

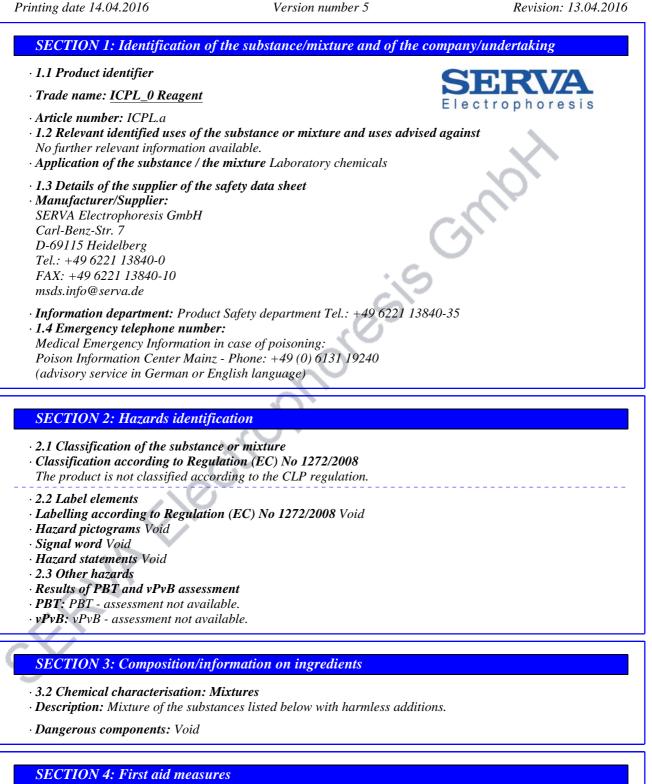
SERVA ICPL™ KIT

Cat. No. 39230

Safety Data Sheets of the following Kit Components:

| ICPL.a | ICPL_0 Reagent |
|--------|------------------------|
| ICPL.b | ICPL_6 Reagent |
| ICPL.c | Stop Solution 1 |
| ICPL.d | Reduction Solution |
| ICPL.e | Alkylation Reagent |
| ICPL.f | Stop solution 2 |
| ICPL.g | Lysis Buffer |
| ICPL.h | Solution Buffer |
| ICPL.i | Protein-Mix for ICPL_0 |
| ICPL.j | Protein-Mix for ICPL_6 |

Revision: 13.04.2016



- · 4.1 Description of first aid measures
- · General information No special measures required.
- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After skin contact Immediately wash with water and soap and rinse thoroughly. Consult doctor In case of complaints.

(Contd. on page 2) GB

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 1)

Trade name: ICPL_0 Reagent

· After eye contact

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult doctor In case of complaints.

• After swallowing Wash out mouth. Seek medical advice if discomfort occurs.

- 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
- CO_2 , extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. • 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be formed, but not limited to: Sulphur oxides (SOx)

Carbon monoxide and carbon dioxide

Formaldehyde

Methyl mercaptan

- 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
 Ensure adequate ventilation Avoid contact with the eyes and skin.
 6.2 Environmental precautions:

- Do not allow to enter sewers/ surface or ground water. Dilute with plenty of water.
- 6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.
- 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 Ensure good ventilation/exhaustion at the workplace.

· Information about protection against explosions and fires: Keep ignition sources away - Do not smoke.

- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- Requirements to be met by storerooms and receptacles: Store at -15 to -25 °C
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Store under inert gas.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.

