

Information about Compilation of Safety Data Sheets

Product: HistoMark® BLACK Peroxidase Substrate Kit
Company: SeraCare Life Sciences
Article number: 5510-0034

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 DAB Solution (article numbers: 71-00-08, 71-00-46, also available separately under the article number 5510-0041), Peroxide Solution (article numbers: 71-00-09, 71-00-48, also available separately under the article number 5570-0004), Blocking Solution Concentrate (article number 71-00-10, also available separately under the article number 5560-0006), and Enhance Black Buffer Solution (article number 71-00-12, also available separately under the article number 5510-0042), 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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Attachment

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

Printing date 12.03.2018

Version number 2

Revision: 12.03.2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name:** DAB Solution**Article number:** 71-00-08, 71-0046, 5510-0041**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**

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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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 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:**

Immunochemical reagent / auxiliary reagent

Mixture of the substances listed below plus nonhazardous additions.

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: 7647-01-0 EINECS: 231-595-7 Index number: 017-002-00-2 RTECS: MW 9620000	hydrogen chloride ⚠ Skin Corr. 1B, H314 ⚠ STOT SE 3, H335	3.3%
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.

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After inhalation

Supply fresh air.

In case of symptoms call a physician.

After skin contact

Remove contaminated clothes.

Instantly clean with much water and soap.

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.

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 mixture no limitations of extinguishing agents are given.**5.2 Special hazards arising from the substance or mixture**

Can be released in case of fire:

Carbon monoxide (CO)

Carbon dioxide (CO₂)Nitrogen oxides (NO_x)**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.

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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 if handled correctly.

7.2 Conditions for safe storage, including any incompatibilities**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:

Store in a locked cabinet with access restricted to technical experts or their assistants.
The indications are valid for the whole package.

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:****7647-01-0 hydrogen chloride**

WEL	Short-term value: 8 mg/m ³ , 5 ppm Long-term value: 2 mg/m ³ , 1 ppm (gas and aerosol mists)
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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:

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

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Natural rubber, NR

Thickness 0.11 mm.

Product quality must comply with standard EN 374.

Penetration time of glove material Penetration time > 480 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.

Product quality must comply with standard EN 374.

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, light 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: < 2.0

Change in condition

Melting point/freezing point:	No information available.
Initial boiling point and boiling range:	For this concentration no information available.

Flash point:	No information available.
Inflammability (solid, gaseous)	No information available.
Ignition temperature:	No information 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 oxidizing.
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:	Fully miscible.
Partition coefficient: n-octanol/water:	No information available.
Viscosity:	
dynamic:	No information available.

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kinematic:	No information available.
Solvent content:	
Organic solvents:	80.0 %
Water:	ca. 14 %
Solids content:	2.5 %

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 and stored 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: 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 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.

111-46-6 2,2'-oxybisethanol

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

7411-49-6 3,3'-Diaminobenzidintetrahydrochlorid

Oral	LD ₅₀	500 mg/kg (rat)
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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: 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 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

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 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.

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.

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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, 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.

This Safety Data Sheet is valid for the kit component DAB (3,3'-diaminobenzidine) Substrate Solution (article number 71-00-08) of the HistoMark BLACK Peroxidase Substrate Kit (article number 54-75-00).

A further Safety Data Sheet had been compiled for the kit component Enhance BLACK Buffer Solution (Artikelnummer 71-00-12).

For the kit components Peroxide Solution (article number 71-00-09), Contrast GREEN Solution (article number 71-00-11) and Blocking Solution Concentrate (10X) (article number 71-00-10) no Safety Data Sheets are required after classification according to the Regulation (EC) No. 1907/2006 (REACH) and the Regulation (EC) No. 1272/2008 (GHS/CLP).

Relevant phrases

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

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: 18.07.2014

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:

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

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

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

Printing date 13.03.2018

Version number 1

Revision: 13.03.2018

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:

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.**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 characterisation: 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	3 - < 4%
EINECS: 231-765-0		 Skin Corr. 1A, H314	
Index number: 008-003-00-9		 Acute Tox. 4, H302; Acute Tox. 4, H332	

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/m³, 2 ppmLong-term value: 1.4 mg/m³, 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:**

Form:	liquid
Colour:	Clear
Smell:	No information available.
Odour threshold:	No information available.

pH-value: No information available.**Change in condition**

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

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:	Fully miscible.
Partition coefficient: n-octanol/water:	No information available.
Viscosity:	
dynamic:	No information available.
kinematic:	No information available.

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Trade name: Peroxide Solution

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Solvent content:

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

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Trade name: Peroxide Solution

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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":

-

GB

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Version number 1

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

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

Printing date 12.03.2018

Version number 1

Revision: 12.03.2018

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:

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.

