

## Information about Compilation of Safety Data Sheets

**Product: HistoMark® ORANGE Peroxidase Substrate Kit**  
**Company: SeraCare Life Sciences**  
**Article number: 5510-0033**

All components of the aforementioned kit had been classified according to Regulation (EC) No. 1907/2006 (REACH) and to Regulation (EC) No. 1272/2008 (GHS/CLP).

For the kit components Enhance ORANGE Buffer Solution (article number 71-00-07), DAB-C Solution (article number 71-00-13), Peroxide Solution (article numbers: 71-00-09, 71-00-48), and Blocking Solution Concentrate (article number 71-00-10, also available separately under the article number 5560-0006), Safety Data Sheets had been compiled (enclosure).

For the remaining kit component Contrast GREEN Solution (article number 71-00-11, also available separately under the article number 5540-0003), no Safety Data Sheet is required after classification according to the Regulation (EC) No. 1907/2006 (REACH) and the Regulation (EC) No. 1272/2008 (GHS/CLP).

When handling the kit components, the general and specific safety precautions for laboratories and the corresponding directives have to be followed.

Date of issue: March 2018

**medac**

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**Safety data sheet  
according to 1907/2006/EC, Article 31**

Printing date 21.03.2018

Version number 2

Revision: 21.03.2018

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

### 1.1 Product identifier

**Trade name:** Enhance ORANGE Buffer Solution

**Article number:** 71-00-07

**Registration number**

This product is a mixture (see chapter 3). Registration number(s) is/are not available for this substance/these substances as the substance(s) or its/their use are exempted from registration according to Article 2 REACH Regulation (EC) No. 1907/2006, the annual tonnage does not require registration or the registration is envisaged for a later registration deadline.

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

Relevant identified uses:

RUO (Research Use Only).

Uses advised against:

For in vitro diagnosis.

**Sector of Use** SU24 Scientific research and development

**Product category** PC21 Laboratory chemicals

**Process category** PROC15 Use as laboratory reagent

**Application of the substance / the mixture** Immunochemical reagent for detection / auxiliary reagent

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

**Manufacturer/Distributor:**

Manufacturer:

SeraCare Life Sciences (KPL)

910 Clopper Road

Gaithersburgh, Maryland 20878, USA

Distributor:

medac GmbH

Theaterstrasse 6

22880 Wedel, Germany

phone: +49 4103 8006-0

**Informing department:**

Product Safety

productsafety@medac.de

### 1.4 Emergency telephone number:

Giftinformationszentrum-Nord, Phone: ++49 551 19 240 (service in German and English, 24 hours permanently accessible).

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

The product is classified according to CLP regulation.

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H332	Harmful if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Resp. Sens. 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Muta. 2	H341	Suspected of causing genetic defects.
Carc. 1A	H350i	May cause cancer by inhalation. Route of exposure: Inhalation.
Repr. 1B	H360D	May damage the unborn child.
STOT RE 1	H372	Causes damage to organs through prolonged or repeated exposure.
Aquatic Acute 1	H400	Very toxic to aquatic life.
Aquatic Chronic 2	H411	Toxic to aquatic life with long lasting effects.

### 2.2 Label elements

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

The product is classified and labeled in accordance with Regulation (EC) No 1272/2008 (GHS/CLP).

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Trade name: Enhance ORANGE Buffer Solution

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**Hazard pictograms**

GHS07 GHS08 GHS09

**Signal word** Danger**Hazard-determining components of labelling:**

nickel sulfate hexahydrate

**Hazard statements**

H302+H332 Harmful if swallowed or if inhaled.  
 H315 Causes skin irritation.  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H317 May cause an allergic skin reaction.  
 H341 Suspected of causing genetic defects.  
 H350i May cause cancer by inhalation. Route of exposure: Inhalation.  
 H360D May damage the unborn child.  
 H372 Causes damage to organs through prolonged or repeated exposure.  
 H400 Very toxic to aquatic life.  
 H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements**

P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P280 Wear protective gloves / protective clothing / eye protection  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.  
 P405 Store locked up.

**Additional information:** Restricted to professional users.**Labelling of packages where the contents do not exceed 125 ml****Hazard pictograms**

GHS07 GHS08 GHS09

**Signal word** Danger**Hazard-determining components of labelling:**

nickel sulfate hexahydrate

**Hazard statements**

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H317 May cause an allergic skin reaction.  
 H341 Suspected of causing genetic defects.  
 H350i May cause cancer by inhalation. Route of exposure: Inhalation.  
 H360D May damage the unborn child.  
 H372 Causes damage to organs through prolonged or repeated exposure.

**Precautionary statements**

Restricted to professional users.

P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.  
 P405 Store locked up.

**Hazard designation:** Restricted to professional users.**2.3 Other hazards****Results of PBT and vPvB assessment****PBT:** Substance(s) does/do not meet the criteria for PBT according to Regulation (EC) No 1907/2006, Annex XIII.

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**vPvB:** Substance(s) does/do not meet the criteria for vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

### SECTION 3: Composition/information on ingredients

**3.1. Chemical characterisation: substances** Not applicable. Product is a mixture.

**3.2 Chemical characterisation: Mixtures**

**Description:** Immunochemical reagent / auxiliary reagent

**Dangerous components:**

CAS: 10101-97-0 EINECS: 232-104-9 Index number: 028-009-00-5	nickel sulfate hexahydrate ⚠ Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1A, H350i; Repr. 1B, H360D; STOT RE 1, H372 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Skin Sens. 1, H317	25%
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**SVHC** Not applicable.

**Additional information** For the wording of the listed H-phrases please refer to Section 16.

### SECTION 4: First aid measures

**4.1 Description of first aid measures**

**General information** First aider: Take care of self-protection.

**After inhalation**

Supply fresh air.

Seek immediate medical advice.

**After skin contact**

Instantly remove contaminated clothes.

Instantly clean with much water and soap.

Call in physician.

**After eye contact**

Rinse eyes cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

In case of onset of symptoms consult ophthalmologist.

**After swallowing**

Let rinse out mouth and then drink plenty of water.

Call doctor.

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

Breathing difficulty.

Asthma attacks

Allergic reactions

Irritant effects.

**Information for doctor**

Show Safety Data Sheet.

Treatment according to symptoms.

**Danger** No further relevant information available.

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

No further relevant information available.

### SECTION 5: Firefighting measures

**5.1 Extinguishing media**

**Suitable extinguishing agents** Product itself does not burn. Use fire fighting measures that suit the environment.

**For safety reasons unsuitable extinguishing agents** For this mixture no limitations of extinguishing agents are given.

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

Noncombustible.

In the event of surrounding fire development of hazardous vapours possible.

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In the event of fire may develop:

Carbon monoxide (CO)

Carbon dioxide (CO<sub>2</sub>)

Nitrogen oxides (NO<sub>x</sub>)

Sulfur oxides.

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### 5.3 Advice for firefighters

#### Protective equipment:

Stay in the danger area only with self-contained breathing apparatus.

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

#### Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel:

Avoid reagent contact with eyes and skin.

