

<b>Safety data sheet</b>	<b>rotronic</b>
<b>MSDS_11.3%rF_2017_EN.docx</b>	Safety data sheet in accordance with Regulation (EC) No. 1907/2006 Version 4.0 Revised 17.05.2017 Printed on 14.07.2017

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

### 1.1 Product identifiers

Product name	Humidity Standard 11.3 %RH
Product number	EA11-SCS
Brand	ROTRONIC
REACH no.	There is no registration number available for this substance because the substance or its use is exempted from registration, the annual tonnage does not require registration or registration is planned for a later point in time.
CAS no.	7550-35-8

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

Identified uses	Suitable only for the calibration of humidity meters
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### 1.3 Details of the supplier of the safety data sheet

Company	ROTRONIC AG Grindelstrasse 6 CH-8303 Bassersdorf	ROTRONIC Messgeräte GmbH Einsteinstrasse 17-23 D-76275 Ettlingen
Telephone	+41 44 838 11 11	+49 7243 383 250
Fax	+41 44 836 43 64	+49 7243 383 260
Email address		

### 1.4 Emergency telephone number

Emergency telephone no.	Tox Info Suisse +41 44 251 51 51 (145)	Munich Poison Information Center ( <i>Giftnotruf München</i> ) +49 89 19240
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## SECTION 2: Hazards identification

### 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
Skin corrosion (Category 2)	H315
Skin sensitization (Category 1)	H317
Eye irritant (Category 2)	H319


The complete text descriptions of the hazard statements mentioned in this section can be found in section 16.

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

Xn	Harmful	R22
Xi	Irritant	R36/38, R43

The complete text of the R-phrases named here can be found in section 16.

### 2.2 Label elements

Pictogram		
Signal word	Warning	
Hazard statement(s)	H302	Harmful if swallowed.
	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H319	Causes serious eye irritation.

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Precautionary statement(s)	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.
Supplemental hazard statements	None	

**2.3 Other hazards**

None

**SECTION 3: Composition/information on ingredients****3.1 Substances**

Synonyms	Lithium monobromide
Formula	BrLi
Molecular weight	86.85 g/mol
CAS no.	7550-35-8
EC no.	231-439-8

**Hazardous constituents according to Regulation (EC) No. 1272/2008**

Constituent		Classification	Concentration
<b>Lithium bromide</b>			
CAS no.	7550-35-8	Acute Tox. 4; Skin Irrit. 2; Skin Sens. 1; H302, H315, H317, H319	40 - 50 %
EC no.	231-439-8		
<b>Water</b>			
CAS no.	7732-18-5	-	50 - 60 %
EC no.	231-791-2		

**Hazardous constituents according to Directive 1999/45/EC**

Constituent		Classification	Concentration
<b>Lithium bromide</b>			
CAS no.	7550-35-8	Xn, R22 - R36/38 - R43	40 - 50 %
EC no.	231-439-8		
<b>Water</b>			
CAS no.	7732-18-5	-	50 - 60 %
EC no.	231-791-2		

For the full text of the H-statements and P-phrases mentioned in this section, see section 16.

**SECTION 4: First aid measures****4.1 Description of first aid measures****General advice**

Consult a physician. Present this safety data sheet to the physician in attendance.

**After inhalation**

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After inhalation, move the affected person into the fresh air. In the event of respiratory arrest, apply mouth to mouth resuscitation. Consult a physician.

**After skin contact**

Wash off with soap and plenty of water. Consult a physician.

**After eye contact**

Rinse thoroughly with plenty of water for at least fifteen minutes and consult a physician.

**After swallowing**

Never introduce anything through the mouth of an unconscious person. Rinse the mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described on the label (see section 2.2) and/or in section 11.

**4.3 Indication of any immediate medical attention and special treatment**

No data available.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

**Suitable extinguishing media**

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

**5.2 Special hazards arising from the substance or mixture**

Hydrogen bromide, lithium oxides

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

No data available.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Suppress the formation of dust. Avoid breathing vapors/mist/gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid contact with the substance. See section 8 for personal protective equipment.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so.  
Discharge into the environment must be avoided. Do not let product enter drains.

**6.3 Methods and material for containment and cleaning up**

Take up with an inert absorbent material and dispose of as waste requiring special supervision. Collect in suitable and sealed containers for disposal.

**6.4 Reference to other sections**

Disposal: see section 13

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

Avoid contact with the eyes, skin and clothing. Avoid breathing vapor or mist. Suppress formation of aerosol.  
See section 2.2 for information on precautions.

**7.2 Conditions for safe storage, including any incompatibilities**

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

Hygroscopic.

**7.3 Specific end uses**

Except for the uses identified in section 1.2, no other specific uses are anticipated.

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**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Components with workplace control parameters**

Does not contain any substances with workplace exposure limits.

**8.2 Exposure controls****Appropriate engineering controls**

Usual general occupational hygiene precautions.

The usual precautions for handling chemicals must be observed.

Wash your hands before breaks and at the end of work.

