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

*1.1 Product identifier
*Trade name: pH Buffer Solution pH 4.00 (Red) ±0.01 @20°C
*Article number: 11064974

*1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

*1.3 Details of the supplier of the safety data sheet
*Manufacturer/Supplier: See Below
*Manufacturer:
Reagecon Diagnostics Ltd.
Shannon Free Zone,
Shannon,
Co. Clare,
Ireland.
Tel +353 61 472622
Fax +353 61 472642

*Supplier:
BUCHI Labortechnik AG
Meiersegstrassee 40
CH - 9230 Flawil
Telephone: +41 71 394 63 63
FAX: +41 71 394 65 65
Email: schweiz@buchi.com
Internet: www.buchi.com

*Further information obtainable by contacting: sds@reagecon.ie
*1.4 Emergency telephone number:
If availability of such services is limited for any reasons, such as hours of operation, or if there are limits on specific types of information provided, this shall be clearly stated
EMERGENCY CONTACT NUMBER: 00-353-87-8395527

SECTION 2: Hazards identification

*2.1 Classification of the substance or mixture
*Classification according to Regulation (EC) No 1272/2008
The product is not classified according to the CLP regulation.

*2.2 Label elements
*Labelling according to Regulation (EC) No 1272/2008 Void
*Hazard pictograms Void
*Signal word Void
*Hazard statements Void
*2.3 Other hazards
*Results of PBT and vPvB assessment
*PBT: Not applicable.
*vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

*3.2 Chemical characterisation: Mixtures
*Description: Mixture of substances listed below with nonhazardous additions.
*Dangerous components: Void
Trade name: pH Buffer Solution pH 4.00 (Red) ±0.01 @20°C

*Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

*4.1 Description of first aid measures
*General information: No special measures required.
*After inhalation: Provide fresh air, warmth and rest. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Obtain medical attention if any discomfort continues.
*After skin contact: Generally the product does not irritate the skin.
*After eye contact: Promptly wash eyes with plenty of water for up to 15 minutes. Open eyes wide apart and rinse well to remove any contact lenses. Do not remove contact lenses by hand. Continue to rinse. Get medical attention if symptoms persist.
*After swallowing: If symptoms persist consult doctor.
*4.2 Most important symptoms and effects, both acute and delayed 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: Indications shall be given whether any extinguishing media are inappropriate for a particular situation involving the substance or mixture Use fire extinguishing methods suitable to surrounding conditions.
*5.2 Special hazards arising from the substance or mixture No further relevant information available.
*5.3 Advice for firefighters
*Protective equipment: Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers

SECTION 6: Accidental release measures

*6.1 Personal precautions, protective equipment and emergency procedures Not required.
*6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
*6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
*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 disposal information.

SECTION 7: Handling and storage

*7.1 Precautions for safe handling No special measures required.
*Information about fire - and explosion protection: No special measures required.
**SECTION 8: Exposure controls/personal protection**

*Additional information about design of technical facilities:* No further data; see item 7.

**8.1 Control parameters**

*Ingredients with limit values that require monitoring at the workplace:*  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

*Additional information:* The lists valid during the making were used as basis.

**8.2 Exposure controls**

*Personal protective equipment:*  
*General protective and hygienic measures:*  
The usual precautionary measures are to be adhered to when handling chemicals.

*Respiratory protection:* Not required.

*Protection of hands:*  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Always ensure that gloves are inspected before use.  
Selection of protective gloves must include consideration of the penetration times along with rates of diffusion and degradation. The selected glove should comply with the specifications of EU Directive 89/686/EEC and the standard EN374 derived from it.

*Material of gloves*  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.  
Nitrile gloves are recommended for splash contact.

This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific use scenario.

*Penetration time of glove material*  
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

*Eye protection:* Goggles recommended during refilling

**SECTION 9: Physical and chemical properties**

*9.1 Information on basic physical and chemical properties*  
*General Information*  
*Appearance:*  
Form: Liquid  
Colour: According to product specification

*Odour:* Characteristic  
*Odour threshold:* Not determined.

