"><li>- Avoid generation of vapors/aerosols.</li><li>- Work under hood.</li><li>- Do not inhale substance.</li></ul></li></ul> | <ul style="list-style-type: none"><li>• <b>Storage:</b><ul style="list-style-type: none"><li>- Tightly closed. In a well-ventilated place at +15 to +25 °C. Protect from light.</li><li>- Accessible only for authorized persons.</li></ul></li></ul> |
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**8 - Exposure control/personal protection**

- **Ingredients with occupational exposure limits to be monitored:**
  - SODIUM HYDROXIDE  
MAK : no MAK value can be established
  - MERCURY (metallic mercury and inorganic mercury compounds)  
MAK 0.1000 mg/m<sup>3</sup>
- **Personal protective equipment:**
  - Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.
- **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.

## Health &amp; Safety data sheet

According to EC Directive 91/155/EC and following amendments

**9 - Physical/chemical properties**

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|--|---|
| • <b>Appearance</b> : yellowish liquid | • <b>pH value at 20°C</b> : strongly basic        |
| • <b>odor</b> : odorless               | • <b>Density at 20°C</b> : 1.28 g/cm <sup>3</sup> |
| • <b>Solubility in water</b> : soluble | • <b>Ignition temperature</b> : NA                |
| • <b>Melting point</b> : ND            | • <b>Flash point</b> : NA                         |
| • <b>Boiling point</b> : ND            | • <b>Thermal decomposition</b> : NA               |

**10 - Stability and reactivity**

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|--|---|
| • <b>Conditions to be avoided:</b><br>- Heating.                                     | • <b>Further information:</b><br>- Has a corrosive effect |
| • <b>Hazardous decomposition products:</b><br>- In the event of fire: see section 5. | • <b>Hazardous polymerization:</b><br>- Will not occur.   |

**11 - Toxicological information**

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

## APPLICABLE TO MAIN COMPONENT(S):

- The following applies to Mercury (II) Iodide:

*Acute toxicity*LD<sub>50</sub> Dermal, Rat: 75 mg/kgLD<sub>50</sub> Oral, Rat: 18 mg/kg*Sensitization*

After skin contact: absorption. Risk of skin sensitization.

*Signs and symptoms of exposure*

Mercury compounds have a cytotoxic and protoplasmatoxic effect. Intoxication symptoms: ACUTE: contact with eyes causes severe lesions. Swallowing and inhalation of dust damages mucous membranes of gastrointestinal and respiratory tract (metallic taste, nausea, vomiting, abdominal pain, bloody diarrhea, intestinal burns, glottal edema, aspiration pneumonia); drop in blood pressure, cardiac dysrhythmia, circulatory collapse, and renal failure; CHRONIC: inflammation of the mouth with loss of teeth and mercurial line. The principal signs manifest themselves in the CNS (impaired speech, vision, hearing and sensitivity, loss of memory, irritability, hallucinations, delirium inter alia).

- The following applies to iodides in general: sensitization possible in predisposed persons.

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

- **In case of inhalation** : after inhalation of aerosols: damage to the affected mucous membranes.
- **In case of skin contact** : severe burns with formation of scabs.
- **In case of eye contact** : burns, corneal lesion.
- **In case of ingestion** : severe pain (risk of perforation).
- **Further data** : further hazardous properties cannot be excluded.  
The product should be handled with the care usual when dealing with chemicals.

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## 12 - Ecological information

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

- **Biological effects** : high aquatic toxicity. Harmful effect due to pH shift. Caustic even in diluted form. Endangers drinking water supplies if it enters in large quantities in soil and/or waters. Does not cause biological oxygen deficit.
- **Further ecological data:** applicable to partial component(s):  
The following applies to the water-soluble matter contained in inorganic Hg compounds in general (tested with mercury(II) chloride):  
Leuciscus idus LC<sub>50</sub>: 0.5 mg/l (48h), Daphnia magna EC<sub>50</sub>: 0.005-3,6 mg/l (48h), Chlorella pyrenoidosa EC<sub>50</sub>: 0.3 mg/l (5h), Pseudomonas fluorescens IC<sub>50</sub>: 0.005 mg/l. The toxicity of mercury(II) ions for water organisms depends on the water hardness [source: IPCS].  
  
The following applies to iodides in general: biological effects: crustaceans: D. magna EC<sub>50</sub>: 2.7 mg/l; protozoa: E. sulcatum toxic as from 40 mg/l .  
The following applies to sodium hydroxide: fish toxicity: LC<sub>50</sub>: 189 mg/L (1 N solution).

DO NOT ALLOW TO ENTER WATERS, WASTE WATERS, OR SOIL!

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## 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.

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## 14 - Transport information

- **Land transport**  
ADR/RID : 9/UN 3316/PGII  
Name : CHEMICAL KIT
- **Sea transport**  
IMDG : 9/UN 3316/PGII  
Name : CHEMICAL KIT  
Marine pollutant : no
- **Air transport**  
ICAO/IATA : 9/UN 3316/PGII  
Name : CHEMICAL KIT

These transport data apply to the COMPLETE KIT!

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**15 - Regulatory information**

**Labeling according to EC Directives:**

Symbol:	<b>T+, C, N</b>	Very toxic, Corrosive, Dangerous for the environment.
R-phrases :	26/27/28-33-35-51/53	Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Causes severe burns. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases :	28.1-36/37/39-45-61	After contact with skin, rinse immediately with plenty of water. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions safety data sheet.
Contains :	Mercury (II) iodide Sodium hydroxide	

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**16 - Other information**

• **Text of any R phrases referred to under heading 2:**

- 26/27/28 : Very toxic by inhalation, in contact with skin and if swallowed.
- 33 : Danger of cumulative effects.
- 35 : Causes severe burns.
- 50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

• **Supersedes edition of** : / (1<sup>st</sup> edition)

• **Legend** : NA Not applicable  
ND Not determined

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*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.*