**Personal protective equipment****Eye/face protection**

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

**Skin protection**

Work with gloves. Gloves must be inspected before use. Use a suitable glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The protective gloves used must comply with the specifications of EC Directive 89/686/EEC and the standard EN 374 derived from it.

**Full contact**

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Breakthrough time: 480 min.

Tested material: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

**Splash contact**

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Breakthrough time: 480 min.

Tested material: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Data source: KCL GmbH, D-36124 Eichenzell, telephone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN 374

If used in solution or mixed with other substances and under conditions which differ from EN 374, contact a supplier of CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and a safety professional familiar with the specific situation of anticipated use by our customers. It should not be construed as approval for any specific use scenario.

**Body protection**

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

### Respiratory protection

Is not necessary for the sole approved use for calibration of humidity measuring instruments.

Where protection against annoying dust concentrations is required, use a dust mask with particulate filter N100 (US) or a respirator mask with filter type P3 (EN 143).

The breathing apparatus and its components must have been tested and approved in accordance with national standards, e.g. NIOSH (US) or CEN (EU).

### Hygiene measures

The usual precautions for handling chemicals must be observed. Wash hands before breaks, at the end of work and after proper and correct use for humidity calibration.

### Environmental exposure controls

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	State: liquid Color: clear, colorless
b) Odor	No data available
c) Odor threshold	Not applicable
d) pH value	9
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	150 °C at 1013 hPa
g) Flash point	Not applicable
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	1.75 g/cm <sup>3</sup>
n) Solubility	Completely soluble
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

### 9.2 Other safety information

No data available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available.

### 10.2 Chemical stability

Stable under the specified storage conditions.

### 10.3 Possibility of hazardous reactions

No data available.

**10.4 Conditions to avoid**

Accidental opening of the ampoules or glass breakage.

**10.5 Incompatible materials**

Strong acids, strong oxidants.

**10.6 Hazardous decomposition products**

No data available.

In case of fire: see section 5.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

LD50 Oral - rat	1,800 mg/kg
LD50 Intraperitoneal - guinea pig	580 mg/kg
LD50 Intraperitoneal - mouse	1,160 mg/kg
LD50 Subcutaneous - mouse	1,680 mg/kg

**Skin corrosion/irritation**

Skin - rabbit	Irritating to skin
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**Serious eye damage/irritation**

Eyes - rabbit	Eye irritation
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**Respiratory or skin sensitization**

Buehler test - guinea pig	May cause sensitization by skin contact. (OECD Test Guideline 406)
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**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% has been identified by the IARC as a probable, possible or confirmed human carcinogen.

**Reproductive toxicity**

No data available.

**Specific target organ toxicity (STOT) – single exposure**

No data available.

**Specific target organ toxicity (STOT) – repeated exposure**

No data available.

**Aspiration hazard**

No data available.

**Additional information**

RTECS: OJ5755000

Large doses of lithium ions have caused dizziness and debility and can damage the kidneys when sodium ingestion is restricted. Further there have been 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, diarrhea, vomiting and neuromuscular effects like trembling. Repeated exposure to lithium ions can cause 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.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Toxicity to fish

LC50 - Oncorhynchus mykiss (rainbow trout)	438 mg/l - 96 h
NOEC - Oncorhynchus mykiss (rainbow trout)	128 mg/l - 96 h

### 12.2 Persistence and degradability

The methods to assess biological degradability cannot be applied to inorganic substances.

### 12.3 Bioaccumulative potential

No data available.

### 12.4 Mobility in soil

No data available.

### 12.5 Results of PBT and vPvB assessment

A PBT/vPvB assessment is not available because a chemical safety assessment was not required/not conducted.

### 12.6 Other adverse effects

No data available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### 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. These products must be dissolved in or mixed with a flammable solvent and destroyed in an incinerator for chemicals (with afterburner and exhaust air scrubber).

#### Contaminated packaging

Disposal identical to unused product.

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID	-
IMDG	-
IATA	-

### 14.2 UN proper shipping name

ADR/RID	No dangerous good
IMDG	No dangerous good
IATA	No dangerous good

### 14.3 Transport hazard classes

ADR/RID	-
IMDG	-
IATA	-

### 14.4 Packing group

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ADR/RID	-
IMDG	-
IATA	-

**14.5 Environmental hazards**

ADR/RID	No
IMDG Marine pollutant	No
IATA	No

**14.6 Special precautions for user**

Storage only in original packaging.

Handling only with suitable protective equipment (see section 8).

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific to the substance or mixture**

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

**15.2 Chemical safety assessment**

No chemical safety assessment was performed for this product.

**SECTION 16: Other information****Complete text descriptions of the hazard statements in section 2 and 3**

Eye Irrit.	Eye irritation
Acute Tox.	Acute toxicity
Aquatic Chronic	Chronic aquatic toxicity
Skin Corr.	Skin corrosion
Skin Sens.	Skin sensitization
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation

**Complete texts of the R-phrases in chapter 2 and 3**

Cn	Corrosive
Xi	Irritant
R22	Harmful if swallowed
R36/38	Irritating to eyes and skin
R43	May cause sensitization by skin contact

**Further information**

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