*pH-value:* Not determined.
Safety data sheet
according to 1907/2006/EC, Article 31

Printing 25.09.2017 version number 4 Revision: 13.06.2017

Trade name: pH Buffer Solution pH 4.00 (Red) ±0.01 @20°C

*Change in condition
  Melting point/freezing point: Undetermined.
  Initial boiling point and boiling range: 100 °C

*Flash point: Not applicable.
*Flammability (solid, gas): Not applicable.
*Ignition temperature:
  Decomposition temperature: Not determined.
*Auto-ignition temperature: Product is not selfigniting.
*Explosive properties: Product does not present an explosion hazard.
*Explosion limits:
  Lower: Not determined.
  Upper: Not determined.
*Vapour pressure at 20 °C: 23 hPa
*Density:
  Not determined.
*Relative density
  Not determined.
*Vapour density
  Not determined.
*Evaporation rate
  Not determined.
*Solubility/ miscibility with water:
  Not miscible or difficult to mix.
*Partition coefficient: n-octanol/water:
  Not determined.
*Viscosity:
  Dynamic:
    Not determined.
  Kinematic:
    Not determined.
*Solvent content:
  Organic solvents:
    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
*Thermal 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 No further relevant information available.
*10.5 Incompatible materials: No further relevant information available.
*10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

*11.1 Information on toxicological effects
*Acute toxicity
  Based on available data, the classification criteria are not met.
*Primary irritant effect:
*Skin corrosion/irritation
  Based on available data, the classification criteria are not met.
44.3.3

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

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

*CMR effects (carcinogenity, 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.

*12.3 Bioaccumulative potential* No further relevant information available.

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

*Additional ecological information:*

*General notes:*

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

*12.5 Results of PBT and vPvB assessment*

*PBT:* Not applicable.

*vPvB:* Not applicable.

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

**SECTION 13: Disposal considerations**

*13.1 Waste treatment methods*

*Recommendation* Smaller quantities can be disposed of with household waste.

*Uncleaned packaging:*

*Recommendation:* Disposal must be made according to official regulations.

**SECTION 14: Transport information**

*14.1 UN-Number*

*ADR, IMDG, IATA* Void

*14.2 UN proper shipping name*

*ADR, IMDG, IATA* Void

*14.3 Transport hazard class(es)*

*ADR, IMDG, IATA* Void

*Class*

*14.4 Packing group*

*ADR, IMDG, IATA* Void

*14.5 Environmental hazards:*

Not applicable.
SECTION 15: Regulatory information

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

*Directive 2012/18/EU
*Named dangerous substances - ANNEX I None of the ingredients is listed.

National regulations:

Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

*Department issuing SDS: Health and Safety
*Contact: sds@reagecon.ie
*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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
*NO
*SECTION 1: Identification of the substance/mixture and of the company/undertaking*

**1.1 Product identifier**
*Trade name: pH Buffer Solution pH 7.00 (Yellow) ±0.01 @20°C*

**Article number:** 11064975

**1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

**Application of the substance / the mixture** Laboratory Chemicals

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

**Manufacturer/Supplier:** See Below

**Manufacturer:**
Reagecon Diagnostics Ltd.
Shannon Free Zone,
Shannon,
Co. Clare,
Ireland.
Tel +353 61 472622
Fax +353 61 472642

**Supplier:**
BÜCHI Labortechnik AG
Meierseggstrasse 40
CH - 9230 Flawil
Telephone: +41 71 394 63 63
FAX: +41 71 394 65 65
Email: schweiz@buchi.com
Internet: www.buchi.com

**Further information obtainable by contacting:** sds@reagecon.ie

**1.4 Emergency telephone number:**
If availability of such services is limited for any reasons, such as hours of operation, or if there are limits on specific types of information provided, this shall be clearly stated
EMERGENCY CONTACT NUMBER: 00-353-87-8395527

*SECTION 2: Hazards identification*

**2.1 Classification of the substance or mixture**
*Classification according to Regulation (EC) No 1272/2008*
The product is not classified according to the CLP regulation.