Provide sufficient ventilation.

Advice for emergency responders: Protective equipment: see Section 8.

### 6.2 Environmental precautions: Do not empty into drains.

### 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Afterwards clean with water and cleansing agent.

Dispose of the material collected according to respective national regulations.

Ensure adequate ventilation.

### 6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Observe label precautions.

Open and handle container with care.

**Information about protection against explosions and fires:** No special measures required.

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

No further relevant information available.

#### Storage

**Requirements to be met by storerooms and containers:** Store at +2 °C to +8 °C.

**Information about storage in one common storage facility:** For this mixture no further information available.

#### Further information about storage conditions:

The indications are valid for the whole package.

Store in a locked cabinet or with access restricted to technical experts or their assistants.

**Storage class** Please see the respective national guidelines.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

**Additional information about design of technical systems:** No further data; see Section 7.

### 8.1 Control parameters

**Components with critical values that require monitoring at the workplace:**

**DNELs** No further relevant information available.

**PNECs** No further relevant information available.

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**Ingredients with biological limit values:** Void.

CAS No.	Designation of material	%	Type	Value	Unit
<b>Additional Occupational Exposure Limit Values for possible hazards during processing:</b> Not applicable.					
<b>Additional information:</b> The official lists that were valid during the compilation were used as basis.					

### 8.2 Exposure controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See Section 7.

#### Personal protective equipment

##### General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.

Avoid contact with the eyes and skin.

Do not inhale vapours/aerosols.

Remove contaminated clothing immediately.

Do not eat or drink while working.

Keep away from food and beverages.

Wash hands during breaks and at the end of the work.

**Breathing equipment:** Essential if vapours/aerosols develop.

#### Protection of hands:

Protective gloves (AQL 1.5).

The breakthrough times stated below base on laboratory test methods which cannot fully simulate working conditions. It is the responsibility of the enduser to choose the appropriate gloves for his application. If working with substances or mixtures harmful in contact with skin, check the gloves beforehand for holes and fissures.

#### Material of gloves

Nitrile rubber, NBR

Natural rubber, NR

Thickness 0.11 mm.

Product quality must comply with standard EN 374.

**Penetration time of glove material** Penetration time > 120 min.

**For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Product has not been designed for permanent contact.

**For the permanent contact gloves made of the following materials are suitable:**

Product has not been designed for permanent contact.

**For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

Product has not been designed for permanent contact.

**As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Natural rubber, NR

Thickness: 0.11 mm.

Penetration time > 120 min.

**Eye protection:** Safety glasses (standard EN 166).

**Body protection:** Protective work clothing.

**Limitation and supervision of exposure into the environment** Do not empty into drains.

**Risk management measures** Void.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

##### Appearance:

**Form:** clear, liquid

**Colour:** light green

**Smell:** slight sulfur odor

**Odour threshold:** No information available.

#### Important information on protection of health and environment, and on safety.

No further relevant information available.

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**pH-value:** No information available.

**Change in condition** Not applicable.

**Melting point/freezing point:** No information available.

**Initial boiling point and boiling range:** No information available.

**Flash point:** Not applicable.

**Inflammability (solid, gaseous)** Not applicable.

**Ignition temperature:** Not available.

**Decomposition temperature:** No information available.

**Self-inflammability:** Not self-inflammable.

**Explosive properties:** Not explosive.

**Critical values for explosion:**

**Lower:** Not applicable.

**Upper:** Not applicable.

**Oxidising properties** Not applicable.

**Steam pressure:** No information available.

**Density** No information available.

**Relative density** No information available.

**Vapour density** No information available.

**Evaporation rate** No information available.

**Solubility in / Miscibility with**

**Water:** Miscible

**Partition coefficient: n-octanol/water:** No information available.

**Viscosity:**

**dynamic:** No information available.

**kinematic:** No information available.

**Solvent content:**

**Organic solvents:** 0.0 %

**Water:** ca. 67.0 %

**Solids content:** ca. 33.0 %

**9.2 Other information** No further relevant information available.

## SECTION 10: Stability and reactivity

**10.1 Reactivity** The mixture is chemically not reactive.

**10.2 Chemical stability** The product is chemically stable under the indicated storage conditions.

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions**

Dangerous reactions are not to be expected handling product according to its intended use.

**10.4 Conditions to avoid:** No further relevant information available.

**10.5 Incompatible materials:** Strong oxidising agents

**10.6 Hazardous decomposition products:** In case of burning of larger amounts: See Section 5.

**Additional information:** No further relevant information available.

## SECTION 11: Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

Harmful if swallowed or if inhaled.

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**LD/LC50 values that are relevant for classification:****10101-97-0 nickel sulfate hexahydrate**

Oral	LD <sub>50</sub>	361 mg/kg (rat) (OECD Test Guideline 425)
Inhalative	LC <sub>50</sub> /4 h	2.48 mg/l (rat) (OECD Test Guideline 403)

**Specific symptoms in biological assay:** No further relevant information available.**Primary irritant effect:****Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/irritation** Irritations possible.**after swallowing:** Mucosal irritations in mouth, pharynx and oesophagus possible.**after inhalation:** Irritations of the respiratory system, asthma, breathing difficulties.**Respiratory or skin sensitisation**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

**Other information (about experimental toxicology):** No further relevant information available.**Subacute to chronic toxicity:** No further relevant information available.**Additional toxicological information:** No further relevant information available.**Toxicokinetics, metabolism and distribution** No relevant information available.**Acute effects (acute toxicity, irritation and corrosivity)** No acute toxicity information available for this product.**Sensitisation** No sensitising effect known.**Repeated dose toxicity** The substance or mixture is classified as specific target organ toxicant, repeated exposure.**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)****Germ cell mutagenicity**

Suspected of causing genetic defects.

**Carcinogenicity**

May cause cancer by inhalation. Route of exposure: Inhalation.

**Reproductive toxicity**

May damage the unborn child.

**STOT-single exposure** Based on available data, the classification criteria are not met.**STOT-repeated exposure**

Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard** Based on available data, the classification criteria are not met.**SECTION 12: Ecological information****12.1 Toxicity****Aquatic toxicity:****10101-97-0 nickel sulfate hexahydrate**

Oral	EC50/48 h	1 mg/l (Daphnia magna) (OECD Test Guideline 202)
	LC50/96 h	1.28 mg/l (fish)

**12.2 Persistence and degradability** No further relevant information available.**Other information:** No further relevant information available.**Behaviour in environmental systems:****Components:** No relevant information available.**12.3 Bioaccumulative potential** No relevant information available.**12.4 Mobility in soil** No relevant information available.**Ecotoxicological effects:****Remark:** Very toxic for water organisms.**Additional ecological information:****General notes:** Water hazard class 2 (Self-assessment): hazardous for water.**12.5 Results of PBT and vPvB assessment****PBT:** Substance(s) does/do not meet the criteria for PBT according to Regulation (EC) No 1907/2006, Annex XIII.**vPvB:** Substance(s) does/do not meet the criteria for vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

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**12.6 Other adverse effects** No relevant information available.

### SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

Product residues have to be disposed of according to the Waste Framework Directive as well as national and regional regulations in each the latest versions.

**Uncleaned packagings:**
**Recommendation:** Uncleaned packagings have to be disposed of in the same manner as the product residues.

### SECTION 14: Transport information

**14.1 UN-Number**  
**ADR, IMDG, IATA**

UN3082

**14.2 UN proper shipping name**  
**ADR**

 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (nickel sulfate hexahydrate)  
**IMDG** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (nickel sulfate hexahydrate), MARINE POLLUTANT  
**IATA** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (nickel sulfate hexahydrate)

**14.3 Transport hazard class(es)**
**ADR**

**Class**  
**Label**

 9 (M6) Miscellaneous dangerous substances and articles.  
 9

**IMDG, IATA**

**Class**  
**Label**

 9 Miscellaneous dangerous substances and articles.  
 9

**14.4 Packing group**  
**ADR, IMDG, IATA**

III

**14.5 Environmental hazards:**
**Marine pollutant:**

Symbol (fish and tree)

**Special marking (ADR):**

Symbol (fish and tree)

**Special marking (IATA):**

Symbol (fish and tree)

**14.6 Special precautions for user**

Warning: Miscellaneous dangerous substances and articles.

**Kemler Number:**

90

**EMS Number:**

F-A,S-F

**Stowage Category**

B

**Stowage Code**

SW2 Clear of living quarters.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

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**Transport/Additional information:**

The transport regulations are cited according to international regulations and in the form applicable in Germany (GGVSE). Possible national deviations in other countries are not considered.

**ADR****Limited quantities (LQ)**

5L

**Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

**Transport category**

3

**IMDG****Limited quantities (LQ)**

5L

**Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

**UN "Model Regulation":**

UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NICKEL SULFATE HEXAHYDRATE), 9, III

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Labelling according to Regulation (EC) No 1272/2008** See Section 2.**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 27**National regulations****Information about limitation of use:**

Take note of the directive on the protection of young people at work in the latest version.

Take note of the directive on the safety and health at work for pregnant and breast feeding mothers and workers of childbearing age in the latest version.

Class	Share in %
II	25.0

**Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.**Other regulations, limitations and prohibitive regulations****Substances of very high concern (SVHC) according to REACH, Article 57** Not applicable.**15.2 Chemical safety assessment:** A chemical safety assessment has not been carried out.**SECTION 16: Other information**

All information and recommendations are believed to be correct as of the date of this Safety Data Sheet but shall not be taken to be all inclusive and shall be used only as a guide. All chemicals and preparations may present unknown hazards and should be used with caution. medac shall not be held liable for any damage resulting from handling or from contact with the above product.

**Relevant phrases**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H341 Suspected of causing genetic defects.

H350i May cause cancer by inhalation. Route of exposure: Inhalation.

H360D May damage the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

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H410 Very toxic to aquatic life with long lasting effects.

**Department issuing data specification sheet:** Product Safety**Contact:** productsafety@medac.de**Replaces version from:** 04.06.2013**Reason for alteration:**

Update of the classification.

Change of manufacturer's address and of article number(s).

Change of contact address.

General editorial revision.

**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1A: Carcinogenicity – Category 1A

Repr. 1B: Reproductive toxicity – Category 1B

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** DAB-C Solution**Article number:** 71-00-13, 5510-0043**Registration number**

This product is a mixture (see chapter 3). Registration number(s) is/are not available for this substance/these substances as the substance(s) or its/their use are exempted from registration according to Article 2 REACH Regulation (EC) No. 1907/2006, the annual tonnage does not require registration or the registration is envisaged for a later registration deadline.

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

Relevant identified uses:

RUO (Research Use Only).

Uses advised against:

For in vitro diagnosis.

**Sector of Use** SU24 Scientific research and development**Product category** PC21 Laboratory chemicals**Process category** PROC15 Use as laboratory reagent**Application of the substance / the mixture** Immunochemical reagent for detection / auxiliary reagent**1.3 Details of the supplier of the safety data sheet****Manufacturer/Distributor:**

Manufacturer:

SeraCare Life Sciences (KPL)

910 Clopper Road

Gaithersburgh, Maryland 20878, USA

Distributor:

medac GmbH

Theaterstrasse 6

22880 Wedel, Germany

phone: +49 4103 8006-0

**Informing department:**

Product Safety

productsafety@medac.de

**1.4 Emergency telephone number:**

Gif tinformationszentrum-Nord, Phone: ++49 551 19 240 (service in German and English, 24 hours permanently accessible).

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Carc. 2 H351 Suspected of causing cancer.

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labeled in accordance with Regulation (EC) No 1272/2008 (GHS/CLP).

**Hazard pictograms**

GHS08

**Signal word** Warning**Hazard-determining components of labelling:**

3,3'-Diaminobenzidintetrahydrochlorid

**Hazard statements**

H351 Suspected of causing cancer.

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**Trade name: DAB-C Solution**

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**Precautionary statements**

P201 Obtain special instructions before use.  
 P280 Wear protective gloves / protective clothing / eye protection  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P405 Store locked up.

**Additional information:** Restricted to professional users.

**Labelling of packages where the contents do not exceed 125 ml**
**Hazard pictograms**


GHS08

**Signal word** Warning

**Hazard-determining components of labelling:**

3,3'-Diaminobenzidintetrahydrochlorid

**Hazard statements**

H351 Suspected of causing cancer.

**Precautionary statements**

Restricted to professional users.

P201 Obtain special instructions before use.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P405 Store locked up.

**2.3 Other hazards**
**Results of PBT and vPvB assessment**
**PBT:** Substance(s) does/do not meet the criteria for PBT according to Regulation (EC) No 1907/2006, Annex XIII.

**vPvB:** Substance(s) does/do not meet the criteria for vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

### SECTION 3: Composition/information on ingredients

**3.1. Chemical characterisation: substances** Not applicable. Product is a mixture.

**3.2 Chemical characterisation: Mixtures**
**Description:** Mixture of inorganic and organic compounds.

**Dangerous components:**

CAS: 111-46-6 EINECS: 203-872-2 Index number: 603-140-00-6 RTECS: ID 5950000	2,2'-oxybisethanol ⚠ Acute Tox. 4, H302	80%
CAS: 120-80-9 EINECS: 204-427-5 Index number: 604-016-00-4 RTECS: UX 1050000	1,2-dihydroxybenzene ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319	3%
CAS: 7411-49-6 EINECS: 231-018-9 Index number: 029-215-99-0	3,3'-Diaminobenzidintetrahydrochlorid ⚠ Carc. 2, H351 ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	2.5%

**SVHC** Not applicable.

**Additional information** For the wording of the listed H-phrases please refer to Section 16.

### SECTION 4: First aid measures

**4.1 Description of first aid measures**
**General information** First aider: Take care of self-protection.

**After inhalation**

Supply fresh air.

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In case of symptoms call a physician.

**After skin contact**

Instantly remove contaminated clothes.

