

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

Date of issue: 24 May 2004.

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

**Product name:**

- HI 3895-K Potassium Reagent.

**Application:**

- Determination of potassium in soil (extract) samples.

**Manufacturer identification:**

Hanna Instruments Italia S.r.l.  
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 CENTRO ANTIVELENI  
 OSPEDALE NIGUARDA (MI) - ITALY

**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>
EDTA tetrasodium salt dihydrate	NA	10378-23-1	Xi R36/37/38	≥ 75% - < 100%
Lithium hydroxide monohydrate	NA	1310-66-3	C, R 35	≥ 1% - < 5%
Sodium tetraphenyl borate	NA	143-66-8	Xn, R22	≥ 1% - < 10%

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

**SECTION 3 - HAZARD IDENTIFICATION**

Irritating to eyes, respiratory system and skin.

**SECTION 4 - FIRST AID MEASURES**

Remove contaminated, soaked clothing immediately and dispose of safely.

- **After inhalation** : If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.
- **After skin contact** : In case of skin contact, flush with copious amounts of water for at least 15 minutes.
- **After eye contact** : In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.
- **After swallowing** : If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

**SECTION 5 – FIRE-FIGHTING MEASURES**

• **Suitable extinguishing media:**

- Water spray, carbon dioxide, dry chemical powder, or appropriate foam.

• **Special risks:**

- Non-combustible.
- Development of hazardous combustion gases or vapors possible in the event of fire.
- The following may develop in event of fire: Carbon monoxide, Carbon dioxide, Boron oxides.

• **Special protective equipment for fire fighting:**

- Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.
- Contain escaping vapors with water. Prevent fire-fighting water from entering surface water or ground water.

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**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

- **Personal precautions:**
  - Avoid substance contact. Avoid generation of dusts; do not inhale dusts. Ensure supply of fresh air in enclosed rooms.
- **Environmental precautions:**
  - Do not discharge into the drains/surface waters/groundwaters.
- **Additional notes:**
  - Take up dry. Clean up affected area and dispose according to local regulation.

**SECTION 7 - HANDLING AND STORAGE**

- **Handling:**
  - Do not breathe dust. Do not get in eyes, on skin, on clothing.
- **Storage:**
  - Store tightly closed at room temperature (+15°C to + 25°C).
  - Accessible only for authorized persons.

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

- **Engineering controls**
  - Safety shower and eye bath.
- **General hygiene measures**
  - Wash contaminated clothing. Application of skin- protective barrier cream recommended. Wash hands and face after working with substance.

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 determined with the respective supplier.

- **Personal protective equipment:**
  - As appropriate to quantity handled.
- **Protective gloves:**
  - Compatible chemical-resistant gloves.
- **Respiratory protection:**
  - Required when dusts are generated.
- **Eye protection:**
  - Goggles or face mask.

**SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES**

- |                              |                |                               |                         |
|------------------------------|----------------|-------------------------------|-------------------------|
| • <b>appearance</b>          | : white powder | • <b>ignition temperature</b> | : NA                    |
| • <b>odor</b>                | : odorless     | • <b>flash point</b>          | : NA                    |
| • <b>solubility in water</b> | : soluble      | • <b>explosion limits</b>     | : NA                    |
| • <b>melting point</b>       | : ND           | • <b>density at 20°C</b>      | : ND                    |
| • <b>boiling point</b>       | : NA           | • <b>pH at 20°C</b>           | : 12 at 10 g/L in water |

**SECTION 10 - STABILITY AND REACTIVITY**

- **Conditions to be avoided:**
  - Heating.
- **Hazardous decomposition products:**
  - Toxic gases: see section 5.
- **Substances to be avoided:**
  - Strong oxidizing agents.
- **Hazardous polymerization**
  - Will not occur.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

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

APPLICABLE TO PARTIAL COMPONENT(S):

The following applies to EDTA tetrasodium salt dihydrate – as the pure substance:

*Acute toxicity*

LD 50 (oral, rat): 1000-2000 mg/kg.

*Specific symptoms in animal studies:*

Eye irritation test (rabbit): Irritations.

Skin irritation test (rabbit): No irritation.

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The following applies to Sodium tetraphenyl borate – as the pure substance:

*Acute toxicity*

LD 50 (oral, rat): 288 mg/kg.

Other notes:

The following applies to lithium compounds in general: when handled or used inappropriately, the absorption of large quantities is followed by CNS disorders, agitation, spasms, ataxia (impaired locomotor coordination) due to disturbed electrolyte balance.

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

- **In case of inhalation** : irritations of the mucous membranes, coughing, and dyspnoea.
- **In case of skin contact** : irritations.
- **In case of eye contact** : irritations.
- **In case of ingestion** : absorption. Disturbed electrolyte balance. Irritations of mucous membranes in the mouth, pharynx, esophagus and gastrointestinal tract.
- **In case of ingestion of large amounts** : Damage of kidneys.
- **Further data** : further hazardous properties cannot be excluded. The product should be handled with the care usual when dealing with chemicals.

## **SECTION 12 - ECOLOGICAL INFORMATION**

- **Ecotoxic effects:**

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

APPLICABLE TO PARTIAL COMPONENT(S):

The following applies to EDTA tetrasodium salt dihydrate – as the pure substance:

*Ecotoxic effects:*

Biological effects:

Harmful effect on aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Fish toxicity: L.idus LC<sub>50</sub> : >500 mg/l /96 h.

Daphnia toxicity: Daphnia magna EC<sub>50</sub> : >100 mg/l /24 h.

Algal toxicity: algae IC<sub>50</sub> : 10-100 mg/l /72 h.

The following applies to Sodium tetraphenyl borate – as the pure substance:

*Ecotoxic effects:*

Biological effects:

Daphnia toxicity: Daphnia magna LC<sub>50</sub> : 32 mg/l /48 h.

Further ecologic data:

The following applies to lithium compounds in general: biological effects: fish: toxic from 100 mg/l up; Daphnia toxic from 16 mg/l up; plants: toxic from 0.2 mg/l up (values calculated as Li).

- **Further ecological data**

Do not allow to enter waters, waste waters, 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.

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**SECTION 14 - TRANSPORT INFORMATION**

Not subject to transport regulations.

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

Symbol:	<b>Xi</b>	Irritant
R-phrases:	36/37/38	Irritating to eyes, respiratory system and skin.
S-phrases:	26-36	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Contains: -

**SECTION 16 - OTHER INFORMATION**

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

22	: Harmful if swallowed.
35	: Causes severe burns.
36/37/38	: Irritating to eyes, respiratory system and skin.
- **Supersedes edition of** : June 2002
- **Reason for revision** : 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.