

## Information about Compilation of Safety Data Sheets

**Product: PermaBlue/HRP**, Ready To Use 30 ml  
**Company: Diagnostic BioSystems, Inc.**  
**Article number: K063**

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 PermaBlue/HRP Substrate Buffer (Component 2, article number: K063B) and PermaBlue/HRP Chromogen (Component 1, article number: K063C), Safety Data Sheets had been compiled (enclosure).

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

Date of issue: August 2018

**medac**

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

Printing date 18.08.2017

Version number 1

Revision: 18.08.2017

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** PermaBlue™/HRP Component 1**Article number:** K063C Comp1**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:

For in vitro diagnosis.

Uses advised against:

No further relevant information available.

**Sector of Use** SU20 Health services**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:

Diagnostic BioSystems, Inc.

6616 Owens Drive

Pleasanton, CA 94588, USA

phone: 001 925 484-3350

Distributor:

medac GmbH

Theaterstr. 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**

Flam. Liq. 3 H226 Flammable liquid and vapour.

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Repr. 1B H360FD May damage fertility. May damage the unborn child.

**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**

GHS02 GHS07 GHS08

**Signal word** Danger

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

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Trade name: PermaBlue™/HRP Component 1

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**Hazard-determining components of labelling:**

2-methoxyethanol

**Hazard statements**

H226 Flammable liquid and vapour.

H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.

H360FD May damage fertility. May damage the unborn child.

**Precautionary statements**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat. - No smoking.

P280 Wear protective gloves / protective clothing / eye protection

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

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

GHS02 GHS07 GHS08

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

2-methoxyethanol

**Hazard statements**

H360FD May damage fertility. May damage the unborn child.

**Precautionary statements**

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.

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

**3.2 Chemical characterisation: Mixtures** Not applicable. Product is a substance.**Description:** Immunochemical reagent / auxiliary reagent**Dangerous components:**

CAS: 109-86-4	2-methoxyethanol	50-100%
EINECS: 203-713-7	Flam. Liq. 3, H226	
Index number: 603-011-00-4	Repr. 1B, H360FD	
RTECS: KL 5775000	Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	

**SVHC**

109-86-4 2-methoxyethanol

**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; consult doctor in case of symptoms.

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**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.

Instantly 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**

To the best of our knowledge both acute and delayed symptoms and effects due to improper handling of this preparation have not been investigated.

**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** CO<sub>2</sub>, foam or extinguishing powder.

**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.

In the event of fire may develop:

Carbon monoxide (CO)

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

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

**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**

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:

Do not inhale vapours/aerosols.

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

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See Section 8 for information on personal protection equipment.  
See Section 13 for information on disposal.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Open and handle container with care.  
Prevent formation of vapour / aerosols.

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

Protect from heat.  
Protect against electrostatic charges.

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

No further relevant information available.

#### Storage

#### Requirements to be met by storerooms and containers:

Store tightly closed.  
Store at +2 °C to +8 °C.

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

#### Further information about storage conditions:

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

**Storage class** 10 (VCI) Flammable liquids.

#### 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:

#### 109-86-4 2-methoxyethanol

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

**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.

Do not inhale vapours/aerosols.

Remove contaminated clothing immediately.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

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

#### Breathing equipment:

Essential if vapours/aerosols develop.

Filter A (according to standard EN 3181) for vapours of organic compounds..

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### 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.

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**Material of gloves**

Nitrile rubber, NBR

Natural rubber, NR

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:**

Nitrile rubber, NBR

Natural rubber, NR

Thickness: 0.11 mm.

Penetration time &gt; 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:**

Colourless

**Smell:**

Sweetish, ether-like

**Odour threshold:**

No information available.

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

No further relevant information available.

**pH-value at 20 °C:**

7

**Change in condition**

Not applicable.

**Melting point/freezing point:**

-85.1 °C

Ca. 0 °C

**Initial boiling point and boiling range:**

123 °C

Ca. 100 °C

**Flash point:**

37 °C

**Inflammability (solid, gaseous)**

Not applicable.

**Ignition temperature:**

310 °C

**Decomposition temperature:**

No information available.

**Self-inflammability:**

Not self-inflammable.

**Explosive properties:**

Product is not explosive. However, formation of explosive air/steam mixtures is possible.

**Critical values for explosion:****Lower:**

2.4 Vol %

**Upper:**

20.6 Vol %

**Oxidising properties**

Not applicable.