Wash with copious amounts of water.

In case of symptoms call a physician.

**After eye contact**

Rinse eyes cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

Consult ophthalmologist.

**After swallowing**

Let rinse out mouth and then drink plenty of water.

In case of symptoms call a physician.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

**Information for doctor**

Show Safety Data Sheet.

Treatment according to symptoms.

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

No further relevant information available.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

**Suitable extinguishing agents** Product itself does not burn. Use fire fighting measures that suit the environment.

**For safety reasons unsuitable extinguishing agents** For this mixture no limitations of extinguishing agents are given.

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

In the event of fire development of dangerous fumes or vapours possible.

Carbon monoxide (CO)

Carbon dioxide (CO<sub>2</sub>)

Nitrogen oxides (NO<sub>x</sub>)

**5.3 Advice for firefighters****Protective equipment:**

Stay in the danger area only with self-contained breathing apparatus.

Prevent skin and eye contact by keeping a safe distance or by wearing suitable protective clothing.

**Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel:

Avoid reagent contact with eyes and skin.

Provide fresh air in closed rooms.

Advice for emergency responders: Protective equipment: see Section 8.

**6.2 Environmental precautions:** Do not empty into drains.**6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Afterwards clean with water and cleansing agent.

Dispose of contaminated material as waste according to Section 13.

Ensure adequate ventilation.

**6.4 Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

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See Section 13 for information on disposal.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Observe label precautions.

Open and handle container with care.

**Information about protection against explosions and fires:** No special measures required if handled correctly.

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

Keep container tightly closed in a cool and well-ventilated place.

##### Storage

**Requirements to be met by storerooms and containers:** Store at +2 °C to +8 °C.

**Information about storage in one common storage facility:** Not required.

##### Further information about storage conditions:

The indications are valid for the whole package.

Store in a locked cabinet with access restricted to technical experts or their assistants.

**Storage class** Please see the respective national guidelines.

#### 7.3 Specific end use(s)

 Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

### SECTION 8: Exposure controls/personal protection

**Additional information about design of technical systems:** No further data; see Section 7.

#### 8.1 Control parameters

**Components with critical values that require monitoring at the workplace:**
**111-46-6 2,2'-oxybisethanol**

 WEL Long-term value: 101 mg/m<sup>3</sup>, 23 ppm

**DNELs** No further relevant information available.

**PNECs** No further relevant information available.

CAS No.	Designation of material	%	Type	Value	Unit

**Additional Occupational Exposure Limit Values for possible hazards during processing:** Not applicable.

**Additional information:** The official lists that were valid during the compilation were used as basis.

#### 8.2 Exposure controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See Section 7.

##### Personal protective equipment

##### General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.

Avoid contact with the eyes and skin.

Remove contaminated clothing immediately.

Do not eat or drink while working.

Keep away from food and beverages.

Wash hands during breaks and at the end of the work.

**Breathing equipment:** Not required.

##### Protection of hands:

Protective gloves (AQL 1.5).

The breakthrough times stated below base on laboratory test methods which cannot fully simulate working conditions. It is the responsibility of the enduser to choose the appropriate gloves for his application. If working with substances or mixtures harmful in contact with skin, check the gloves beforehand for holes and fissures.

##### Material of gloves

Nitrile rubber, NBR

Natural rubber, NR

Thickness 0.11 mm.

Product quality must comply with standard EN 374.

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**Penetration time of glove material** Penetration time > 120 min.

**For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Product has not been designed for permanent contact.

**For the permanent contact gloves made of the following materials are suitable:**

Product has not been designed for permanent contact.

**For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

Product has not been designed for permanent contact.

**As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Natural rubber, NR

Thickness: 0.11 mm.

Penetration time > 120 min.

**Eye protection:** Safety glasses (standard EN 166).

**Body protection:** Protective work clothing.

**Limitation and supervision of exposure into the environment** Do not empty into drains.

**Risk management measures** Void.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

##### General Information

##### Appearance:

**Form:** liquid

**Colour:** clear, brown

**Smell:** No information available.

**Odour threshold:** No information available.

##### Important information on protection of health and environment, and on safety.

No further relevant information available.

**pH-value:** No information available.

**Change in condition** Not applicable.

**Melting point/freezing point:** No information available.

**Initial boiling point and boiling range:** No information available.

**Flash point:** Not applicable.

**Inflammability (solid, gaseous)** Not applicable.

**Ignition temperature:** Not available.

**Decomposition temperature:** No information available.

**Self-inflammability:** Not self-inflammable.

**Explosive properties:** Not explosive.

##### Critical values for explosion:

**Lower:** Not applicable.

**Upper:** Not applicable.

**Oxidising properties** No information available.

**Steam pressure:** No information available.

**Density** No information available.

**Relative density** No information available.

**Vapour density** No information available.

**Evaporation rate** No information available.

##### Solubility in / Miscibility with

**Water:** Miscible

**Partition coefficient: n-octanol/water:** No information available.

##### Viscosity:

**dynamic:** No information available.

**kinematic:** No information available.

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**Solvent content:**  
**Organic solvents:** 80 %  
**Water:** > 10 %  
**Solids content:** 5.5 %

**9.2 Other information** No further relevant information available.

### SECTION 10: Stability and reactivity

**10.1 Reactivity** For this mixture no relevant information available.

**10.2 Chemical stability** The product is chemically stable under the indicated storage conditions.  
**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions** For these concentrations no relevant information available.

**10.4 Conditions to avoid:** No further relevant information available.

**10.5 Incompatible materials:** For these concentrations no further relevant information available.

**10.6 Hazardous decomposition products:** In case of burning of larger amounts: See Section 5.

**Additional information:** No further relevant information available.

### SECTION 11: Toxicological information

**11.1 Information on toxicological effects** Data on the toxicity of this mixture are not available.

**Acute toxicity** Based on available data, the classification criteria are not met.

#### LD/LC50 values that are relevant for classification:

##### 111-46-6 2,2'-oxybisethanol

Oral	LD <sub>50</sub>	12,565 mg/kg (rat)
Dermal	LD <sub>50</sub>	11,890 mg/kg (rabbit)

##### 120-80-9 1,2-dihydroxybenzene

Oral	LD <sub>50</sub>	260 mg/kg (rat)
Dermal	LD <sub>50</sub>	800 mg/kg (rabbit)

##### 7411-49-6 3,3'-Diaminobenzidintetrahydrochlorid

Oral	LD <sub>50</sub>	500 mg/kg (rat)
------	------------------	-----------------

**Specific symptoms in biological assay:** No further relevant information available.

**Primary irritant effect:**

**Skin corrosion/irritation** Irritations possible.

**Serious eye damage/irritation** Irritations possible.

**after swallowing:** Mucosal irritations in mouth, pharynx and oesophagus possible.

**after inhalation:** Irritations possible.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

**Other information (about experimental toxicology):** No further relevant information available.

**Subacute to chronic toxicity:** No further relevant information available.

**Additional toxicological information:** No further relevant information available.

**Toxicokinetics, metabolism and distribution** No relevant information available.

**Acute effects (acute toxicity, irritation and corrosivity)** No acute toxicity information available for this product.

**Sensitisation** No sensitising effect known.

**Repeated dose toxicity** The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

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

**Carcinogenicity**

Suspected of causing cancer.