(Contd. on page 3)

GB

Printing date 14.04.2016

*

Version number 5

Revision: 13.04.2016

Trade name: ICPL_0 Reagent

| 8.1 Control parameters Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that be monitored at the workplace. Additional information: The lists that were valid during the creation were used as basis. 8.2 Exposure controls Personal protective equipment General protective and hygienic measures The usual precautionary measures should be adhered to when handling chemicals. Breathing equipment: Short term filter device: Filter P2. Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the product of gloves The selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked paplication. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and obs | nave to b |
|--|-------------|
| The product does not contain any relevant quantities of materials with critical values that I monitored at the workplace. Additional information: The lists that were valid during the creation were used as basis. 8.2 Exposure controls Personal protective equipment General protective and hygienic measures The usual precautionary measures should be adhered to when handling chemicals. Breathing equipment: Short term filter device: Filter P2. Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the product of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked production. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | have to k |
| monitored at the workplace. Additional information: The lists that were valid during the creation were used as basis. 8.2 Exposure controls Personal protective equipment General protective and hygienic measures The usual precautionary measures should be adhered to when handling chemicals. Breathing equipment: Short term filter device: Filter P2. Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several substresistance of the glove material can not be calculated in advance and has therefore to be checked production. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | have to t |
| Additional information: The lists that were valid during the creation were used as basis. 8.2 Exposure controls Personal protective equipment General protective and hygienic measures The usual precautionary measures should be adhered to when handling chemicals. Breathing equipment: Short term filter device: Filter P2. Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the preparation degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked preparation. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| 8.2 Exposure controls Personal protective equipment General protective and hygienic measures The usual precautionary measures should be adhered to when handling chemicals. Breathing equipment: Short term filter device: Filter P2. Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| Personal protective equipment General protective and hygienic measures The usual precautionary measures should be adhered to when handling chemicals. Breathing equipment: Short term filter device: Filter P2. Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the pr the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| Personal protective equipment General protective and hygienic measures The usual precautionary measures should be adhered to when handling chemicals. Breathing equipment: Short term filter device: Filter P2. Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the pr the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| General protective and hygienic measures The usual precautionary measures should be adhered to when handling chemicals. Breathing equipment: Short term filter device: Filter P2. Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the pr the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| The usual precautionary measures should be adhered to when handling chemicals. Breathing equipment: Short term filter device: Filter P2. Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparation Due to missing tests no recommendation to the glove material can be given for the product/ the pro- the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| Breathing equipment: Short term filter device: Filter P2. Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the pr the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| Short term filter device: Filter P2. Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the pr the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| Filter P2. Protection of hands: Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the pr the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the pr the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| Protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the pr the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| The glove material has to be impermeable and resistant to the product/ the substance/ the preparati Due to missing tests no recommendation to the glove material can be given for the product/ the pre the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| Due to missing tests no recommendation to the glove material can be given for the product/ the pr the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | on. |
| the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | - |
| degradation Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | n and th |
| Material of gloves The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| The selection of the suitable gloves does not only depend on the material, but also on further marks and varies from manufacturer to manufacturer. As the product is a preparation of several subst resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| resistance of the glove material can not be calculated in advance and has therefore to be checked p application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | s of qualit |
| application. Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | ances, th |
| Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and | vrior to th |
| The exact break trough time has to be found out by the manufacturer of the protective gloves and | |
| | |
| | l has to b |
| | |
| For the permanent contact of a maximum of 15 minutes gloves made of the following mat | erials ar |
| suitable: | crittis ur |
| Chloroprene rubber, CR | |
| Nitrile rubber, NBR | |
| Exe protection: Safety glasses | |
| Body protection: Protective work clothing. | |
| bouy procedon. I rolecuve work clonding. | |
| | |
| SECTION 9: Physical and chemical properties | |
| | |
| 9.1 Information on basic physical and chemical properties | |
| Conoral Information | |
| | |
| Appearance: | |
| | |
| Appearance: | |
| Appearance:Form:SolutionColour:Colourless | |
| Appearance:Form:SolutionColour:ColourlessOdour:Characteristic | |
| Appearance: Solution Form: Solution Colour: Colourless Odour: Characteristic | |
| Appearance: Solution Form: Solution Colour: Colourless Odour: Characteristic Change in condition Melting point/Melting range: 18 °C | |
| Appearance: Solution Form: Solution Colour: Colourless Odour: Characteristic Change in condition Melting point/Melting range: 18 °C Boiling point/Boiling range: 189 °C | |
| Appearance: Solution Form: Solution Colour: Colourless Odour: Characteristic Change in condition Melting point/Melting range: 18 °C Boiling point/Boiling range: 189 °C | |
| Appearance:Form:SolutionColour:ColourlessOdour:CharacteristicChange in condition Melting point/Melting range:18 °C 189 °CFlash point:87 °C | |
| Appearance:Form:SolutionColour:ColourlessOdour:ColourlessOdour:CharacteristicChange in condition Melting point/Melting range:18 °C 189 °CFlash point:87 °CIgnition temperature:270 °C | |
| Colour:Colourless ColourlessOdour:Colourless CharacteristicChange in condition Melting point/Melting range:18 °C 189 °CFlash point:87 °CIgnition temperature:270 °C | |
| Appearance:SolutionForm:SolutionColour:ColourlessOdour:CharacteristicChange in condition Melting point/Melting range:18 °CBoiling point/Melting range:18 °CFlash point:87 °CFlash point:270 °CSelf igniting:Product is not selfigniting.Danger of explosion:Product does not present an explosion hazard.Explosion limits:Value of the self | |
| Appearance:SolutionForm:SolutionColour:ColourlessOdour:CharacteristicChange in condition Melting point/Melting range:18 °CBoiling point/Melting range:18 °CFlash point:87 °CIgnition temperature:270 °CSelf igniting:Product is not selfigniting.Danger of explosion:Product does not present an explosion hazard. | |

