

## Information about Compilation of Safety Data Sheets

**Product: 4CN 2-Component Membrane Peroxidase Substrate Kit**  
**Company: SeraCare Life Sciences**  
**Article numbers: 5420-0020, 5420-0024**

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 component 4 CN Solution (article numbers 50-73-01, 50-73-02), a Safety Data Sheet had been compiled (enclosure).

For the other kit component Peroxidase Substrate Solution B (article numbers 50-65-00, 50-65-02), 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: November 2017

**medac**

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

Printing date 02.11.2017

Version number 2

Revision: 02.11.2017

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** 4 CN Solution**Article number:** 50-73-01, 50-73-02**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses:

RUO (Research Use Only).

Uses advised against:

For in vitro diagnosis.

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

Manufacturer:

SeraCare Life Sciences (KPL)

910 Clopper Road

Gaithersburgh, Maryland 20878, USA

Distributor:

medac GmbH

Theaterstrasse 6

22880 Wedel, Germany

phone: +49 4103 8006-0

**Informing department:**

Product Safety

productsafety@medac.de

**1.4 Emergency telephone number:**

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

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

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

STOT SE 1 H370 Causes damage to the eyes. Route of exposure: Oral, Inhalation, Dermal.

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

GHS02 GHS08

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

Methanol

**Hazard statements**

H225 Highly flammable liquid and vapour.

H370 Causes damage to the eyes. Route of exposure: Oral, Inhalation, Dermal.

**Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe spray.

P280 Wear protective gloves / protective clothing / eye protection

P308 IF exposed or concerned:

(Contd. on page 2)

GB

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

Printing date 02.11.2017

Version number 2

Revision: 02.11.2017

Trade name: 4 CN Solution

(Contd. of page 1)

P310 Immediately call a POISON CENTER/doctor.

P405 Store locked up.

**Additional information:**

Contains isocyanates. May produce an allergic reaction.

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

GHS02 GHS08

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

Methanol

**Hazard statements**

H370 Causes damage to the eyes. Route of exposure: Oral, Inhalation, Dermal.

**Precautionary statements**

P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

P405 Store locked up.

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

### SECTION 3: Composition/information on ingredients

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

CAS: 67-56-1 EINECS: 200-659-6 Index number: 603-001-00-X RTECS: PC 1400000	Methanol Flam. Liq. 2, H225 Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 STOT SE 1, H370	10-20%
CAS: 56-81-5 EINECS: 200-289-5 RTECS: MA 8050000	glycerol substance with a Community workplace exposure limit	10-20%
CAS: 57-55-6 EINECS: 200-338-0 RTECS: TY 2000000	Methyl glycol substance with a Community workplace exposure limit	10-20%

**SVHC** Not applicable.

### 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.

Call a doctor immediately.

**After eye contact**

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

Consult ophthalmologist.

(Contd. on page 3)

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

Printing date 02.11.2017

Version number 2

Revision: 02.11.2017

**Trade name: 4 CN Solution**

(Contd. of page 2)

**After swallowing**

Let rinse out mouth and then drink plenty of water.  
Instantly call for doctor, point to methanol.

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

Irritant effects.  
Breathing difficulty  
Nausea  
Visual disorders.  
Risk of serious eye damage.  
Blindness.  
Drying-out effect resulting in rough and chapped skin.

**Information for doctor**

Show Safety Data Sheet.  
Treatment according to symptoms.

**Danger** Danger of skin resorption.

**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**

Combustible.  
Vapours are heavier than air and may spread along floors.  
In the event of fire development of dangerous fumes or vapours possible.  
Can be released in case of fire:  
Carbon monoxide (CO)  
Carbon dioxide (CO<sub>2</sub>)  
Nitrogen oxides (NOx)  
Formaldehyde

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

Stay in the danger area only with self-contained breathing apparatus.  
Prevent skin and eye contact by keeping a safe distance or by wearing suitable protective clothing.

**Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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

Advice for non-emergency personnel:  
Do not inhale vapours/aerosols.  
Avoid reagent contact with eyes and skin.  
Provide sufficient ventilation.  
Advice für emergency responders:  
Wear protective equipment (see chapter 8). Keep unprotected persons away.

**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).  
Dispose of the material collected according to respective national regulations.  
Afterwards clean with water and cleansing agent.  
Ensure adequate ventilation.

(Contd. on page 4)

GB

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

Printing date 02.11.2017

Version number 2

Revision: 02.11.2017

**Trade name: 4 CN Solution**

(Contd. of page 3)

### 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:**

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

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

When handling customary laboratory quantities please follow the corresponding laboratory guidelines.

**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 with access restricted to technical experts or their assistants.

**Storage class** Void.

**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:**

**67-56-1 Methanol**

WEL	Short-term value: 333 mg/m <sup>3</sup> , 250 ppm
	Long-term value: 266 mg/m <sup>3</sup> , 200 ppm
	Sk

**56-81-5 glycerol**

WEL	Long-term value: 10 mg/m <sup>3</sup>
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**57-55-6 Methyl glycol**

WEL	Long-term value: 474* 10** mg/m <sup>3</sup> , 150* ppm
	*total vapour and particulates **particulates

**DNELs** Not applicable.

**PNECs** Not applicable.

**CAS No. Designation of material % Type Value Unit**

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

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

### 8.2 Exposure controls

**Personal protective equipment**

**General protective and hygienic measures**

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

Do not inhale aerosols.

Avoid contact with the eyes and skin.

Remove contaminated clothing immediately.

Keep away from food and beverages.

Do not eat or drink while working.

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

Use skin protection cream for preventive skin protection.

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

(Contd. on page 5)

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

Printing date 02.11.2017

Version number 2

Revision: 02.11.2017

**Trade name: 4 CN Solution**

(Contd. of page 4)

**Protection of hands:**

Protective gloves (AQL 1.5).