**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.

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**Trade name: DAB-C Solution**
**Aspiration hazard** Based on available data, the classification criteria are not met.

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### SECTION 12: Ecological information

**12.1 Toxicity** No information available.

**Aquatic toxicity:** No further relevant information available.

**12.2 Persistence and degradability** No further relevant information available.

**Other information:** No further relevant information available.

**Behaviour in environmental systems:**
**Components:** No relevant information available.

**12.3 Bioaccumulative potential** No relevant information available.

**12.4 Mobility in soil** No relevant information available.

**Ecotoxicological effects:**
**Remark:** No further relevant information available.

**Additional ecological information:**
**General notes:** Void.

**12.5 Results of PBT and vPvB assessment**
**PBT:** Substance(s) does/do not meet the criteria for PBT according to Regulation (EC) No 1907/2006, Annex XIII.

**vPvB:** Substance(s) does/do not meet the criteria for vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

**12.6 Other adverse effects** No relevant information available.

### SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

Product residues have to be disposed of according to the Waste Framework Directive as well as national and regional regulations in each the latest versions.

**Uncleaned packagings:**
**Recommendation:** Uncleaned packagings have to be disposed of in the same manner as the product residues.

### SECTION 14: Transport information

**14.1 UN-Number**  
ADR, ADN, IMDG, IATA

-

**14.2 UN proper shipping name**  
ADR, ADN, IMDG, IATA

-

**14.3 Transport hazard class(es)**

 ADR, ADN, IMDG, IATA  
Class

-

**14.4 Packing group**  
ADR, IMDG, IATA

-

**14.5 Environmental hazards:**
**Marine pollutant:** No

**14.6 Special precautions for user**

Not applicable.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

**Transport/Additional information:**

 Not classified as dangerous in the meaning of transport regulations as issued in the latest version.  
The transport regulations are cited according to international regulations and in the form applicable in Germany (GGVSE).

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Possible national deviations in other countries are not considered.

UN "Model Regulation": -

## SECTION 15: Regulatory information

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

**Labelling according to Regulation (EC) No 1272/2008** See Section 2.

**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 9d

#### National regulations

#### Information about limitation of use:

Take note of the directive on the protection of young people at work in the latest version.

Take note of the directive on the safety and health at work for pregnant and breast feeding mothers and workers of childbearing age in the latest version.

**Water hazard class:** Void.

**15.2 Chemical safety assessment:** A chemical safety assessment has not been carried out.

## SECTION 16: Other information

All information and recommendations are believed to be correct as of the date of this Safety Data Sheet but shall not be taken to be all inclusive and shall be used only as a guide. All chemicals and preparations may present unknown hazards and should be used with caution. medac shall not be held liable for any damage resulting from handling or from contact with the above product.

#### Relevant phrases

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

**Department issuing data specification sheet:** Product Safety

**Contact:** productsafety@medac.de

**Replaces version from:** 24.05.2013

#### Reason for alteration:

Change of manufacturer's address and of article number(s).

Change of contact address.

General editorial revision.

#### Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

**Safety data sheet  
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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** Peroxide Solution**Article number:** 71-00-09, 71-00-48, 5570-0004**Registration number**

This product is a mixture (see chapter 3). Registration number(s) is/are not available for this substance/these substances as the substance(s) or its/their use are exempted from registration according to Article 2 REACH Regulation (EC) No. 1907/2006, the annual tonnage does not require registration or the registration is envisaged for a later registration deadline.

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

Relevant identified uses:

RUO (Research Use Only).

Uses advised against:

For in vitro diagnosis.

**Sector of Use** SU24 Scientific research and development**Product category** PC21 Laboratory chemicals**Process category** PROC15 Use as laboratory reagent**Application of the substance / the mixture** Immunochemical reagent for detection / auxiliary reagent**1.3 Details of the supplier of the safety data sheet****Manufacturer/Distributor:**

Manufacturer:

SeraCare Life Sciences (KPL)

910 Clopper Road

Gaithersburgh, Maryland 20878, USA

Distributor:

medac GmbH

Theaterstrasse 6

22880 Wedel, Germany

phone: +49 4103 8006-0

**Informing department:**

Product Safety

productsafety@medac.de

**1.4 Emergency telephone number:**

GifTinformatiionszentrum-Nord, Phone: ++49 551 19 240 (service in German and English, 24 hours permanently accessible).

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008** The product is classified according to CLP regulation.**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008**

The product is labelled according to Regulation (EC) No. 1272/2008 (GHS/CLP).

**Additional information:**

Safety data sheet available on request.

**Labelling of packages where the contents do not exceed 125 ml** Safety Data Sheet available on request.**2.3 Other hazards** Void.**Results of PBT and vPvB assessment****PBT:** Substance(s) does/do not meet the criteria for PBT according to Regulation (EC) No 1907/2006, Annex XIII.**vPvB:** Substance(s) does/do not meet the criteria for vPvB according to Regulation (EC) No 1907/2006, Annex XIII.**SECTION 3: Composition/information on ingredients****3.1. Chemical characterisatiion: substances** Not applicable. Product is a mixture.

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Trade name: Peroxide Solution

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**3.2 Chemical characterisation: Mixtures****Description:** Water based solution**Dangerous components:**

CAS: 7722-84-1	hydrogen peroxide solution	 Ox. Liq. 1, H271  Skin Corr. 1A, H314  Acute Tox. 4, H302; Acute Tox. 4, H332	3 - < 4%
EINECS: 231-765-0			
Index number: 008-003-00-9			

**Additional information** For the wording of the listed H-phrases please refer to Section 16.**SECTION 4: First aid measures****4.1 Description of first aid measures****General information** First aider: Take care of self-protection.**After inhalation**

Supply fresh air.

In case of symptoms call a physician.

**After skin contact**

Remove contaminated clothes.

Instantly wash with copious amounts of water.

In case of symptoms call a physician.

**After eye contact**

Rinse eyes cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

In case of onset of symptoms consult ophthalmologist.

**After swallowing**

Let rinse out mouth and then drink plenty of water.

In case of disorders consult doctor.

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

No further relevant information available for this mixture.

**Information for doctor**

Show Safety Data Sheet.

Treatment according to symptoms.

**Danger** No further relevant information available.**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents** Product itself does not burn. Use fire fighting measures that suit the environment.**For safety reasons unsuitable extinguishing agents** For this mixture no limitations of extinguishing agents are given.**5.2 Special hazards arising from the substance or mixture** No further relevant information available.**5.3 Advice for firefighters****Protective equipment:**

In case of burning of a larger amount:

Stay in the danger area only with self-contained breathing apparatus.

Prevent skin and eye contact by keeping a safe distance or by wearing suitable protective clothing.

**Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel:

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**Trade name: Peroxide Solution**

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Avoid reagent contact with eyes and skin.

