

Safety data sheet	 <small>MEASUREMENT SOLUTIONS A PST BRAND</small>
MSDS_5_rF_2023_EN	Safety data sheet in accordance with Regulation (EC) No. 1907/2006 Version 6 Revised 26.09.2023 Printed on September 29, 2023

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

1.1 Product identifiers

Product name	Humidity Standard 5 %RH
Product number	EA05-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.	71626-99-8 7699-45-8
UFI code	QCUE-C0KE-S00C-X4HH

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)	DE Munich Poison Information Center (Giftnotruf München) +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 1B)	H314
Skin sensitization (Category 1)	H317
Chronic aquatic toxicity (Category 2)	H411
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

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

Pictogram		
Signal word	Danger	
Hazard statement(s)	H302	Harmful if swallowed.
	H314	Causes severe skin burns and eye damage.
	H317	May cause an allergic skin reaction.
	H319	Causes serious eye irritation.

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Precautionary statement(s)	H411	Toxic to aquatic life with long lasting effects.
	P264	Wash skin thoroughly after use.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P301 P312	IF SWALLOWED: If you feel unwell, call a POISON CENTER/doctor.
	P303 P361 P353	IN CASE OF CONTACT WITH SKIN (OR HAIR): remove all contaminated clothing immediately. Wash skin with 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.
	P337 P313	If eye irritation persists: Seek medical advice/attention.
Supplemental hazard statements	None	

2.3 Other hazards

None

SECTION 3: Composition/information on ingredients

3.1 Substances (not relevant)

3.2 Mixtures

Synonyms	Humidity standard Aqueous solution of $\text{Br}_2\text{Ca} \cdot x\text{H}_2\text{O}$, Br_2Zn and distilled H_2O
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Hazardous constituents according to Regulation (EC) No. 1272/2008

Constituent		Classification	Conc.	Pictogram
Calcium bromide hydrate				
CAS no.	71626-99-8	Eye Irrit. 2; H319	10 - 40 %	
EC no.	232-164-6			
Zinc bromide				
CAS no.	7699-45-8	Acute Tox. 4; Skin Corr. 1B; Skin Sens. 1; Aquatic Chronic 2; H302, H314, H317, H411	40 - 70 %	
EC no.	231-718-4			
Water				
CAS no.	7732-18-5	-	10 - 20 %	
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

First aider must protect himself. Consult a physician. Show this safety data sheet to the physician.

After inhalation

If inhaled, remove affected person to fresh air. Seek medical attention.

After skin contact

Remove any soiled clothing and shoes immediately.
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. Remove contact lenses.

After swallowing

Do NOT induce vomiting. 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 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**

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, zinc/zinc oxides, calcium oxide.
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.
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. Do not allow extinguishing water to reach surface water or groundwater system..

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

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.

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 anticipated.

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 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

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) State of aggregation	liquid
b) Color	clear, brownish
c) Odor	No data available
d) Melting point/freezing point	No data available
e) Boiling point	165 °C at 1013 hPa
f) Flammability	Not applicable
g) Lower and upper explosion limit	No data available
h) Flash point	Not applicable
i) Ignition temperature	Not applicable
j) Decomposition temperature	No data available
k) pH value	4.5 Indicate concentration in water
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	No data available
q) Relative vapor density	2,28g/ cm ³
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

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There is a risk of explosion and/or formation of toxic gases with the following substances: Sodium, potassium, strong oxidizing agents.

10.4 Conditions to avoid

Accidental opening of the ampoules or glass breakage.

10.5 Incompatible materials

Metals, strong oxidizing agents.

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	1,447 mg/kg
LD50 Skin - rabbit	> 2,000 mg/kg

Skin corrosion/irritation

Skin - rabbit	Corrosive
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Serious eye damage/irritation

Eyes - rabbit	Strong eye irritation
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Respiratory or skin sensitization

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

Rat	Abdominal tumor cytogenic analysis
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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: ZH1150000

Coughing, breathing difficulties, headache, nausea, vomiting

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish

LC50 - Other fish	115.9 mg/l - 96 h (OECD Test Guideline 203)
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Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (species of water flea)	8.8 mg/l - 48 h (OECD Test Guideline 202)
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Toxicity to algae

EC50 - Skeletonema costatum (diatom)	6.6 mg/l - 72 h
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12.2 Persistence and degradability

Biodegradability	Result: - According to the results of the biodegradability test, this product is not easily biodegradable.
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No data available.

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

Toxic to aquatic life with long lasting effects.

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.

Contaminated packaging

Disposal identical to unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID	3264
IMDG	3264
IATA	3264

14.2 UN proper shipping name

ADR/RID	Corrosive Liquid, Acidic, Inorganic, N.O.S. (Zinc bromide)
IMDG	Corrosive Liquid, Acidic, Inorganic, N.O.S. (Zinc bromide)
IATA	Corrosive Liquid, Acidic, Inorganic, N.O.S. (Zinc bromide)

14.3 Transport hazard classes

ADR/RID	8
IMDG	8
IATA	8

14.4 Packing group

ADR/RID	III
IMDG	III

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IATA

III

14.5 Environmental hazards

ADR/RID	No
IMDG Marine pollutant	Yes
IATA	No

14.6 Special precautions for user

Storage only in original packaging.

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

14.7 Further information

According to ADR/IDR 2013 Chapter 3.4, Dangerous Goods Packed in Limited Quantities, the product is excepted from ADR/IDR.

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.

National regulations

Water endangering class:

WGK 3, severely hazardous to water – self classification

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
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H411	Toxic to aquatic life with long-lasting effects

Further information

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