

# SAFETY DATA SHEET

RADIOMETER 

Product name: Radiometer SDS M3 037 Page: 1/11  
Supersedes date: 2016-02-11 Revision: 2017-02-22  
P/N-no.: SDS-ID: US-EN/4.3

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

### Product identifier

Product name: Radiometer SDS M3 037  
Product name: ABL90 FLEX Solution Pack -including:  
944-157 ABL90 FLEX Solution pack  
944-197 Solution Pack SP90 (RDEU)  
944-369 ABL90 FLEX Solution Pack SP90 Ki  
944-370 ABL90 FLEX Solution Pack SP90 Ki (RDEU)  
944-457 SOLUTION PACK High Volume  
944-497 SOLUTION PACK High Volume RDEU  
944-550 Solution Pack for BC  
Container size: Cassette containing bags.

Bag 1: Gas.: 150 ml (760 mmHg / 77°F)  
Bags 2-7: Liquid.: 2 x 200 ml, 4 x 100 ml  
Bags 2-7: Liquid.: 1 x 270 ml, 1 x 280 ml, 4 x 100 ml  
Bag 8-9: Waste container

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

Application: Chemicals for Radiometer Equipment.

### Details of the supplier of the safety data sheet

Supplier: Radiometer America Inc.  
810 Sharon Drive  
Westlake OH, 44145, USA  
Tel:440-871-8900  
www.radiometer.com

Manufacturer Radiometer Medical ApS  
Åkandevvej 21  
DK-2700 Brønshøj, DENMARK  
Tel: +45 3827 2853  
Tel: +45 3827 2828  
www.radiometer.com

Responsible for material safety data sheet authoring: environment@radiometer.dk

### Emergency telephone number

Emergency telephone: National Capital Poison Center: 1-800-222-1222

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## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Due to the design of the product, exposure is likely to be brief and in small quantities.  
This Product is Hazardous under the OSHA Hazard Communication Standard.

Classification according to OSHA HCS (2012):

OSHA 2012: Bag 1: The product is classified: Oxidizing Gas Category 1  
Bags 2-7: The product is not classified.

### Label elements

#### **Bag 1:**

Label in accordance with OSHA HCS (2012):



#### Signal word

Danger

H270

May cause or intensify fire; oxidizer.

P220

Keep away from combustible materials.

P403

Store in a well-ventilated place.

P370 + P376

In case of fire: Stop leak if safe to do so.

P244

Keep reduction valves free from grease and oil.

#### **Bags 2-7:**

The substance/mixture does not meet the criteria for classification and labeling.

### Other hazards

#### PBT/vPvB:

This product does not contain any PBT or vPvB substances.

#### Other:

Bag 1: In high concentrations: May be harmful if inhaled.

Bags 2-7: The hazardous properties of the product are considered limited.  
However, the product contains a small amount of sensitizing substance which may provoke an allergic reaction among sensitive individuals.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### Mixtures

Bag 1: The product contains: Gas.

Bags 2-7: The product contains: water, salts, additives and preservative.

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## Bag 1:

OSHA 2012:

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>REACH Reg. No:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
50-55	7727-37-9	231-783-9	-	Nitrogen	Press. Gas;H280	
40-45	7782-44-7	231-956-9	-	Oxygen	Ox. Gas 1;H270 Press. Gas	U
3-7	124-38-9	204-696-9	-	Carbon dioxide	Press. Gas;H280	#

Notes: #: The substance has been assigned an exposure limit.

## Bags 2-7:

OSHA 2012:

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>REACH Reg. No:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
1-<3	1132-61-2	214-478-5	-	4-Morpholinopropane-sulphonic acid	Skin Irrit. 2;H315 Eye Irrit. 2;H319 STOT SE 3;H335	
<0,06	2682-20-4	220-239-6	-	2-Methyl-2H-isothiazol-3-one	Acute Tox. 2;H330 Acute Tox. 3;H301 Acute Tox. 3;H311 Skin Corr. 1B;H314 Eye Dam. 1;H318 Skin Sens. 1A;H317 Aquatic Acute 1;H400 Aquatic Chronic 1;H410	

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

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

Not relevant during normal use. In case of breakage of the packaging:

<u>Inhalation:</u>	Move into fresh air and keep at rest.
<u>Skin contact:</u>	Wash skin thoroughly with soap and water. In case of eczema or other skin disorders: Seek medical attention and bring these instructions.
<u>Eye contact:</u>	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.
<u>Ingestion:</u>	Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.

### Most important symptoms and effects, both acute and delayed

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

### Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Treat symptomatically.