Provide sufficient ventilation.

Advice for emergency responders: Protective equipment: see Section 8.

**6.2 Environmental precautions:** Do not empty into drains.

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

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Afterwards clean with water and cleansing agent.

Dispose of the material collected according to respective national regulations.

Ensure adequate ventilation.

**6.4 Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

### SECTION 7: Handling and storage

**7.1 Precautions for safe handling** No special precautions necessary if handled correctly.

**Information about protection against explosions and fires:** No special measures required.

**7.2 Conditions for safe storage, including any incompatibilities** No further relevant information available.

**Storage**
**Requirements to be met by storerooms and containers:**

Store container tightly closed in cool location.

Store at +2 °C to +8 °C.

**Information about storage in one common storage facility:** For this mixture no further information available.

**Further information about storage conditions:** The indications are valid for the whole package.

**Storage class** 10-13 (VC).

**7.3 Specific end use(s)** Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

### SECTION 8: Exposure controls/personal protection

**Additional information about design of technical systems:** No further data; see Section 7.

**8.1 Control parameters**
**Components with critical values that require monitoring at the workplace:**
**7722-84-1 hydrogen peroxide solution**

 WEL Short-term value: 2.8 mg/m<sup>3</sup>, 2 ppm

 Long-term value: 1.4 mg/m<sup>3</sup>, 1 ppm

**DNELs** No further relevant information available.

**PNECs** No further relevant information available.

**Ingredients with biological limit values:** Void.

**Additional information:** The official lists that were valid during the compilation were used as basis.

**8.2 Exposure controls**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See Section 7.

**Personal protective equipment**
**General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

Avoid contact with the eyes and skin.

Remove contaminated clothing immediately.

Do not eat or drink while working.

Keep away from food and beverages.

Wash hands during breaks and at the end of the work.

**Breathing equipment:** No special precautions are necessary if handled correctly.

**Protection of hands:** Disposable medical gloves (AQL 1.5).

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**Trade name: Peroxide Solution**

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**Material of gloves**

 Natural rubber, NR  
 Nitrile rubber, NBR  
 Thickness 0.11 mm.

The product quality has to comply with DIN EN 455.

**Penetration time of glove material** Penetration time > 120 min.

**For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Product has not been designed for permanent contact.

**For the permanent contact gloves made of the following materials are suitable:**

Product has not been designed for permanent contact.

**For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

Product has not been designed for permanent contact.

**As protection from splashes gloves made of the following materials are suitable:**

 Natural rubber, NR  
 Nitrile rubber, NBR  
 Thickness: 0.11 mm.

**Eye protection:** Safety glasses (standard EN 166).

**Body protection:** Protective work clothing.

**Limitation and supervision of exposure into the environment** Do not empty into drains.

**Risk management measures** Void.

### SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**
**General Information**
**Appearance:**

<b>Form:</b>	liquid
<b>Colour:</b>	Clear
<b>Smell:</b>	No information available.
<b>Odour threshold:</b>	No information available.

<b>pH-value:</b>	No information available.
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**Change in condition**

<b>Melting point/freezing point:</b>	Ca. 0°C
<b>Initial boiling point and boiling range:</b>	Ca. 100 °C

<b>Flash point:</b>	Not applicable.
<b>Inflammability (solid, gaseous)</b>	Not applicable.
<b>Ignition temperature:</b>	Not available.
<b>Decomposition temperature:</b>	No information available.
<b>Self-inflammability:</b>	Not self-inflammable.
<b>Explosive properties:</b>	Not explosive.
<b>Critical values for explosion:</b>	
<b>Lower:</b>	Not applicable.
<b>Upper:</b>	Not applicable.
<b>Oxidising properties</b>	No information available.
<b>Steam pressure:</b>	No information available.
<b>Density</b>	No information available.
<b>Relative density</b>	No information available.
<b>Vapour density</b>	No information available.
<b>Evaporation rate</b>	No information available.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient: n-octanol/water:</b>	No information available.
<b>Viscosity:</b>	
<b>dynamic:</b>	No information available.
<b>kinematic:</b>	No information available.

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<b>Solvent content:</b>	
Organic solvents:	0 %
Water:	ca. 95 %
Solids content:	0.0 %

**9.2 Other information** No further relevant information available.

## SECTION 10: Stability and reactivity

**10.1 Reactivity** For this mixture no relevant information available.

**10.2 Chemical stability** The product is chemically stable under the indicated storage conditions.

**Thernak decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid:** No further relevant information available.

**10.5 Incompatible materials:** For these concentrations no further relevant information available.

**10.6 Hazardous decomposition products:** No further relevant information available.

**Additional information:** No further relevant information available.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

**LD/LC50 values that are relevant for classification:** Quantitative data about toxicity of this product are not available.

**Specific symptoms in biological assay:** No further relevant information available.

**Primary irritant effect:**

**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.

**after swallowing:** Slight mucosal irritations in mouth, pharynx and oesophagus possible.

**after inhalation:** Slight irritations possible.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

**Other information (about experimental toxicology):** No further relevant information available.

**Subacute to chronic toxicity:** No further relevant information available.

**Additional toxicological information:** No further relevant information available.

**Toxicokinetics, metabolism and distribution** No relevant information available.

**Acute effects (acute toxicity, irritation and corrosivity)** No acute toxicity information available for this product.

**Sensitisation** No sensitising effect known.

**Repeated dose toxicity** No further relevant information available.

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

**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.

## SECTION 12: Ecological information

### 12.1 Toxicity

**Aquatic toxicity:** No further relevant information available.

**12.2 Persistence and degradability** No further relevant information available.

**Other information:** No further relevant information available.

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**Behaviour in environmental systems:**
**Components:** No relevant information available.

**12.3 Bioaccumulative potential** No relevant information available.

**12.4 Mobility in soil** No relevant information available.

**Ecotoxicological effects:**
**Remark:** No further relevant information available.

**Additional ecological information:**
**General notes:**

Void.

Do not let enter drains.

**12.5 Results of PBT and vPvB assessment**
**PBT:** PBT assessment not available as chemical safety assessment not required/not conducted.

**vPvB:** vPvB assessment not available as chemical safety assessment not required/not conducted.

**12.6 Other adverse effects** No relevant information available.

### SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

Product residues have to be disposed of according to the Waste Framework Directive as well as national and regional regulations in each of the latest versions.

**Uncleaned packagings:**
**Recommendation:** Uncleaned packagings have to be disposed of in the same manner as the product residues.

### SECTION 14: Transport information

**14.1 UN-Number**

ADR, ADN, IMDG, IATA -

**14.2 UN proper shipping name**

ADR, ADN, IMDG, IATA -

**14.3 Transport hazard class(es)**

 ADR, ADN, IMDG, IATA  
Class -

**14.4 Packing group**

ADR, IMDG, IATA -

**14.5 Environmental hazards:**
**Marine pollutant:** No

**14.6 Special precautions for user**

Not applicable.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

**Transport/Additional information:**

 Not classified as dangerous in the meaning of transport regulations as issued in the latest version.  
The transport regulations are cited according to international regulations and in the form applicable in Germany (GGVSE). Possible national deviations in other countries are not considered.