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

**2.3 Other hazards**
*Results of PBT and vPvB assessment*
*PBT: Not applicable.*
*vPvB: Not applicable.*

*SECTION 3: Composition/information on ingredients*

**3.2 Chemical characterisation: Mixtures**
*Description: Mixture of substances listed below with nonhazardous additions.*

**Dangerous components: Void**

(Contd. on page 2)
SECTION 4: First aid measures

*4.1 Description of first aid measures
*General information: No special measures required.
*After inhalation:
Provide fresh air, warmth and rest. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Obtain medical attention if any discomfort continues.
*After skin contact: Generally the product does not irritate the skin.
*After eye contact:
Promptly wash eyes with plenty of water for up to 15 minutes. Open eyes wide apart and rinse well to remove any contact lenses. Do not remove contact lenses by hand. Continue to rinse. Get medical attention if symptoms persist.
*After swallowing: If symptoms persist consult doctor.
*4.2 Most important symptoms and effects, both acute and delayed 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:
Indications shall be given whether any extinguishing media are inappropriate for a particular situation involving the substance or mixture
Use fire extinguishing methods suitable to surrounding conditions.
*5.2 Special hazards arising from the substance or mixture No further relevant information available.
*5.3 Advice for firefighters
*Protective equipment:
Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers

SECTION 6: Accidental release measures

*6.1 Personal precautions, protective equipment and emergency procedures Not required.
*6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
*6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
*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 disposal information.

SECTION 7: Handling and storage

*7.1 Precautions for safe handling No special measures required.
*Information about fire - and explosion protection: No special measures required.
Trade name: pH Buffer Solution pH 7.00 (Yellow) ±0.01 @20°C

*7.2 Conditions for safe storage, including any incompatibilities
*Storage:
*Requirements to be met by storerooms and receptacles: No special requirements.
*Information about storage in one common storage facility: Not required.
*Further information about storage conditions: None.
*7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

*Additional information about design of technical facilities: No further data; see item 7.

*8.1 Control parameters
*Ingredients with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
*Additional information: The lists valid during the making were used as basis.

*8.2 Exposure controls
*Personal protective equipment:
*General protective and hygienic measures:
The usual precautionary measures are to be adhered to when handling chemicals.
*Respiratory protection: Not required.
*Protection of hands:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Always ensure that gloves are inspected before use.
Selection of protective gloves must include consideration of the penetration times along with rates of diffusion and degradation. The selected glove should comply with the specifications of EU Directive 89/686/EEC and the standard EN374 derived from it.
*Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Nitrile gloves are recommended for splash contact.
This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific use scenario.
*Penetration time of glove material
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
*Eye protection: Goggles recommended during refilling

SECTION 9: Physical and chemical properties

*9.1 Information on basic physical and chemical properties
*General Information
*Appearance:
  Form: Liquid
  Colour: According to product specification
*Odour: Characteristic
*Odour threshold: Not determined.
*pH-value: Not determined.
**SECTION 10: Stability and reactivity**

*10.1 Reactivity* No further relevant information available.

*10.2 Chemical stability*

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

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

*10.5 Incompatible materials:* No further relevant information available.

*10.6 Hazardous decomposition products:* No dangerous decomposition products known.

**SECTION 11: Toxicological information**

*11.1 Information on toxicological effects*

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

*Primary irritant effect:*

*Skin corrosion/irritation* Based on available data, the classification criteria are not met.
Trade name: pH Buffer Solution pH 7.00 (Yellow) ±0.01 @20°C

**SECTION 12: Ecological information**

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

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

*12.3 Bioaccumulative potential No further relevant information available.*

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

*Additional ecological information:*
*General notes:*
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

*12.5 Results of PBT and vPvB assessment*
*PBT: Not applicable.*
*vPvB: Not applicable.*
*12.6 Other adverse effects No further relevant information available.*

**SECTION 13: Disposal considerations**

*13.1 Waste treatment methods*
*Recommendation* Smaller quantities can be disposed of with household waste.

