SAFETY DATA SHEET

RADIOMETER

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name:	Radiometer SDS M2 025
Product name:	942-058 D711 Ref membrane box (4 units) - Contains: Chamber 1 and Chamber 2. Chamber 1: 944-156 Indervæske med glycerol til ref. elektrode Chamber 2: 944-027 S976 Indervæske til ref. elektrode
Container size:	(Membrane box)

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

Application:	Chemicals for Radiometer Equipment.

1.3. Details of the supplier of the safety data sheet

Manufacturer:	Radiometer Medical ApS Åkandevej 21 2700 Brønshøj Denmark Tel: +45 3827 3827 www.radiometer.com
Responsible for safety data sheet authoring:	environment@radiometer.dk

1.4. Emergency telephone number

Emergency telephone:	Poison Control Centers may be available in specific member countries.

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP: Chamber 1: The product is not classified.
Chamber 2: The product is not classified.

2.2. Label elements

Chamber 1:

The substance/mixture does not meet the criteria for classification, but the following labelling must be applied:

Contains 2-Methylisothiazol-3(2H)-one. May produce an allergic reaction.

Safety data sheet available on request.

Chamber 2:

The substance/mixture does not meet the criteria for classification, but the following labelling must be applied:

Contains Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.

Safety data sheet available on request.

2.3. Other hazards

PBT/vPvB: This product does not contain any PBT or vPvB substances.

Other: The product contains small quantities of a substance, which is very toxic to aquatic organisms, and which may cause long term adverse effects in the aquatic environment.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Chamber 1: The product contains: Glycerol, water, salts and preservative.
Chamber 2: The product contains: water, salts and preservative.

Chamber 1:

CLP:

%:	CAS-No.:	EC No.:	REACH Reg. No:	Chemical name:	Hazard classification:	Notes:
0,00015 - < 0,0015	2682-20-4	220-239-6	-	2-Methyl-2H-isothiazol-3-one	Acute Tox. 2;H330 Acute Tox. 3;H311 Acute Tox. 3;H301 Skin Corr. 1B;H314 Eye Dam. 1;H318 Skin Sens. 1A;H317 Aquatic Acute 1;H400 Aquatic Chronic 1;H410 EUH071	

Chamber 2:

CLP:

%:	CAS-No.:	EC No.:	REACH Reg. No:	Chemical name:	Hazard classification:	Notes:
0,00015 - < 0,0015	55965-84-9	611-341-5	-	5-chloro-2-methyl-4-isothiazolin-3-one, mixed (3:1) with 2-methyl-2H-isothiazol-3-one	Acute Tox. 2;H330 Acute Tox. 2;H310 Acute Tox. 3;H301 Skin Corr. 1C;H314 Eye Dam. 1;H318 Skin Sens. 1A;H317 Aquatic Acute 1;H400 Aquatic Chronic 1;H410 EUH071	

Chamber 1:

Chemical name:	SCL	M (ac)	M (chr)
2-Methyl-2H-isothiazol-3-one	Skin Sens. 1A;H317: C ≥ 0,0015 %	10	1

Chamber 2:

Chemical name:	SCL	M (ac)	M (chr)
5-chloro-2-methyl-4-isothiazolin-3-one, mixed (3:1) with 2-methyl-2H-isothiazol-3-one	Skin Corr. 1C;H314: C ≥ 0,6% Skin Irrit. 2;H315: 0,06% ≤ C <0,6% Eye Dam. 1;H318: C ≥ 0,6% Eye Irrit. 2;H319: 0,06% ≤ C <0,6% Skin Sens. 1A;H317: C ≥ 0,0015%	100	100

References: The full text for all hazard statements is displayed in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation: Move into fresh air and keep at rest.

Skin contact: Remove contaminated clothes and rinse skin thoroughly with water. In case of eczema or other skin disorders: Seek medical attention and bring along these instructions.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring along these instructions.

Ingestion: Immediately rinse mouth and drink 1-2 glasses of water. Keep person under observation. If uncomfortable: Transportation to hospital. Bring along these instructions.

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

Symptoms/effects: See section 11 for more detailed information on health effects and symptoms.

4.3. Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture

Specific hazards: No specific precautions.

5.3. Advice for firefighters

Protective equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Flush away small spillages with plenty of water.

6.4. Reference to other sections

References: For personal protection, see section 8.
For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling advice: Observe good laboratory/industrial hygiene practices. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: See storage temperature on the product label.