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## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

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

### Special hazards arising from the substance or mixture

Specific hazards: Bag 1: May cause or intensify fire; oxidizer. Considering the size of the packaging, the risk is regarded as minimal.

### 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

### Personal precautions, protective equipment and emergency procedures

Personal precautions: Follow precautions for safe handling described in this safety data sheet.

### Environmental precautions

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

### Methods and material for containment and cleaning up

Spill Cleanup Methods: Collect in containers and seal securely.

### Reference to other sections

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

## SECTION 7: HANDLING AND STORAGE

### Precautions for safe handling

Safe handling advice: No special precautions when handling undamaged units.  
Damaged units: Avoid contact with skin and eyes.

When product is in use it will contain human blood. Observe routine biosafety procedures in handling the product and consider all materials as potentially infectious.

### Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: No special precautions.

Storage conditions: See storage temperature on the product label.

### Specific end use(s)

Specific use(s): Not relevant.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Bag 1:

Occupational exposure limits:

<u>CAS-No.:</u>	<u>Chemical name:</u>	<u>As:</u>	<u>Exposure limits:</u>	<u>Type:</u>	<u>Notes:</u>	<u>References:</u>	
124-38-9	Carbon dioxide	-	5000 ppm	9000 mg/m3	TWA	-	NIOSH
		-	30000 ppm	54000 mg/m3	ST	15min	
124-38-9	Carbon dioxide	-	5000 ppm		TWA	-	ACGIH
		-	30000 ppm		STEL	15min	
124-38-9	Carbon dioxide	-	5000 ppm	9000 mg/m3	TWA	-	OSHA
7727-37-9	Nitrogen	-				Simple asphyxiant	ACGIH

Notes:

ACGIH: Threshold Limit Values 2016 (ACGIH).  
NIOSH: NIOSH Pocket Guide to Chemical Hazards (September 2007).  
OSHA: Occupational Safety and Health Standards, Air contaminants (amendments 2006).

### Exposure controls

#### Engineering measures:

Provide adequate ventilation.

Bag 1: Observe Occupational Exposure Limits and minimize the risk of inhalation.

NOTE: Due to the small packaging the risk of inhalation is minimal.

#### Personal protection:

Contact with the product is not likely when used according to directions.

#### Respiratory equipment:

No special precautions. Due to the small packaging the risk of inhalation is minimal.

#### Hand protection:

In case of contact with spilled product: Wear protective gloves. Nitrile gloves are recommended.

#### Eye protection:

Risk of splashes: Wear goggles/face shield.

#### Hygiene measures:

Wash hands after contact.

#### Environmental Exposure Controls:

Not available.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Appearance: Bag 1: Cassette containing bags.  
(Gas.)  
Bags 2-7: Cassette containing bags.  
(Liquid.)

Odor: Bag 1: Pungent.  
Bags 2-7: Odorless.

pH: Bag 1: -  
Bags 2-7: 6.8-7.5

Boiling point: Bag 1: -  
Bags 2-7: approx. 212°F / 100°C

Solubility: Bag 1: Slightly soluble in water.  
Bags 2-7: Completely soluble in water.

### Other information

Other data: Not relevant.

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

Reactivity: Not known.

### Chemical stability

Stability: Stable under the prescribed storage conditions.

### Possibility of hazardous reactions

Hazardous Reactions: None known.

### Conditions to avoid

Conditions/materials to avoid: Keep away from heat, sparks and open flame.

### Incompatible materials

Incompatible materials: Not relevant.

### Hazardous decomposition products

Hazardous decomposition products: None in particular.

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## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on toxicological effects

Bag 1 and Bags 2-7:

Acute Toxicity (Oral): Based on available data, the classification criteria are not met.

Acute Toxicity (Dermal): Based on available data, the classification criteria are not met.

Acute Toxicity (Inhalation): Based on available data, the classification criteria are not met.

Skin Corrosion/Irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Respiratory or skin sensitization: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive Toxicity: Based on available data, the classification criteria are not met.

STOT - Single exposure: Based on available data, the classification criteria are not met.

STOT - Repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

Inhalation: Not relevant during normal use. In case of breakage of the packaging:  
Bag 1: In high concentrations: May be harmful if inhaled.  
Bags 2-7: Aerosols may irritate the respiratory system.

Skin contact: Bag 1: -  
Bags 2-7: Not relevant during normal use. In case of breakage of the packaging:  
Liquid may irritate the skin.

Eye contact: Bag 1: -  
Bags 2-7: Not relevant during normal use. In case of breakage of the packaging:  
Splashes may irritate.

Ingestion: Bag 1: -  
Bags 2-7: Not relevant during normal use. In case of breakage of the packaging:  
May irritate and cause malaise.