*Uncleaned packaging:*
*Recommendation: Disposal must be made according to official regulations.*

**SECTION 14: Transport information**

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

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

*14.3 Transport hazard class(es)*
*ADR, IMDG, IATA* Void

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

*14.5 Environmental hazards:*
*Not applicable.*

(Contd. on page 6)
**SECTION 15: Regulatory information**

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

*Directive 2012/18/EU*

*Named dangerous substances - ANNEX I* None of the ingredients is listed.

*National regulations:*

*Waterhazard class:* Water hazard class 1 (Self-assessment): slightly hazardous for water.

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

**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

*Department issuing SDS:* Health and Safety

*Contact:* sds@reagecon.ie

*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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

*NO*
**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

*1.1 Product identifier
*Trade name: REFERENCE ELECTRODE FILLING SOLUTION

*Article number: LKCL

*1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

*Application of the substance / the mixture Laboratory Chemicals

*1.3 Details of the supplier of the safety data sheet

*Manufacturer/Supplier:
Reagecon Diagnostics Ltd.
Shannon Free Zone,
Shannon,
Co. Clare,
Ireland.
Tel +353 61 472622
Fax +353 61 472642

*Manufacturer:
Reagecon Diagnostics Ltd.
Shannon Free Zone,
Shannon,
Co. Clare,
Ireland.
Tel +353 61 472622
Fax +353 61 472642

*Supplier:
BÜCHI Labortechnik AG
Meierseggstrasse 40
CH - 9230 Flawil
Telephone: +41 71 394 63 63
FAX: +41 71 394 65 65
Email: schweiz@buchi.com
Internet: www.buchi.com

*Further information obtainable by contacting: sds@reagecon.ie

*1.4 Emergency telephone number:
If availability of such services is limited for any reasons, such as hours of operation, or if there are limits on specific types of information provided, this shall be clearly stated
EMERGENCY CONTACT NUMBER: 00-353-87-8395527

**SECTION 2: Hazards identification**

*2.1 Classification of the substance or mixture
*Classification according to Regulation (EC) No 1272/2008
The product is not classified according to the CLP regulation.

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

*Hazard pictograms Void
*Signal word Void

*Hazard statements Void

*2.3 Other hazards

*Results of PBT and vPvB assessment
*PBT: Not applicable.
SECTION 3: Composition/information on ingredients

*3.2 Chemical characterisation: Mixtures
*Description: Mixture of substances listed below with nonhazardous additions.
*Dangerous components: Void
*Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

*4.1 Description of first aid measures
*General information: No special measures required.
*After inhalation:
Provide fresh air, warmth and rest. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Obtain medical attention if any discomfort continues.
*After skin contact: Generally the product does not irritate the skin.
*After eye contact:
Promptly wash eyes with plenty of water for up to 15 minutes. Open eyes wide apart and rinse well to remove any contact lenses. Do not remove contact lenses by hand. Continue to rinse. Get medical attention if symptoms persist.
*After swallowing: If symptoms persist consult doctor.
*4.2 Most important symptoms and effects, both acute and delayed 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:
Indications shall be given whether any extinguishing media are inappropriate for a particular situation involving the substance or mixture
Use fire extinguishing methods suitable to surrounding conditions.
*5.2 Special hazards arising from the substance or mixture No further relevant information available.
*5.3 Advice for firefighters
*Protective equipment:
Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers

SECTION 6: Accidental release measures

*6.1 Personal precautions, protective equipment and emergency procedures Not required.
*6.2 Environmental precautions:
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
*6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
6.4 Reference to other sections
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: None.

7.3 Specific end use(s)
No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:
The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection: Not required.

Protection of hands:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Always ensure that gloves are inspected before use.
Selection of protective gloves must include consideration of the penetration times along with rates of diffusion and degradation. The selected glove should comply with the specifications of EU Directive 89/686/EEC and the standard EN374 derived from it.

Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Goggles recommended during refilling
**SECTION 9: Physical and chemical properties**

<table>
<thead>
<tr>
<th>*9.1 Information on basic physical and chemical properties</th>
<th></th>
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<tr>
<td><em>General Information</em></td>
<td></td>
</tr>
<tr>
<td><em>Appearance:</em></td>
<td>Liquid</td>
</tr>
<tr>
<td>Form:</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour:</td>
<td>According to product specification</td>
</tr>
<tr>
<td><em>Odour:</em></td>
<td>Characteristic</td>
</tr>
<tr>
<td><em>Odour threshold:</em></td>
<td>Not determined.</td>
</tr>
<tr>
<td><em>pH-value:</em></td>
<td>Not determined.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><em>Change in condition</em></th>
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<tbody>
<tr>
<td>Melting point/freezing point:</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>100 °C</td>
</tr>
</tbody>
</table>

| *Flash point:* | Not applicable. |
| *Flammability (solid, gas):* | Not applicable. |
| *Ignition temperature:* |  |
| Decomposition temperature: | Not determined. |
| *Auto-ignition temperature:* | Product is not selfigniting. |
| *Explosive properties:* | Product does not present an explosion hazard. |

<table>
<thead>
<tr>
<th><em>Explosion limits:</em></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper:</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

| *Vapour pressure at 20 °C:* | 23 hPa |
| *Density at 20 °C:* | 1.22779 g/cm³ |
| *Relative density* | Not determined. |
| *Vapour density* | Not determined. |
| *Evaporation rate* | Not determined. |

| *Solubility/ miscibility with water:* | Fully miscible. |

| *Partition coefficient: n-octanol/water:* | Not determined. |

| *Viscosity:* |  |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |

| *Solvent content:* |  |
| Organic solvents: | 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* |  |
| *Thermal 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* | No further relevant information available. |
Safety data sheet
according to 1907/2006/EC, Article 31

Trade name: REFERENCE ELECTRODE FILLING SOLUTION

**SECTION 11: Toxicological information**

*11.1 Information on toxicological effects

*Acute toxicity* Based on available data, the classification criteria are not met.
*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.
*Respiratory or skin sensitisation* Based on available data, the classification criteria are not met.
*CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)* Based on available data, the classification criteria are not met.
*Germ cell mutagenicity* Based on available data, the classification criteria are not met.
*Carcinogenicity* Based on available data, the classification criteria are not met.
*Reproductive toxicity* Based on available data, the classification criteria are not met.
*STOT-single exposure* Based on available data, the classification criteria are not met.
*STOT-repeated exposure* Based on available data, the classification criteria are not met.
*Aspiration hazard* Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information**

*12.1 Toxicity

*Aquatic toxicity:* No further relevant information available.
*12.2 Persistence and degradability* No further relevant information available.
*12.3 Bioaccumulative potential* No further relevant information available.
*12.4 Mobility in soil* No further relevant information available.
*Additional ecological information:
*General notes:*
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
*12.5 Results of PBT and vPvB assessment

*PBT:* Not applicable.
*PvPvB:* Not applicable.
*12.6 Other adverse effects* No further relevant information available.

**SECTION 13: Disposal considerations**

*13.1 Waste treatment methods

*Recommendation* Smaller quantities can be disposed of with household waste.

*Uncleaned packaging:

*Recommendation:* Disposal must be made according to official regulations.
*Recommended cleansing agents: Water, if necessary together with cleansing agents.

**SECTION 14: Transport information**

*14.1 UN-Number

*ADR, ADN, IMDG, IATA* Void

(Contd. on page 6)
Trade name: REFERENCE ELECTRODE FILLING SOLUTION

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>14.2</td>
<td>UN proper shipping name</td>
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<tr>
<td>ADR, ADN, IMDG, IATA</td>
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<tr>
<td>14.3</td>
<td>Transport hazard class(es)</td>
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<td>14.4</td>
<td>Packing group</td>
</tr>
<tr>
<td>ADR, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>14.5</td>
<td>Environmental hazards:</td>
</tr>
<tr>
<td>Marine pollutant:</td>
<td>No</td>
</tr>
<tr>
<td>14.6</td>
<td>Special precautions for user</td>
</tr>
<tr>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>14.7</td>
<td>Transport in bulk according to Annex II of Marpol and the IBC Code</td>
</tr>
<tr>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Transport/Additional information:</td>
<td>Not dangerous according to the above specifications.</td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;:</td>
<td>Void</td>
</tr>
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</table>