**UN "Model Regulation":**

-

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Revision: 13.03.2018

**Trade name: Peroxide Solution**

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**SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**Labelling according to Regulation (EC) No 1272/2008** See Section 2.

**Directive 2012/18/EU**

**Named dangerous substances - ANNEX I** Contains none of the listed substances.

**National regulations****Information about limitation of use:**

Take note of the directive on the protection of young people at work in the latest version.

Take note of the directive on the safety and health at work for pregnant and breast feeding mothers and workers of childbearing age in the latest version.

**Water hazard class:** Void.

**15.2 Chemical safety assessment:** A chemical safety assessment has not been carried out.

**SECTION 16: Other information**

All information and recommendations are believed to be correct as of the date of this Safety Data Sheet but shall not be taken to be all inclusive and shall be used only as a guide. All chemicals and preparations may present unknown hazards and should be used with caution. medac shall not be held liable for any damage resulting from handling or from contact with the above product.

**Relevant phrases**

H271 May cause fire or explosion; strong oxidiser.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H332 Harmful if inhaled.

**Department issuing data specification sheet:** Product Safety

**Contact:** productsafety@medac.de

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Ox. Liq. 1: Oxidizing liquids – Category 1

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** Blocking Solution Concentrate**Article number:** 71-00-10, 5560-0006**Registration number**

This product is a mixture (see chapter 3). Registration number(s) is/are not available for this substance/these substances as the substance(s) or its/their use are exempted from registration according to Article 2 REACH Regulation (EC) No. 1907/2006, the annual tonnage does not require registration or the registration is envisaged for a later registration deadline.

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

Relevant identified uses:

RUO (Research Use Only).

Uses advised against:

For in vitro diagnosis.

**Sector of Use** SU24 Scientific research and development**Product category** PC21 Laboratory chemicals**Process category** PROC15 Use as laboratory reagent**Application of the substance / the mixture** Immunochemical reagent for detection / auxiliary reagent**1.3 Details of the supplier of the safety data sheet****Manufacturer/Distributor:**

Manufacturer:

SeraCare Life Sciences (KPL)

910 Clopper Road

Gaithersburgh, Maryland 20878, USA

Distributor:

medac GmbH

Theaterstrasse 6

22880 Wedel, Germany

phone: +49 4103 8006-0

**Informing department:**

Product Safety

productsafety@medac.de

**1.4 Emergency telephone number:**

Gif tinformationszentrum-Nord, Phone: ++49 551 19 240 (service in German and English, 24 hours permanently accessible).

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

The product is classified according to CLP regulation.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Dam. 1 H318 Causes serious eye damage.

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008**

The product is labelled according to Regulation (EC) No. 1272/2008 (GHS/CLP).

**Hazard pictograms**

GHS05

**Signal word** Danger**Hazard-determining components of labelling:**

orthoperiodic acid

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**Hazard statements**

H315 Causes skin irritation.

H318 Causes serious eye damage.

**Precautionary statements**

P280 Wear protective gloves / protective clothing / eye 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.

P310 Immediately call a doctor.

**Labelling of packages where the contents do not exceed 125 ml****Hazard pictograms**

GHS05

**Signal word** Danger**Hazard-determining components of labelling:**

orthoperiodic acid

**Hazard statements**

H318 Causes serious eye damage.

**Precautionary statements**

P280 Wear 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.

P310 Immediately call a doctor.

**2.3 Other hazards** Void.**Results of PBT and vPvB assessment****PBT:** Substance(s) does/do not meet the criteria for PBT according to Regulation (EC) No 1907/2006, Annex XIII.**vPvB:** Substance(s) does/do not meet the criteria for vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

### SECTION 3: Composition/information on ingredients

**3.1. Chemical characterisation: substances** Not applicable. Product is a mixture.**3.2 Chemical characterisation: Mixtures****Description:** Water based solution**Dangerous components:**

CAS: 10450-60-9 orthoperiodic acid

EINECS: 233-937-0

Ox. Sol. 2, H272

Skin Corr. 1B, H314

3 - &lt;4%

**SVHC** Not applicable.**Additional information** For the wording of the listed H-phrases please refer to Section 16.

### SECTION 4: First aid measures

**4.1 Description of first aid measures****General information** First aider: Take care of self-protection.**After inhalation**

Supply fresh air.

In case of symptoms call a physician.

**After skin contact**

Remove contaminated clothes.

Wash with copious amounts of water.

In case of symptoms call a physician.

**After eye contact**

Rinse eyes cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

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Instantly consult ophthalmologist.

**After swallowing**

Let rinse out mouth and then drink plenty of water.

In case of symptoms call a physician.

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

No further relevant information available for this mixture.

**Information for doctor**

Show Safety Data Sheet.

Treatment according to symptoms.

**Danger** No further relevant information available.

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

No further relevant information available.

### SECTION 5: Firefighting measures

**5.1 Extinguishing media**

**Suitable extinguishing agents** Use fire fighting measures that suit the environment.

**For safety reasons unsuitable extinguishing agents**

For this substance no limitations of extinguishing agents are given.

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

For these concentrations no further relevant information available.

**5.3 Advice for firefighters****Protective equipment:**

In case of burning of a larger amount:

Stay in the danger area only with self-contained breathing apparatus.

Prevent skin and eye contact by keeping a safe distance or by wearing suitable protective clothing.

**Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### SECTION 6: Accidental release measures

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

Advice for non-emergency personnel:

Avoid reagent contact with eyes and skin.

Provide sufficient ventilation.

Advice for emergency responders: Protective equipment: see Section 8.

**6.2 Environmental precautions:** Do not empty into drains.**6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Afterwards clean with water and cleansing agent.

Dispose of the material collected according to respective national regulations.

Ensure adequate ventilation.

**6.4 Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

### SECTION 7: Handling and storage

**7.1 Precautions for safe handling**

Open and handle container with care.

Prevent contact with skin and eyes.

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**Information about protection against explosions and fires:**

Keep away from open flames, hot surfaces and sources of ignition.

**7.2 Conditions for safe storage, including any incompatibilities****Storage****Requirements to be met by storerooms and containers:**

Store container tightly closed.

Store at +2 °C to +8 °C.

**Information about storage in one common storage facility:** Because of the small quantities not required.**Further information about storage conditions:** The indications are valid for the whole package.**Storage class** 10-13 (VC).**7.3 Specific end use(s)** Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.**SECTION 8: Exposure controls/personal protection****Additional information about design of technical systems:** No further data; see Section 7.**8.1 Control parameters****Components with critical values that require monitoring at the workplace:****DNELs** No further relevant information available.**PNECs** No further relevant information available.**Additional information:** The official lists that were valid during the compilation were used as basis.**8.2 Exposure controls**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See Section 7.

**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

Avoid contact with the eyes and skin.

Remove contaminated clothing immediately.

Do not eat or drink while working.

Keep away from food and beverages.

