

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

1.1 Product identifiers

Product name	Humidity Standard 20 %RH
Product number	EA20-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.	7447-41-8
UFI Code	KMUE-10JY-H00W-521K

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	Process Sensing Technologies PST GmbH Max-Planck-Str.14 D-61381 Friedrichsdorf
Telephone	+41 44 838 11 11	+49 7243 6019000
Email address	measure@rotronic.ch	de.rotronic.sales@processsensing.com

1.4 Emergency telephone number

Emergency telephone no.	Tox Info Suisse +41 44 251 51 51 (145)	D-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

Acute toxicity, oral (Category 4)	H302
Skin corrosion (Category 2)	H315
Eye irritant (Category 2)	H319

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

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008

Pictogram		
Signal word	Attention	
Hazard statement(s)	H302	Harmful if swallowed.
	H315	Causes skin irritation.
	H319	Causes serious eye irritation.
Precautionary statement(s)	P264	Wash skin thoroughly after use.
	P270	Do not eat, drink or smoke during use.

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	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P301 P312	IF SWALLOWED: If you feel unwell, call a POISON CENTER/doctor.
	P302 P352	IF ON SKIN: Wash with plenty of water.
	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 (not relevant)

3.2 Mixture

Synonyms	Humidity standard Aqueous mixture of 7447-41-8 and dist. H ₂ O
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Hazardous constituents according to Regulation (EC) No. 1272/2008

Constituent		Classification	Conc.	Pictogram
Lithium chloride				
CAS no.	7447-41-8	Acute Tox. 4; Skin Irrit. 2; Skin Sens. 1; H302, H315, H319	60 %	
EC no.	231-212-3			
Water				
CAS no.	7732-18-5	-	40 %	
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

After inhalation, move the affected person into the fresh air.

After skin contact

Remove contaminated clothing and shoes immediately.
Wash skin 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. Let drink water, maximum 2 drinking glasses. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described under 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

Adapt extinguishing measures to the surroundings.

Unsuitable extinguishing media

There are no extinguishing agent restrictions.

5.2 Special hazards arising from the substance or mixture

Hydrogen bromide, lithium oxides non-flammable.

Formation of hazardous vapors possible due to ambient fire.

5.3 Advice for firefighters

In case of fire, wear self-contained breathing apparatus if necessary. Skin contact

Avoid skin contact by keeping a safe distance or wearing suitable protective clothing.

5.4 Further information

Knock down gases/vapors/mist with water spray jet. Do not allow extinguishing water to surface water or groundwater system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Note for personnel not trained for emergencies:

Avoid substance contact. Ensure adequate ventilation. Clear danger zone. Proceed according to emergency plan, call in experts. For personal protective equipment see section 8.

6.2 Environmental precautions

Do not allow to 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

Informationen über Schutzmaßnahmen befinden sich in Abschnitt 2.2.

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.

Storage class (TRGS 510): 12 non-flammable liquids

7.3 Specific end uses

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

In case of intended use, no substances with occupational 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 2016/425 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

Protection suit. 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 required for the intended use: calibration of moisture meters.

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) State of aggregation	liquid
b) Color	clear, colorless
c) Odor	odorless
d) Melting point/freezing point	No data available
e) Boiling point	130 °C at 1013 hPa
f) Flammability	This product is not flammable
g) Lower and upper explosion limit	No data available
h) Flash point	Not applicable
i) Ignition temperature	No data available
j) Decomposition temperature	No data available
k) pH value	4
l) Kinematic viscosity	No data available
m) Solubility	Completely soluble
n) Partition coefficient: n-octanol/water	No data available
o) Vapor pressure	No data available
p) Density	1.35 g/cm ³
q) Relative vapor density	No data available
r) Particle properties	Not applicable

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.

10.6 Hazardous decomposition products

In case of fire: see section 5.

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

LD50 Oral – Rat	526 mg/kg (ECHA)
LD50 Haut - Rat	>2.000 mg/kg (OECD Test Guideline 402)

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Skin corrosion/irritation

Skin - Rabbit	Irritating to skin - 24 h (RTECS)
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Serious eye damage/irritation

Eye - Rabbit	Eye irritation (OECD Test Guideline 405)
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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

Type of test: Ames test Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation.	Method: OECD Test Guideline 471 Result: negative Remark: in analogy to similar compounds
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Carcinogenicity

No data available.

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)	158 mg/l - 96 h OECD Test Guideline 203
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Toxicity to daphnia and other aquatic invertebrates

EC50 – Daphnia magna (Large water flea)	249 mg/l - 48 h (OECD Test Guideline 202)
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Toxicity towards algae

Static test ErC50 - Desmodesmus subspicatus (green alga)	400 mg/l - 72 h (OECD Test Guideline 201)
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Toxicity to bacteria

Static test EC50 - activated sludge	320,05 mg/l - 3 h (OECD Test Guideline 209) Note: by analogy with similar compounds.
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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.

12.7 Other adverse effects

No data available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

All state and local laws must be observed.

Dispose of residual and non-recyclable solutions to an approved disposal company.

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	-

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IATA	-
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14.4 Packing group

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).

14.7 Carriage of bulk cargo by sea in accordance with IMO instruments

Not applicable.

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
H319	Causes serious eye irritation

Further information

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