**SECTION 15: Regulatory information**

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

- Directive 2012/18/EU
- Named dangerous substances - ANNEX I: None of the ingredients is listed.
- National regulations:
- Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Health and Safety
- Contact: sds@reagecon.ie
- 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)
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
- NO
SECTION 1: Identification of the substance/mixture and of the company/undertaking

*1.1 Product identifier
*Trade name: Mixed Indicator According to Sher

*Article number: 003512

*1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

*Application of the substance / the mixture Laboratory Chemicals

*1.3 Details of the supplier of the safety data sheet
*Manufacturer/Supplier: See Below

*Manufacturer:
Reagecon Diagnostics Ltd.
Shannon Free Zone,
Shannon,
Co. Clare,
Ireland.
Tel +353 61 472622
Fax +353 61 472642

*Supplier:
BÜCHI Labortechnik AG
Meierseggstrasse 40
CH - 9230 Flawil
Telephone: +41 71 394 63 63
FAX: +41 71 394 65 65
Email: schweiz@buchi.com
Internet: www.buchi.com

*Further information obtainable by contacting: sds@reagecon.ie

*1.4 Emergency telephone number:
If availability of such services is limited for any reasons, such as hours of operation, or if there are limits on specific types of information provided, this shall be clearly stated
EMERGENCY CONTACT NUMBER: 00-353-87-8395527

SECTION 2: Hazards identification

*2.1 Classification of the substance or mixture
*Classification according to Regulation (EC) No 1272/2008
The product is not classified according to the CLP regulation.

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

*Hazard pictograms Void

*Signal word Void

*Hazard statements Void

*Additional information:
Safety data sheet available on request.

*2.3 Other hazards
*Results of PBT and vPvB assessment
*PBT: Not applicable.
*vPvB: Not applicable.
**SECTION 3: Composition/information on ingredients**

*3.2 Chemical characterisation: Mixtures
*Description: Mixture of substances listed below with nonhazardous additions.

*Dangerous components:

<table>
<thead>
<tr>
<th>CAS: 64-17-5</th>
<th>Ethanol</th>
<th>Flam. Liq. 2, H225; Eye Irrit. 2, H319</th>
<th>2.5-&lt;10%</th>
</tr>
</thead>
</table>

*Additional information: For the wording of the listed hazard phrases refer to section 16.

**SECTION 4: First aid measures**

*4.1 Description of first aid measures
*General information: No special measures required.

*After inhalation: Provide fresh air, warmth and rest. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Obtain medical attention if any discomfort continues.

*After skin contact: Generally the product does not irritate the skin.

*After eye contact: Promptly wash eyes with plenty of water for up to 15 minutes. Open eyes wide apart and rinse well to remove any contact lenses. Do not remove contact lenses by hand. Continue to rinse. Get medical attention if symptoms persist.

*After swallowing: If symptoms persist consult doctor.

*4.2 Most important symptoms and effects, both acute and delayed 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 extinguishing methods suitable to surrounding conditions.

*5.2 Special hazards arising from the substance or mixture No further relevant information available.

*5.3 Advice for firefighters
*Protective equipment: Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

**SECTION 6: Accidental release measures**

*6.1 Personal precautions, protective equipment and emergency procedures Not required.

*6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

*6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

*6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
SECTION 7: Handling and storage

*7.1 Precautions for safe handling: No special measures required.
*Information about fire - and explosion protection: No special measures required.

*7.2 Conditions for safe storage, including any incompatibilities
*Storage:
*Requirements to be met by storerooms and receptacles: No special requirements.
*Information about storage in one common storage facility: Not required.
*Further information about storage conditions: None.

*7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

*Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

*Ingredients with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>CAS: 64-17-5 ethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEL (Ireland)</td>
</tr>
<tr>
<td>PEL (USA)</td>
</tr>
<tr>
<td>REL (USA)</td>
</tr>
<tr>
<td>TLV (USA)</td>
</tr>
</tbody>
</table>

*Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

*Personal protective equipment:

*General protective and hygienic measures:
The usual precautionary measures are to be adhered to when handling chemicals.