Wash hands during breaks and at the end of the work.

**Breathing equipment:** No special precautions are necessary if handled correctly.**Protection of hands:**

Disposable medical gloves (AQL 1.5).

The breakthrough times stated below base on laboratory test methods which cannot fully simulate working conditions. It is the responsibility of the enduser to choose the appropriate gloves for his application. If working with substances or mixtures harmful in contact with skin, check the gloves beforehand for holes and fissures.

**Material of gloves**

Natural rubber, NR

Nitrile rubber, NBR

Thickness 0.11 mm.

The product quality has to comply with DIN EN 455.

**Penetration time of glove material** Penetration time > 120 min.**For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Product has not been designed for permanent contact.

**For the permanent contact gloves made of the following materials are suitable:**

Product has not been designed for permanent contact.

**For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

Product has not been designed for permanent contact.

**As protection from splashes gloves made of the following materials are suitable:**

Natural rubber, NR

Nitrile rubber, NBR

Thickness: 0.11 mm.

**Eye protection:** Safety glasses (standard EN 166).**Body protection:** Protective work clothing.

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**Limitation and supervision of exposure into the environment** Do not empty into drains.  
**Risk management measures** Void.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

#### Appearance:

<b>Form:</b>	liquid
<b>Colour:</b>	Clear
<b>Smell:</b>	No information available.
<b>Odour threshold:</b>	No information available.

**pH-value:** < 2.0

#### Change in condition

<b>Melting point/freezing point:</b>	Ca. 0°C
<b>Initial boiling point and boiling range:</b>	Ca. 100 °C

<b>Flash point:</b>	No information available.
<b>Inflammability (solid, gaseous)</b>	Not applicable.
<b>Ignition temperature:</b>	Not available.
<b>Decomposition temperature:</b>	No information available.
<b>Self-inflammability:</b>	Not self-inflammable.
<b>Explosive properties:</b>	Not explosive.
<b>Critical values for explosion:</b>	
<b>Lower:</b>	Not applicable.
<b>Upper:</b>	Not applicable.
<b>Oxidising properties</b>	oxidising agent
<b>Steam pressure at 20 °C:</b>	23 hPa
<b>Density at 20 °C</b>	1.01156 g/cm <sup>3</sup>
<b>Relative density</b>	No information available.
<b>Vapour density</b>	No information available.
<b>Evaporation rate</b>	No information available.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient: n-octanol/water:</b>	No information available.
<b>Viscosity:</b>	
<b>dynamic at 20 °C:</b>	0.952 mPas
<b>kinematic:</b>	No information available.
<b>Solvent content:</b>	
<b>Organic solvents:</b>	0 %
<b>Water:</b>	ca. 96 %
<b>Solids content:</b>	< 4 %

**9.2 Other information** No further relevant information available.

## SECTION 10: Stability and reactivity

**10.1 Reactivity** For this mixture no relevant information available.

**10.2 Chemical stability** The product is chemically stable under the indicated storage conditions.

**Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid:** No further relevant information available.

**10.5 Incompatible materials:** For these concentrations no further relevant information available.

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**10.6 Hazardous decomposition products:** In case of burning of larger amounts: See Section 5.  
**Additional information:** No further relevant information available.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

**LD/LC50 values that are relevant for classification:** Quantitative data about toxicity of this product are not available.

**Specific symptoms in biological assay:** No further relevant information available.

**Primary irritant effect:**

**Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/irritation**

Causes serious eye damage.

**after swallowing:** Slight mucosal irritations in mouth, pharynx and oesophagus possible.

**after inhalation:** Slight irritations possible.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

**Other information (about experimental toxicology):** No further relevant information available.

**Subacute to chronic toxicity:** No further relevant information available.

**Additional toxicological information:** No further relevant information available.

**Toxicokinetics, metabolism and distribution** No relevant information available.

**Acute effects (acute toxicity, irritation and corrosivity)** No acute toxicity information available for this product.

**Sensitisation** No sensitising effect known.

**Repeated dose toxicity** No further relevant information available.

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

**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.

## SECTION 12: Ecological information

### 12.1 Toxicity

**Aquatic toxicity:** No further relevant information available.

**12.2 Persistence and degradability** No further relevant information available.

**Other information:** No further relevant information available.

**Behaviour in environmental systems:**

**Components:** No relevant information available.

**12.3 Bioaccumulative potential** No relevant information available.

**12.4 Mobility in soil** No relevant information available.

**Ecotoxicological effects:**

**Remark:** No further relevant information available.

**Additional ecological information:**

**General notes:**

Void.

Do not let enter drains.

### 12.5 Results of PBT and vPvB assessment

**PBT:** PBT assessment not available as chemical safety assessment not required/not conducted.

**vPvB:** vPvB assessment not available as chemical safety assessment not required/not conducted.

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**Trade name: Blocking Solution Concentrate**

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**12.6 Other adverse effects** No relevant information available.

### SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

Product residues have to be disposed of according to the Waste Framework Directive as well as national and regional regulations in each of the latest versions.

**Uncleaned packagings:**
**Recommendation:** Uncleaned packagings have to be disposed of in the same manner as the product residues.

### SECTION 14: Transport information

**14.1 UN-Number**

ADR, ADN, IMDG, IATA -

**14.2 UN proper shipping name**

ADR, ADN, IMDG, IATA -

**14.3 Transport hazard class(es)**

 ADR, ADN, IMDG, IATA  
Class -

**14.4 Packing group**

ADR, IMDG, IATA -

**14.5 Environmental hazards:**

Not applicable.

**14.6 Special precautions for user**

Not applicable.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

**Transport/Additional information:**

Not classified as dangerous in the meaning of transport regulations as issued in the latest version. The transport regulations are cited according to international regulations and in the form applicable in Germany (GGVSE). Possible national deviations in other countries are not considered.

**UN "Model Regulation":**

-

### SECTION 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**Labelling according to Regulation (EC) No 1272/2008** See Section 2.

**Directive 2012/18/EU**
**Named dangerous substances - ANNEX I** Contains none of the listed substances.

**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

**National regulations**
**Information about limitation of use:**

Take note of the directive on the protection of young people at work in the latest version.

Take note of the directive on the safety and health at work for pregnant and breast feeding mothers and workers of childbearing age in the latest version.

**Water hazard class:** Void.

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Version number 1

Revision: 12.03.2018

**Trade name: Blocking Solution Concentrate**

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**15.2 Chemical safety assessment:** A chemical safety assessment has not been carried out.**SECTION 16: Other information**

All information and recommendations are believed to be correct as of the date of this Safety Data Sheet but shall not be taken to be all inclusive and shall be used only as a guide. All chemicals and preparations may present unknown hazards and should be used with caution. medac shall not be held liable for any damage resulting from handling or from contact with the above product.

**Relevant phrases**

H272 May intensify fire; oxidiser.

H314 Causes severe skin burns and eye damage.

**Department issuing data specification sheet:** Product Safety**Contact:** productsafety@medac.de**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Ox. Sol. 2: Oxidizing solids – Category 2

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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