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

**Material of gloves**

Nitrile rubber, NBR

Natural rubber, NR

Thickness 0.11 mm.

Product quality must comply with standard EN 374.

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

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

Product has not been designed for permanent contact.

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

Product has not been designed for permanent contact.

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

Product has not been designed for permanent contact.

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

Nitrile rubber, NBR

Natural rubber, NR

Thickness: 0.11 mm.

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

**Body protection:** Protective work clothing.

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

**Risk management measures** Void.

### SECTION 9: Physical and chemical properties

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

<b>Form:</b>	viscous
<b>Colour:</b>	Colourless
<b>Smell:</b>	Alcohol-like
<b>Odour threshold:</b>	No information available.

**Important information on protection of health and environment, and on safety.** No further relevant information available.

**pH-value:** 5,4 - 5,8

**Change in condition**

<b>Melting point/freezing point:</b>	No information available.
<b>Initial boiling point and boiling range:</b>	No information available.

<b>Flash point:</b>	No information available. > 30 °C
<b>Inflammability (solid, gaseous)</b>	Not applicable.
<b>Ignition temperature:</b>	Not available.
<b>Decomposition temperature:</b>	No information available.
<b>Self-inflammability:</b>	Not self-inflammable.
<b>Explosive properties:</b>	No further relevant information available.

**Critical values for explosion:**

<b>Lower:</b>	No relevant information available.
<b>Upper:</b>	No relevant information available.

**Oxidising properties** No information available.

**Steam pressure:** No information available.

**Density** No information available.

**Relative density** No information available.

(Contd. on page 6)

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

Printing date 02.11.2017

Version number 2

Revision: 02.11.2017

**Trade name: 4 CN Solution**

(Contd. of page 5)

<b>Vapour density</b>	No information available.
<b>Evaporation rate</b>	No information available.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Miscible
<b>Partition coefficient: n-octanol/water:</b>	No information available.
<b>Viscosity:</b>	
<b>dynamic:</b>	No information available.
<b>kinematic:</b>	No information available.
<b>Solvent content:</b>	
<b>Organic solvents:</b>	> 15 %
<b>Water:</b>	> 50 %
<b>Solids content:</b>	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 according to specifications.

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

**10.4 Conditions to avoid:**

Heat, flames, sparks.

Avoid contact with incompatible materials.

**10.5 Incompatible materials:**

Strong oxidising agents

Reducing agents.

Strong acids.

Strong bases.

**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:**

**67-56-1 Methanol**

Oral	LD50	5628 mg/kg (rat)
Dermal	LD50	15800 mg/kg (rabbit)
Inhalative	LC50/4 h	131.25 mg/l (rat)

**56-81-5 glycerol**

Oral	LD50	12,600 mg/kg (Rat)
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**Specific symptoms in biological assay:** No further relevant information available.

**Primary irritant effect:**

**Skin corrosion/irritation**

Irritations.

Slight irritations.

Drying-out effect resulting in rough and chapped skin.

**Serious eye damage/irritation** Causes severe eye irritation.

**after swallowing:**

After resorption of large quantities: nausea, intoxication, fatigue, ataxia (disorders of the coordination of muscle movement), vision disorders, loss of consciousness, damage of the kidneys.

(Contd. on page 7)

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

Printing date 02.11.2017

Version number 2

Revision: 02.11.2017

**Trade name: 4 CN Solution**

(Contd. of page 6)

**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:**

Methanol may damage central nervous system, peripheral nervous system, optical nerve, liver, kidneys, heart and blood irreversibly.

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

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

**Acute effects (acute toxicity, irritation and corrosivity)** No further relevant information available.

**Sensitisation** No sensitising effect known.

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

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

No indications of CMR effects (Merck Safety Data Sheet methanol issued 2017/06/13).

**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**

Causes damage to the eyes. Route of exposure: Oral, Inhalation, Dermal.

**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** Readily biodegradable (OECD Test Guideline 301D).

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

**12.3 Bioaccumulative potential** Bioaccumulation is not to be expected.

**12.4 Mobility in soil** No data available.

**Additional ecological information:**

**General notes:** Void.

**12.5 Results of PBT and vPvB assessment**

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

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

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

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

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

UN1230

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

1230 METHANOL  
METHANOL

(Contd. on page 8)

GB



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

Printing date 02.11.2017

Version number 2

Revision: 02.11.2017

**Trade name: 4 CN Solution**

(Contd. of page 7)

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

**Class  
Label**

 3 (FT1) Flammable liquids.  
3+6.1

**IMDG, IATA**

**Class  
Label**

 3 Flammable liquids.  
3+6.1

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

II

**14.5 Environmental hazards:  
Marine pollutant:**

No

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

 Warning: Flammable liquids.  
336  
F-E,S-D

**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)  
Transport category  
Tunnel restriction code**

 1L  
2  
D/E

**UN "Model Regulation":**

UN1230, METHANOL, 3 (6.1), II

## SECTION 15: Regulatory information

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

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

**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 %
I	19.0
NK	38.0

**Water hazard class:** Void.

(Contd. on page 9)

GB

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

Printing date 02.11.2017

Version number 2

Revision: 02.11.2017

**Trade name: 4 CN Solution**

(Contd. of page 8)

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

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

**Relevant phrases**

H225 Highly flammable liquid and vapour.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H331 Toxic if inhaled.

H370 Causes damage to the eyes. Route of exposure: Oral, Inhalation, Dermal.

**Department issuing data specification sheet:** Product Safety**Contact:** productsafety@medac.de**Replaces version from:** 09.10.2015**Reason for alteration:**

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

General editorial revision.

**Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 3: Acute toxicity – Category 3

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1