

1. Name of the substance or mixture and of the company

1.1 Product identifiers

Product name : HumidityNormal 95%rh
Product number : EA95-SCS
Brand : ROTRONIC
CAS no. : 7447-41-8

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

Identified Uses : Suitable only for the calibration of humidity meters

1.3 Details of the supplier of the safety sheet

Company	:	ROTRONIC AG Grindelstrasse 6 CH-8303 Bassersdorf	ROTRONIC Messgeräte GmbH Einsteinstrasse 17-23 D-76275 Ettlingen
Phone	:	+41 44 8381111	+49 7243 383250
Fax	:	+41 44 8364364	+49 7243 383260
Email address	:	humidity@rotronic.ch	

1.4 Emergency call number

Emergency phone no. : +49/(0)89 19240 Giftinformation München

2. Potential dangers

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [EU GHS/CLP]

Acute toxicity, oral (Category 4), H302
Irritant effects on skin (Category 2)
Eye irritant (Category 2)

Specific target organ toxicity – single exposure (Category 3)

Classification according to EU Directive 67/548/EEC or 1999/45/EC with amendments

Harmful if swallowed
 Irritating to eyes, respiratory system, and skin

2.2 Content of labels

Label (Regulation [EC] No. 1272/2008)



Pictogram

Signal word

Warning

Danger label(s)

H302

Harmful if swallowed

H315

Causes skin irritation

H319

Causes serious eye irritation

H335

May cause respiratory irritation

Precautions

P261

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

P280

Wear protective gloves / protective clothing / eye protection / face protection.

P305 + P351 + P338

If in eyes:

Rinse cautiously with water for several minutes.

Remove contact lenses if present and easy to do.

Continue rinsing.

Danger symbols

Xn

Harmful

R phrases

R22

Harmful if swallowed

R36/37/38

Irritating to eyes, respiratory system, and skin

S phrases

S26

In case of contact with eyes, rinse immediately with plenty of water.

S36/37/39

Seek medical advice.

Wear suitable protective clothing / suitable gloves / eye/face protection.

Other dangers – none

3. Composition / information on constituents

Synonyms : calibration solution
aqueous solution of LiCl and distilled H₂O

CAS no.	EC no.	Index no.	Classification	Concentration
Lithium chloride				
7447-41-8	231-212-3		Acute tox. 4, skin irrit. 2; eye irrit. 2; STOT sing. 3; H302, H315, H319, H335 Xn, R22, R36/37/38	5–15%
Water				
7732-18-5	231-791-2		—	85–95%

The complete text description of the danger symbols used in this section can be found in Section 16.

4. First Aid measures

4.1 Description of First Aid measures

General instructions

Seek medical advice. Present this safety data sheet to the doctor.

After inhalation

After inhalation, take the affected person into the fresh air. In the event of respiratory arrest, apply mouth to mouth resuscitation. Seek medical advice.

After contact with eyes

Rinse thoroughly with copious amounts of water for at least fifteen minutes, and seek medical advice.

After contact with skin

Wash off with soap and copious amounts of water. Seek medical advice.

After swallowing

Never introduce anything through the mouth of an unconscious person.
Wash out the mouth with water. Seek medical advice.

4.2 Most important acute or delayed symptoms and effects

Heartburn, coughing, wheezing, laryngitis, respiratory distress, headaches, cyanosis, and T wave reversal have occurred on infants breastfed by mothers treated with lithium carbonate. Large doses of lithium ions have caused dizziness and debility and can damage the kidneys when sodium ingestion is restricted. There have been further reports of dehydration, loss of weight, dermatological effects, and thyroid dysfunctions. The effects on the central nervous system are unclear speech, blurred sight, loss of feeling, ataxia, and convulsions. Repeated exposure to lithium ions can cause diarrhoea, vomiting, and neuromuscular effects like trembling, clonus, and hyperactive reflexes. To our knowledge, the chemical, physical, and toxicological properties have not been investigated thoroughly.

4.3 Indications of any immediate medical attention and special treatment

No data available

5. Firefighting measures**5.1 Extinguishing agents****Suitable extinguishing agents**

Use water spray, alcohol resistant foam, dry extinguishing agents, or carbon dioxide.

5.2 Particular dangers associated with the substance or mixture

Hydrogen chloride gas, lithium oxides

5.3 Particular protective equipment for firefighting

In the event of fire, breathing apparatus with its own supply of air may have to be worn.

5.4 Further information

No data available

6. Measures on accidental release

6.1 Personal precautions, protective equipment, and what to do in emergencies

Use personal protective equipment. Avoid breathing fumes/mist/gas.
Provide for adequate ventilation. Avoid contact with the substance. Bring persons to safety.

6.1 Environmental protection measures

Do not allow to enter the sewers.
Prevent contact with the environment.

6.2 Containment and cleaning methods and materials

Take up with an inert absorbent material, and dispose of as waste in need of monitoring.
Collect in suitable and sealed containers for disposal.

7. Handling and storage

7.1 Protective measures for safe handling

Avoid contact with the eyes and skin.
Avoid breathing fumes or mist.

7.2 Safe storage conditions

Keep the ampoules sealed and unopened in a cool, dry, and well ventilated place.
Store breakable glass ampoules in their sealed original packaging and protect this from impacts.

8. Limits and monitoring of exposure / personal protective equipment

Does not contain any substances with workplace exposure limits

Suitable technical control devices

The usual precautions for handling chemicals must be observed.
Wash your hands before breaks and at the end of work.