(Contd. on page 4) GB

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: ICPL_0 Reagent

| | | (Contd. of page 3) |
|--|--|--------------------|
| · Vapour pressure at 20 °C: | 2,5 hPa | |
| · Density: | Not determined | |
| • Solubility in / Miscibility with Water at 20 •C: | 1000 g/l | |
| Solvent content: Organic solvents: 9.2 Other information | > 90 % The physico-chemical data correspond to pure DMSO. | |

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 further relevant informations available.
- 10.4 Conditions to avoid high ttemperatures exposure to the light
 10.5 Incompatible materials:

Avoid contact with: Oxidizers Acids

Halides of organic and inorganic acids

Methyl bromide, sodium hydride

Zinc and steel (in the presence of water)

• 10.6 Hazardous decomposition products: In case of fire: See Section 5

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)
- · 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.
- \cdot 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.
- \cdot 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.
- $\cdot \ 12.3 \ Bioaccumulative \ potential \ No \ further \ relevant \ information \ available.$
- · 12.4 Mobility in soil No further relevant information available.
- \cdot Additional ecological information:

· General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water. Do not allow product to reach ground water, water course or sewage system.

(Contd. on page 5)

GB

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 4)

Trade name: ICPL_0 Reagent

· 12.5 Results of PBT and vPvB assessment

· **PBT:** PBT - assessment not available.

· **vPvB**: vPvB - assessment not available.

· 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

· Uncleaned packagings:

· Recommendation:

*

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

· Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION 14: Transport information

| · 14.1 UN-Number | |
|---|--|
| · ADR, ADN, IMDG, IATA | Void |
| · 14.2 UN proper shipping name | |
| · ADR, ADN, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | |
| · ADR, IMDG, IATA | |
| · Class | Void |
| · Label · ADN/R Class: | - |
| · ADN/R Class: | Void |
| · 14.4 Packing group | |
| · ADR, IMDG, IATA | Void |
| 14.5 Environmental hazards: | Not applicable. |
| · Marine pollutant: | No |
| \cdot 14.6 Special precautions for user | Not applicable. |
| \cdot 14.7 Transport in bulk according to Annex 1 | II of |
| Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · ADR | |
| · Transport category | - |
| · UN ''Model Regulation'': | Void |

SECTION 15: Regulatory information

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

· National regulations

· Technical instructions (air):

Class Share in %

NK 80-100

(Contd. on page 6)

e 6) GB

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: ICPL_0 Reagent

(Contd. of page 5)

• Water hazard 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 MSDS: Product safety department
- *Contact:* +49 6221 13840-35
- Abbreviations and acronyms:
 RID: Règlement international concernan