7.3. Specific end use(s)

Specific use(s): Not relevant.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

No occupational exposure limit assigned.

8.2. Exposure controls

Engineering measures:	Provide adequate ventilation. Avoid forming spray mists/aerosols.
Personal protection:	Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Hand protection:	Risk of contact: Wear protective gloves. Use protective gloves made of: - Nitrile. Thickness: 0,11 mm. Breakthrough time: > 480 min. - Butyl rubber or PVC. Thickness: > 1 mm. Breakthrough time: > 480 min. Other types of gloves can be recommended by the glove supplier.
Eye protection:	Risk of splashes: Wear goggles/face shield.
Hygiene measures:	Wash hands after contact.
Environmental Exposure Controls:	Not available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	Chamber 1: Liquid. Chamber 2: Liquid.
Odour:	Chamber 1: Odourless. Chamber 2: Odourless.
Odour threshold:	Chamber 1: Not available. Chamber 2: Not available.
pH:	Chamber 1: Not available. Chamber 2: Not available.
Melting point / freezing point:	Chamber 1: Not available. Chamber 2: Not available.
Boiling point:	Chamber 1: Not available. Chamber 2: approx. 100°C
Flash point:	Chamber 1: Not available. Chamber 2: Not available.
Evaporation rate:	Chamber 1: Not available. Chamber 2: Not available.
Explosion limits:	Chamber 1: Not available. Chamber 2: Not available.
Vapour pressure:	Chamber 1: Not available. Chamber 2: Not available.
Vapour density:	Chamber 1: Not available. Chamber 2: Not available.
Relative density:	Chamber 1: 1,24 Chamber 2: approx. 1,0
Solubility:	Chamber 1: Completely soluble in water. Chamber 2: Completely soluble in water.
Partition coefficient (n-octanol/water):	Chamber 1: Not available. Chamber 2: Not available.
Auto-ignition temperature (°C):	Chamber 1: Not available. Chamber 2: Not available.
Decomposition temperature (°C):	Chamber 1: Not available. Chamber 2: Not available.
Viscosity:	Chamber 1: Not available. Chamber 2: Not available.
Explosive properties:	Not relevant.
Oxidising properties:	Chamber 1: Not available. Chamber 2: Not available.

9.2. Other information

Other data:	Not available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity: Not known.

10.2. Chemical stability

Stability: Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Hazardous Reactions: None known.

10.4. Conditions to avoid

Conditions/materials to avoid: None specific.

10.5. Incompatible materials

Incompatible materials: Strong acids.

10.6. Hazardous decomposition products

Hazardous decomposition products: When heated, toxic and corrosive vapours/gases may be formed.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity (Oral):	Chamber 1: Based on available data, the classification criteria are not met. Chamber 2: Based on available data, the classification criteria are not met.
Acute Toxicity (Dermal):	Chamber 1: Based on available data, the classification criteria are not met. Chamber 2: Based on available data, the classification criteria are not met.
Acute Toxicity (Inhalation):	Chamber 1: Based on available data, the classification criteria are not met. Chamber 2: Based on available data, the classification criteria are not met.
Skin Corrosion/Irritation:	Chamber 1: Based on available data, the classification criteria are not met. Chamber 2: Based on available data, the classification criteria are not met.
Serious eye damage/irritation:	Chamber 1: Based on available data, the classification criteria are not met. Chamber 2: Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation:	Chamber 1: Based on available data, the classification criteria are not met. Chamber 2: Based on available data, the classification criteria are not met.
Germ cell mutagenicity:	Chamber 1: Based on available data, the classification criteria are not met. Chamber 2: Based on available data, the classification criteria are not met.
Carcinogenicity:	Chamber 1: Based on available data, the classification criteria are not met. Chamber 2: Based on available data, the classification criteria are not met.
Reproductive Toxicity:	Chamber 1: Based on available data, the classification criteria are not met. Chamber 2: Based on available data, the classification criteria are not met.
STOT - Single exposure:	Chamber 1: Based on available data, the classification criteria are not met. Chamber 2: Based on available data, the classification criteria are not met.
STOT - Repeated exposure:	Chamber 1: Based on available data, the classification criteria are not met. Chamber 2: Based on available data, the classification criteria are not met.
Aspiration hazard:	Chamber 1: Based on available data, the classification criteria are not met. Chamber 2: Based on available data, the classification criteria are not met.
Inhalation:	Inhalation of aerosols: May irritate the respiratory system.
Skin contact:	Prolonged or repeated contact may cause irritation. The product contains a small amount of sensitising substance which may provoke an allergic reaction among sensitive individuals.
Eye contact:	Splashes may irritate.
Ingestion:	Not likely, due to the packaging. However, ingestion may cause nausea, stomach pain and vomiting.