Personal protective equipment

Respiratory protection

When the risk assessment requires air cleaning respiratory protection, this must take the form of a full face shield with a multipurpose combination filter (US) or with an ABEK (EN 14387) type filter in addition to the technical measures. When breathing apparatus is the only protective measure, this must be a full face shield with its own supply of air. The breathing apparatus and its components must have been tested and approved in accordance with national standards, e.g. NIOSH (US) or CEN (EU).

Hand protection

Work with gloves. Gloves must be examined before use. Use suitable aids that prevent contact between the skin and the product on the outer surface of the glove.
After use, contaminated gloves must be disposed of in accordance with the legal provisions and good laboratory practices. Wash and dry your hands.
The protective gloves used must comply with the specifications of the EC Directive 89/686/EEC and the standard EN 374 resulting therefrom.

Work with gloves.

Eye/face protection

Face shield and safety goggles complying with EN 166 The eye protection you use must have been tested and approved in accordance with official standards, e.g. NIOSH (US) or EN 166 (EU).

Wear eye/face protection

Skin and body protection

The type of protective equipment chosen must be suitable for the concentration and quantity of the hazardous substance at the workplace.

Hygiene measures

The usual precautions for handling chemicals must be observed.
Wash your hands before breaks and at the end of work.

9. Physical and chemical properties**Appearance**

Form	:	liquid
Colour	:	clear, colourless
Odour	:	odourless

Data relevant to safety

pH value	:	6
Boiling point	:	100 °C
Flash point	:	not applicable
Ignition temperature	:	not applicable
Lower explosion limit	:	not applicable
Upper explosive limit	:	not applicable
Viscosity	:	no data available
Water solubility	:	fully miscible
Density	:	1.10 g/cm ³

10. Stability and reactivity**Chemical stability**

Stable under the specified storage conditions

Conditions to avoid

Accidental opening of the ampoules, or glass breakage

Substances to avoid

Strong acids, strong oxidants, bromine trifluoride

Hazardous decomposition products

Hazardous decomposition products may form in a fire:
hydrogen chloride, lithium oxides

11. Toxicological effects**Acute toxicity**

LDLo, oral, human,	LiCl 100%	:	200 mg/kg
LDLo, oral, mouse,	LiCl 100%	:	1165 mg/kg
LDLo, oral, rat,	LiCl 100%	:	514 mg/kg

Caustic/irritant effects on skin

Rabbit, 24h : highly irritating

Caustic/irritant effects on eyes

Rabbit, 24h : irritating

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No constituent of this product in a concentration of 0.1% or more has been identified by the IARC as an expected, potential, or proven carcinogenic product for humans.

Reproductive toxicity

No data available

Specific target organ toxicity – single exposure

The substance or the mixture is not classified as a target organ toxicant after single exposure.

Specific target organ toxicity – repeated exposure

The substance or the mixture is not classified as a target organ toxicant after repeated exposure.

Aspiration hazard

No aspiration toxicity classification

Potential health hazards**Inhalation**

Can be harmful when inhaled Causes irritation of the respiratory tract

Swallowing

Harmful if swallowed

Skin

Can be harmful when absorbed through the skin
Can cause skin irritation

Eyes

Causes serious eye irritation

Indications and symptoms after exposure

Heartburn, coughing, wheezing, laryngitis, respiratory distress, headaches, cyanosis, and T wave reversal have occurred on infants breastfed by mothers treated with lithium carbonate.

Large doses of lithium ions have caused dizziness and debility and can damage the kidneys when sodium ingestion is restricted. There have been further reports of dehydration, loss of weight, dermatological effects, and thyroid dysfunctions. The effects on the central nervous system are unclear speech, blurred sight, loss of feeling, ataxia, and convulsions. Repeated exposure to lithium ions can cause diarrhoea, vomiting, and neuromuscular effects like trembling, clonus, and hyperactive reflexes. Bromine inhalation or sustained exposure often leads to bromine acne, particularly in the face, comparable acne, and furunculosis. Acute symptoms of higher exposure levels are depression and psychosis. To our knowledge, the chemical, physical, and toxicological properties have not been investigated thoroughly.

Additional information

RTECS: no data available

12. Ecological information**Toxicity**

no data available

Persistence and degradability

No data available

Bioaccumulation potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

No data available

Other harmful effects

Harmful to aquatic organisms

13. Disposal information**Product**

All national and local laws must be observed.
Commission an approved disposal company to dispose of residual quantities and solutions that can no longer be used. This material may be disposed of by an approved disposal company only.

Contaminated packaging

Disposal identical to unused product

14. Transport information

In the original packaging

14.1 UN number

ADR/RID: —

IMDG: —

IATA: —

14.2 UN proper shipping name

ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: — IMDG: — IATA: —

14.4 Packaging group

ADR/RID: — IMDG: — IATA: —

14.5 Risks to the environment

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for the user

No data available

15. Legal regulations

This safety data sheet fulfils the requirements under Regulation (EC) No. 1907/2006.

15.1 Regulations on safety, health, and environmental protection / specific legal regulations for the substance or mixture**National regulations****Water pollution class**

WGK 1, slightly hazardous to water – self classification

15.2 Chemical safety assessment

No data available

16. Other details**H code and R phrase text from Section 3**

Acute tox.	Acute toxicity
Eye irrit.	Eye irritation
Skin irrit.	Irritant effects on skin
STOT sing.	Specific target organ toxicity – single exposure
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
Xn	Harmful
R22	Harmful if swallowed
R36/37/38	Irritating to eyes, respiratory system, and skin

Further information

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The information contained herein has been compiled to the best of our knowledge, but does not claim to be complete, and should be interpreted as a guideline by the user. ROTRONIC AG does not accept any liability for damage or harm that may be caused as a result of handling or contacting these chemicals.

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