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 PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative, ioxic substance (REACH)

REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

CLP: Regulation on classification, labelling and packaging of substances and mixtures

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)

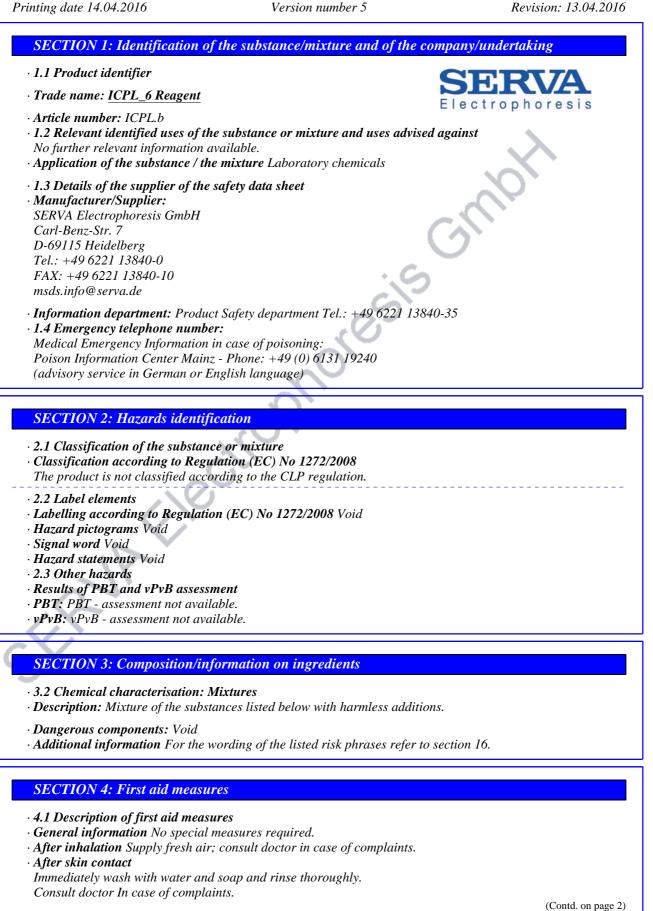
PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

* Data compared to the previous version altered.

GB

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

Revision: 13.04.2016



Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 1)

Trade name: ICPL_6 Reagent

· After eye contact

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult doctor In case of complaints.

• After swallowing Wash out mouth. Seek medical advice if discomfort occurs.

- 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
- *CO*₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. • 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be formed, but not limited to: Sulphur oxides (SOx)

Carbon monoxide and carbon dioxide

Formaldehyde

Methyl mercaptan

- 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
 Ensure adequate ventilation Avoid contact with the eyes and skin.
 6.2 Environmental precautions:

Do not allow to enter sewers/ surface or ground water. Dilute with plenty of water.

• 6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.

• 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 Ensure good ventilation/exhaustion at the workplace.

· Information about protection against explosions and fires: Keep ignition sources away - Do not smoke.

- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- Requirements to be met by storerooms and receptacles: Store at -15 to -25 °C
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Store under inert gas.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.

(Contd. on page 3)