11.2. Information on other hazards

Endocrine disrupting properties:	The product does not contain any substance identified as having endocrine disrupting properties.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity: The product contains substances which are very toxic to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

Chamber 1: 2-Methyl-2H-isothiazol-3-one
M-factor (acute): 10
M-factor (chronic): 1

Chamber 2: 5-chloro-2-methyl-4-isothiazolin-3-one, mixed (3:1) with 2-methyl-2H-isothiazol-3-one
M-factor (acute): 100
M-factor (chronic): 100

12.2. Persistence and degradability

Degradability: The product is expected to be biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: Will not bio-accumulate.

12.4. Mobility in soil

Mobility: No data available.

12.5. Results of PBT and vPvB assessment

PBT/vPvB: This product does not contain any PBT or vPvB substances.

12.6. Endocrine disrupting properties

Endocrine disrupting properties: The product does not contain any substance identified as having endocrine disrupting properties.

12.7. Other adverse effects

Other adverse effects: None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements.

Waste from residues: EWC-code: 16 05 09

Contaminated packaging: Dispose of contaminated packings as residue.

SECTION 14: TRANSPORT INFORMATION

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/AND/RID).

14.1. UN number

UN-No: -

14.2. UN proper shipping name

Proper Shipping Name: -

14.3. Transport hazard class(es)

Class: -

14.4. Packing group

PG: -

14.5. Environmental hazards

Marine pollutant: -

Environmentally Hazardous substance: -

14.6. Special precautions for user

Special precautions: None known.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk: Not relevant.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulation: Chamber 1: Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, with amendments.
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.
Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work, with amendments.
Directive 98/79/EC of the European Parliament and of the Council of 27 October 1998 on in vitro diagnostic medical devices.
Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, with amendments.
Commission Directive 91/322/EEC of 29 May 1991 on establishing indicative limit values by implementing Council Directive 80/1107/EEC on the protection of workers from the risks related to exposure to chemical, physical and biological

agents at work, with amendments.
Directive 2004/37/EC of the European Parliament and of the Council of 29 April 2004 on the protection of workers from the risks related to exposure to carcinogens or mutagens at work, with amendments.
Directive 2009/148/EC of the European Parliament and of the Council of 30 November 2009 on the protection of workers from the risks related to exposure to asbestos at work, with amendments.
Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives, with amendments.
2014/955/EC: Commission Decision of 18 December 2014 amending Decision 2000/532/EC as regards the list of wastes.

Chamber 2: Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, with amendments.
Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, with amendments.
Commission Directive 91/322/EEC of 29 May 1991 on establishing indicative limit values by implementing Council Directive 80/1107/EEC on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work, with amendments.
Directive 2004/37/EC of the European Parliament and of the Council of 29 April 2004 on the protection of workers from the risks related to exposure to carcinogens or mutagens at work, with amendments.
Directive 2009/148/EC of the European Parliament and of the Council of 30 November 2009 on the protection of workers from the risks related to exposure to asbestos at work.
Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives, with amendments.
2014/955/EC: Commission Decision of 18 December 2014 amending Decision 2000/532/EC as regards the list of wastes.

15.2. Chemical Safety Assessment

CSA status: No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

The following sections contain revisions or new statements: 1, 3, 8, 11, 16.

This SDS refers to the following internal drawings:
942-058: A4-28414 rev 13
944-156: MFG-004616 rev 26 (Chamber 1)
944-027: MFG-004565 rev 23 (Chamber 2)

Abbreviations and acronyms used in the safety data sheet:	CSA = Chemical Safety Assessment. M(ac) = M-factor acute toxicity. M(chr) = M-factor chronic toxicity. PBT = Persistent, Bioaccumulative and Toxic. SCL = Specific Concentration Limit. STOT = Specific Target Organ Toxicity. SVHC = Substance of Very High Concern. vPvB = very Persistent and very Bioaccumulative.
Additional information:	Classification according to Regulation (EC) No. 1272/2008: Calculation method.
Wording of H-statements:	
EUH071	Corrosive to the respiratory tract.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

Made by DHI - Environment and Toxicology, Agern Allé 5, DK-2970 Hørsholm, Denmark.
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