**Steam pressure at 20 °C:**

8 hPa

**Density at 20 °C**0.964-0.966 g/cm<sup>3</sup>**Relative density**

No information available.

**Vapour density at 20 °C**33 g/cm<sup>3</sup>**Evaporation rate**

No information available.

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**Solubility in / Miscibility with**

<b>Water:</b>	Soluble
<b>Partition coefficient: n-octanol/water:</b>	-0.77 log POW
<b>Viscosity:</b>	
dynamic:	No information available.
kinematic at 20 °C:	1.6 mm <sup>2</sup> s (DIN 53211/4)
<b>Solvent content:</b>	
Organic solvents:	99.0 %
Solids content:	0.0 %

**9.2 Other information**

No further relevant information available.

### SECTION 10: Stability and reactivity

**10.1 Reactivity** No further 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 further relevant information available.**10.4 Conditions to avoid:** Heating.**10.5 Incompatible materials:**

Aluminium.

Various plastic materials.

**10.6 Hazardous decomposition products:**

Peroxides.

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, in contact with skin or if inhaled.

**LD/LC50 values that are relevant for classification:****109-86-4 2-methoxyethanol**

Oral	LD50	3400 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)
Inhalative	LC50/4 h	1500 mg/l (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:** Harmful if swallowed.**after inhalation:** Harmful if inhaled.**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.

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

May damage fertility. May damage the unborn child.

**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** Bioaccumulation is not to be expected.**12.4 Mobility in soil** Mobility in soil due to the liquid status.**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 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, IMDG, IATA

UN1188

**14.2 UN proper shipping name**

ADR

IMDG, IATA

1188 ETHYLENE GLYCOL MONOMETHYL ETHER solution  
ETHYLENE GLYCOL MONOMETHYL ETHER solution**14.3 Transport hazard class(es)**

ADR

Class  
Label3 (F1) Flammable liquids.  
3

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Trade name: PermaBlue™/HRP Component 1

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**IMDG, IATA**
**Class**  
**Label**

 3 Flammable liquids.  
 3

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

III

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

No

**14.6 Special precautions for user**  
**Kemler Number:**  
**EMS Number:**  
**Stowage Category**

 Warning: Flammable liquids.  
 30  
 F-E, S-D  
 A

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

Not applicable.

**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.  
**THESE TRANSPORT REGULATIONS APPLY TO THE WHOLE PACKAGE!**
**ADR**  
**Limited quantities (LQ)**  
**Excepted quantities (EQ)**

 5L  
 Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

**Transport category**  
**Tunnel restriction code**

 3  
 D/E

**IMDG**  
**Limited quantities (LQ)**  
**Excepted quantities (EQ)**

 5L  
 Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml
**UN "Model Regulation":**
 UN 1188 ETHYLENE GLYCOL MONOMETHYL ETHER  
 SOLUTION, 3, 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.**Hazard pictograms** See Section 2.**Signal word** See Section 2.**Hazard-determining components of labelling:** See Section 2.**Hazard statements** See Section 2.**Precautionary statements** See Section 2.**Chemical safety assessment** A chemical safety assessment was not carried out.**Directive 2012/18/EU****Named dangerous substances - ANNEX I** Contains none of the listed substances.**Seveso category** P5c FLAMMABLE LIQUIDS**Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t

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Trade name: PermaBlue™/HRP Component 1

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**Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 30**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 %
NK	99.0

**Water hazard class:** Void.**Other regulations, limitations and prohibitive regulations****Substances of very high concern (SVHC) according to REACH, Article 57**

109-86-4 2-methoxyethanol

**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**

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H360FD May damage fertility. May damage the unborn child.

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

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Repr. 1B: Reproductive toxicity – Category 1B

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

Printing date 01.08.2018

Version number 2

Revision: 01.08.2018

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** PermaBlue™/HRP Component 2**Article number:** K063B Comp2**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:

For in vitro diagnosis.

Uses advised against:

No further relevant information available.

**Sector of Use** SU20 Health services**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:

Diagnostic BioSystems

6616 Owens Drive

Pleasanton, CA 94588, USA

phone: +1 925 484-3350

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**

Repr. 1B H360FD May damage fertility. May damage the unborn child.

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

2-methoxyethanol

**Hazard statements**

H360FD May damage fertility. May damage the unborn child.

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

Printing date 01.08.2018

Version number 2

Revision: 01.08.2018

Trade name: PermaBlue™/HRP Component 2

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**Precautionary statements**

- 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.  
 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:**

2-methoxyethanol

**Hazard statements**

H360FD May damage fertility. May damage the unborn child.