Specific effects: Bag 1: -  
Bags 2-7: The product contains very small amounts of Isothiazolone which may provoke an allergic reaction among sensitive individuals.

Additional information: This product contains no ingredient above 0.1 % listed on the NTP, OSHA or IARC carcinogen lists.

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## SECTION 12: ECOLOGICAL INFORMATION

### Toxicity

Ecotoxicity: The harmful effects of the product in the environment are considered to be limited.

2-Methyl-2H-isothiazol-3-one:

M-factor (acute): 10

M-factor (chronic): 1

### Persistence and degradability

Degradability: The product is expected to be biodegradable.

### Bioaccumulative potential

Bioaccumulative potential: No data available on bioaccumulation.

### Mobility in soil

Mobility: No data available.

### Results of PBT and vPvB assessment

PBT/vPvB: Not relevant.

### Other adverse effects

Other adverse effects: None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements. It is the responsibility of the waste producer to classify the waste correctly according to knowledge of patients and legislation.

NOTE: When product is in use it will contain human blood. Observe routine biosafety procedures in handling the product and consider all materials as potentially infectious unless proven non-infectious.

Contaminated packaging: Dispose of contaminated packings as residue.

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## SECTION 14: TRANSPORT INFORMATION

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

### UN number

UN-No: -

### UN proper shipping name

Proper Shipping Name: -

### Transport hazard class(es)

Class: -

### Packing group

PG: -

### Environmental hazards

Marine pollutant: -

Environmentally Hazardous substance: -

### Special precautions for user

Special precautions: None known.

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport in bulk: Not relevant.

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## SECTION 15: REGULATORY INFORMATION

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

When product is in use it will contain human blood. Follow the requirements in the Bloodborne Pathogens Standard (CFR 29 1910.1030)

Special provisions: TSCA: Listed.

SARA Section 302: Yes. (0.01-<0.1 Hydrogen chloride)  
SARA Section 304: Yes. (0.01-<0.1 Hydrogen chloride) (0.1-<1 Sodium hydroxide)  
SARA Section 313: Yes. (0.01-<0.1 Hydrogen chloride)

SARA (311/312) Hazard categories: Yes.

This product contains no ingredient above 0.1 % listed on the NTP, OSHA or IARC carcinogen lists.

Bag 1: NFPA Rating: Health: 0 Fire: 0 Reactivity: 0 Other: OX  
Bags 2-7: NFPA Rating: Health:1 Fire:0 Reactivity:0 Other:-

National regulation:

The following lists and legislation have been checked:  
The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Hazard Communication, with amendments.  
The Code of Federal Regulation, Title 40, part 261.33. Identification and listing of hazardous waste.  
The Code of Federal Regulation. Title 40, part 355.50. Emergency Planning and Notification.  
The Code of Federal Regulation. Title 40, part 302.4. Designation, Reportable Quantities, and Notification.  
The Code of Federal Regulation. Title 40, part 68.130. Chemical Accident Prevention Provisions.  
The Code of Federal Regulation. Title 40, part 372.65. Toxic Chemical Release Reporting: Community Right to Know.  
Threshold Limit Values (2016), ACGIH, by the American Conference on Governmental Industrial Hygienists.  
The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Air contaminants (OSHA), with amendments.  
NIOSH Pocket Guide to Chemical Hazards.  
U.S. Department of health and human services: 2014 - Report on Carcinogens - 13th Edition.  
International Agency for Research on Cancer (IARC): IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon: IARC, World Health Organization.  
State of California. Environmental Protection Agency. California Proposition 65, with amendments.

## SECTION 16: OTHER INFORMATION

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

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The following sections contain revisions or new statements: 1-A, 2-A, 2-B, 11-B, 12-A, 15-A, 16.

This SDS refers to the following internal drawings:

Bag 1 (Gas.):

Gas: MFG-008874 rev 4

Bags 2-7 (Liquid.):

Cal1: MFG-008869 rev 3

Cal2: MFG-008875 rev 3

Cal3: MFG-008876 rev 4

QC1: MFG-008871 rev 4

QC2: MFG-008872 rev 4

QC3: MFG-008873 rev 4

Abbreviations and acronyms used in the safety data sheet: PBT = Persistent, Bioaccumulative and Toxic.  
vPvB = very Persistent and very Bioaccumulative.

Additional information: Classification according to HCS 2012:  
Health Hazards: Calculation method.  
Physical Hazards: Expert judgement.

Last revised date: 2017-02-22

Wording of H-statements:

H270	May cause or intensify fire; oxidizer.
H280	Contains gas under pressure; may explode if heated.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

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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.  
[www.dhigroup.com](http://www.dhigroup.com).

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