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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Trade name: **Blocking Solution Concentrate**

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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 - <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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Trade name: Blocking Solution Concentrate

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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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Trade name: Blocking Solution Concentrate

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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:

Form:	liquid
Colour:	Clear
Smell:	No information available.
Odour threshold:	No information available.

pH-value: < 2.0

Change in condition

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

Flash point:	No information available.
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	oxidising agent
Steam pressure at 20 °C:	23 hPa
Density at 20 °C	1.01156 g/cm ³
Relative density	No information available.
Vapour density	No information available.
Evaporation rate	No information available.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient: n-octanol/water:	No information available.
Viscosity:	
dynamic at 20 °C:	0.952 mPas
kinematic:	No information available.
Solvent content:	
Organic solvents:	0 %
Water:	ca. 96 %
Solids content:	< 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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Trade name: Blocking Solution Concentrate

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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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Version number 1

Revision: 12.03.2018

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 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

GB

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

Printing date 12.03.2018

Version number 2

Revision: 12.03.2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name:** Enhance Black Buffer Solution**Article number:** 71-00-12, 5510-0042**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**

According to Regulation (EC) No. 1272/2008 the mixture is classified as hazardous.

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.

Repr. 1A H360F May damage fertility.

Aquatic Chronic 3 H412 Harmful 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).

Hazard pictograms

GHS08

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

Cobalt(II)-acetat-tetrahydrat

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.

H360F May damage fertility.

H412 Harmful to aquatic life with long lasting effects.

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.

P342+P311 If experiencing respiratory symptoms: Call a doctor.

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

Cobalt(II)-acetat-tetrahydrat

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.

H360F May damage fertility.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Restricted to professional users.

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.

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:** Immunochemical reagent / auxiliary reagent**Dangerous components:**

CAS: 6147-53-1	Cobalt(II)-acetat-tetrahydrat	2%
EINECS: 200-755-8	⚠ Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1B, H350; Repr. 1A, H360	
Index number: 027-006-00-6	⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
RTECS: AG 3325000	⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	

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SVHC

6147-53-1 Cobalt(II)-acetat-tetrahydrat

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

Instantly remove contaminated clothes.

Instantly clean with much water and soap.

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 symptoms call a physician.

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.**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 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.

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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 if handled correctly.

7.2 Conditions for safe storage, including any incompatibilities

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:

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

The indications are valid for the whole package.

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:

Not required according to German regulations.

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:

Protective gloves (AQL 1.5).

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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 > 480 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.

Breakthrough time: > 480 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:	light pink
Smell:	Odourless
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

Melting point/freezing point:	ca. 0 °C
Initial boiling point and boiling range:	ca. 100 °C

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 at 20 °C:	23 hPa
Density at 20 °C	1.00839 g/cm³
Relative density	No information available.
Vapour density	No information available.
Evaporation rate	No information available.

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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 %
Water:	ca. 90.0 %
Solids content:	9.4 %

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: No further relevant information available.

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:

6147-53-1 Cobalt(II)-acetat-tetrahydrat

Oral LD₅₀ 708 mg/kg (rat)

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: Mucosal irritations in mouth, pharynx and oesophagus possible.

after inhalation: Irritations possible.

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

May cause allergic reactions.

May cause sensitisation by skin contact.

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**

Suspected of causing genetic defects.

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Carcinogenicity

May cause cancer by inhalation.

Reproductive toxicity

May damage fertility.

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** 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:** Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.**Additional ecological information:****General notes:**

Water danger class 3 (Self-assessment): extremely hazardous for water.

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 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.

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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: Water danger class 3 (Self-assessment): extremely hazardous for water.**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.

This Safety Data Sheet is valid for the kit component Enhance BLACK Buffer Solution (article number 71-00-12) of the HistoMark BLACK Peroxidase Substrate Kit (article number 54-75-00).

A further Safety Data Sheet had been compiled for the kit component DAB (3,3'-diaminobenzidine) Substrate Solution (article number 71-00-08).

For the kit components Peroxide Solution (article number 71-00-09), Contrast GREEN Solution (article number 71-00-11) and Blocking Solution Concentrate (10X) (article number 71-00-10) no Safety Data Sheets are required after classification according to the Regulation (EC) No. 1907/2006 (REACH) and the Regulation (EC) No. 1272/2008 (GHS/CLP).

Relevant phrases

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

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

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Department issuing data specification sheet: Product Safety**Contact:** productsafety@medac.de**Replaces version from:** 17.06.2013

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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
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
Carc. 1B: Carcinogenicity – Category 1B
Repr. 1A: Reproductive toxicity – Category 1A
Repr. 1A: Reproductive toxicity – Category 1A
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 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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