**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.  
 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

**3.2 Chemical characterisation: Mixtures** Not applicable. Product is a substance.**Description:** Immunochemical reagent / auxiliary reagent**Dangerous components:**

CAS: 109-86-4	2-methoxyethanol	< 20%
EINECS: 203-713-7	⚠ Flam. Liq. 3, H226	
Index number: 603-011-00-4	⚠ Repr. 1B, H360FD	
RTECS: KL 5775000	⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	

**SVHC**

109-86-4 | 2-methoxyethanol

**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; consult doctor in case of symptoms.**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.

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**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**

To the best of our knowledge both acute and delayed symptoms and effects due to improper handling of this preparation have not been investigated.

**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 is possible.

In the event of fire may develop:

Carbon monoxide (CO)

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

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

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

In case of fire of large quantities:

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/safety glasses.

**Additional information**

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.

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

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**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.

Store at +2 °C to +8 °C.

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

#### Further information about storage conditions:

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

**Storage class** 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:

##### 109-86-4 2-methoxyethanol

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

**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:

Essential if vapours/aerosols develop.

Filter A (according to standard EN 141) for gases and vapours of organic compounds.

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

##### 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 end user 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.

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.

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**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:	colourless
Smell:	sweetish, ether-like
Odour threshold:	No information available.

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

No further relevant information available.

pH-value at 20 °C:

7

##### Change in condition

Not applicable.

##### Melting point/freezing point:

ca. 0 °C

##### Initial boiling point and boiling range:

123 °C  
ca. 100 °C

##### Flash point:

23 - 60 °C

##### Inflammability (solid, gaseous)

Not applicable.

##### Ignition temperature:

310 °C

##### Decomposition temperature:

No information available.

##### Self-inflammability:

Not self-inflammable.

##### Explosive properties:

Product is not explosive. However, the formation of explosive vapour/air mixtures is possible.

##### Critical values for explosion:

Lower:	2.4 Vol %
Upper:	20.6 Vol %

##### Oxidising properties

Not applicable.

##### Steam pressure at 20 °C:

8 hPa

##### Density

Not determined.

##### Relative density

No information available.

##### Vapour density

Not determined.

##### Evaporation rate

No information available.

##### Solubility in / Miscibility with

Water: soluble

##### Partition coefficient: n-octanol/water:

-0.77 log POW

##### Viscosity:

dynamic:	No information available.
kinematic at 20 °C:	1.6 mm <sup>2</sup> s (DIN 53211/4)

##### Solvent content:

Organic solvents:	< 20 %
Water:	> 75 %
Solids content:	< 0.1 %

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**9.2 Other information**

No further relevant information available.

**SECTION 10: Stability and reactivity****10.1 Reactivity** No further 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 the specifications.

**10.3 Possibility of hazardous reactions** No further relevant information available.**10.4 Conditions to avoid:** Heating.**10.5 Incompatible materials:** For these concentrations no further relevant information available.**10.6 Hazardous decomposition products:**

Peroxides.

In case of fire of large quantities: 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/LC<sub>50</sub> values that are relevant for classification:****109-86-4 2-methoxyethanol**

Oral	LD <sub>50</sub>	3400 mg/kg (rat)
Dermal	LD <sub>50</sub>	2000 mg/kg (rabbit)
Inhalative	LC <sub>50</sub> /4 h	1500 mg/l (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:** Harmful if swallowed.**after inhalation:** Harmful if inhaled.**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**

May damage fertility. May damage the unborn child.

**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.



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### 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

Bioaccumulation is not to be expected.

log Pow: -0,77

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

#### **Additional ecological information:**

**General notes:** Void.

#### 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:

**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.

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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, 30

**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 %
NK	20.0

**Water hazard class:** Void.

**Other regulations, limitations and prohibitive regulations**

**Substances of very high concern (SVHC) according to REACH, Article 57**

109-86-4	2-methoxyethanol
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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**

H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H332 Harmful if inhaled.  
H360FD May damage fertility. May damage the unborn child.

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

**Contact:** productsafety@medac.de

**Replaces version from:** 18.08.2017

**Reason for alteration:** 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

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vPvB: very Persistent and very Bioaccumulative  
 Flam. Liq. 3: Flammable liquids – Category 3  
 Acute Tox. 4: Acute toxicity – Category 4  
 Repr. 1B: Reproductive toxicity – Category 1B

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