*Respiratory protection: Not required.

*Protection of hands:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Always ensure that gloves are inspected before use.
Selection of protective gloves must include consideration of the penetration times along with rates of diffusion and degradation. The selected glove should comply with the specifications of EU Directive 89/686/EEC and the standard EN374 derived from it.

*Material of gloves:
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Nitrile gloves are recommended for splash contact.

This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific use scenario.

*Penetration time of glove material:
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
**Trade name:** Mixed Indicator According to Sher

*Eye protection:* Goggles recommended during refilling

### SECTION 9: Physical and chemical properties

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

**General Information**

- **Form:** Liquid
- **Colour:** According to product specification
- **Odour:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** Not determined.

**Change in condition**

- Melting point/freezing point: Undetermined.
- Initial boiling point and boiling range: Undetermined.

**Flash point:** Not applicable.

**Flammability (solid, gas):** Not applicable.

**Ignition temperature:** 425 °C

**Decomposition temperature:** Not determined.

**Auto-ignition temperature:** Product is not selfigniting.

**Explosive properties:** Product does not present an explosion hazard.

**Explosion limits:**
- Lower: Not determined.
- Upper: Not determined.

**Vapour pressure at 20 °C:** 23 hPa

**Density:** Not determined.

**Relative density**

**Vapour density**

**Evaporation rate**

**Solubility/ miscibility with water:** Not miscible or difficult to mix.

**Partition coefficient: n-octanol/water:** Not determined.

**Viscosity:**
- Dynamic: Not determined.
- Kinematic: Not determined.

**Solvent content:**
- Organic solvents: 4.8 %

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

### SECTION 10: Stability and reactivity

**10.1 Reactivity** No further relevant information available.
Trade name: Mixed Indicator According to Sher

*10.2 Chemical stability
*Thermal 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 No further relevant information available.
*10.5 Incompatible materials: No further relevant information available.
*10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

*11.1 Information on toxicological effects
*Acute toxicity Based on available data, the classification criteria are not met.
*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.
*Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
*CMR effects (carcinogenity, mutagenicity and toxicity for reproduction) Based on available data, the classification criteria are not met.
*Germ cell mutagenicity Based on available data, the classification criteria are not met.
*Carcinogenicity Based on available data, the classification criteria are not met.
*Reproductive toxicity Based on available data, the classification criteria are not met.
*STOT-single exposure Based on available data, the classification criteria are not met.
*STOT-repeated exposure Based on available data, the classification criteria are not met.
*Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

*12.1 Toxicity
*Aquatic toxicity: No further relevant information available.
*12.2 Persistence and degradability No further relevant information available.
*12.3 Bioaccumulative potential No further relevant information available.
*12.4 Mobility in soil No further relevant information available.
*Additional ecological information:
*General notes: Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
*12.5 Results of PBT and vPvB assessment
*PBT: Not applicable.
*vPvB: Not applicable.
*12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

*13.1 Waste treatment methods
*Recommendation Smaller quantities can be disposed of with household waste.
*Uncleaned packaging:
*Recommendation: Disposal must be made according to official regulations.
SECTION 14: Transport information

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

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

*14.3 Transport hazard class(es)
*ADR, IMDG, IATA: Void

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

*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 dangerous according to the above specifications.

*UN "Model Regulation": Void

SECTION 15: Regulatory information

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

*Directive 2012/18/EU
*Named dangerous substances - ANNEX I None of the ingredients is listed.

*National regulations:

<table>
<thead>
<tr>
<th>Class</th>
<th>Share in %</th>
</tr>
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<tbody>
<tr>
<td>Wasser</td>
<td>94.7</td>
</tr>
<tr>
<td>NK</td>
<td>4.8</td>
</tr>
</tbody>
</table>

*Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

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

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

*Relevant Phrases:
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.

*Department issuing SDS: Health and Safety
*Contact: sds@reagecon.ie

*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
Trade name: Mixed Indicator According to Sher

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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
*NO