GB

Printing date 14.04.2016

*

Version number 5

Revision: 13.04.2016

Trade name: ICPL_6 Reagent

| 8.1 Control parameters | |
|---|--|
| | |
| | s that require monitoring at the workplace: iin any relevant quantities of materials with critical values that have to l |
| monitored at the workplace. <i>Additional information:</i> The | lists that were valid during the creation were used as basis. |
| 8.2 Exposure controls | |
| Personal protective equipmen | nt |
| General protective and hygie | |
| Keep away from foodstuffs, be | |
| Store protective clothing sepa | ırately. |
| Immediately remove all soiled | l and contaminated clothing |
| Avoid contact with the eyes an | |
| Wash hands before breaks and | d at the end of work. |
| Breathing equipment: | |
| Short term filter device: Filter P2. | |
| Protection of hands: | |
| Protective gloves. | |
| | impermeable and resistant to the product/ the substance/ the preparation. |
| Due to missing tests no recom | nmendation to the glove material can be given for the product/ the preparation |
| the chemical mixture. Selection of the slove mate | erial on consideration of the penetration times, rates of diffusion and th |
| degradation | the on consideration of the penetration times, rates of allowing and the |
| Material of gloves | |
| | gloves does not only depend on the material, but also on further marks of quali |
| and varies from manufacture | er to manufacturer. As the product is a preparation of several substances, th |
| | ial can not be calculated in advance and has therefore to be checked prior to th |
| | |
| application. | |
| Penetration time of glove ma | |
| Penetration time of glove ma . The exact break trough time | |
| Penetration time of glove ma . The exact break trough time observed. | has to be found out by the manufacturer of the protective gloves and has to be |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact | has to be found out by the manufacturer of the protective gloves and has to be |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact suitable: | has to be found out by the manufacturer of the protective gloves and has to be |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact | has to be found out by the manufacturer of the protective gloves and has to be |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses | has to be found out by the manufacturer of the protective gloves and has to be of a maximum of 15 minutes gloves made of the following materials and s |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials ar s |
| Penetration time of glove ma . The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective w | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials an s vork clothing. |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials ar s vork clothing. |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective w SECTION 9: Physical and 9.1 Information on basic phy | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials an s vork clothing. |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective w SECTION 9: Physical and 9.1 Information on basic phy General Information | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials an s vork clothing. |
| Penetration time of glove mat The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective w SECTION 9: Physical and 9.1 Information on basic phy General Information Appearance: | has to be found out by the manufacturer of the protective gloves and has to be of a maximum of 15 minutes gloves made of the following materials and s vork clothing. I chemical properties psical and chemical properties |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective w SECTION 9: Physical and 9.1 Information on basic phy General Information | has to be found out by the manufacturer of the protective gloves and has to be of a maximum of 15 minutes gloves made of the following materials and s vork clothing. I chemical properties psical and chemical properties Solution |
| Penetration time of glove mathematical time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective were support of the second | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials ar s vork clothing. Chemical properties psical and chemical properties |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective w SECTION 9: Physical and 9.1 Information on basic phy General Information Appearance: Form: Colour: Odour: | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials ar s vork clothing. I chemical properties psical and chemical properties Solution Colourless |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective w SECTION 9: Physical and 9.1 Information on basic phy General Information Appearance: Form: Colour: Odour: Change in condition | has to be found out by the manufacturer of the protective gloves and has to be of a maximum of 15 minutes gloves made of the following materials and s vork clothing. I chemical properties psical and chemical properties Solution Colourless Characteristic |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective w SECTION 9: Physical and 9.1 Information on basic phy General Information Appearance: Form: Colour: Odour: | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials an s vork clothing. |
| Penetration time of glove ma The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective w SECTION 9: Physical and 9.1 Information on basic phy General Information Appearance: Form: Colour: Odour: Change in condition Melting point/Melting range Boiling point/Boiling range | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials an s vork clothing. |
| Penetration time of glove mathematical time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective were support of the second | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials an s vork clothing. |
| Penetration time of glove mathematical time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective w SECTION 9: Physical and 9.1 Information on basic phy General Information Appearance: Form: Colour: Odour: Change in condition Melting point/Melting range Boiling point/Boiling range Flash point: Ignition temperature: | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials an s vork clothing. I chemical properties rsical and chemical properties Solution Colourless Characteristic re: 18 °C e: 189 °C 87 °C |
| Penetration time of glove mathematical time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective were support of the penetry of the pene | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials ar s vork clothing. |
| Penetration time of glove mat The exact break trough time observed. For the permanent contact suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective w SECTION 9: Physical and 9.1 Information on basic phy General Information Appearance: Form: Colour: Odour: Change in condition Melting point/Melting rang | has to be found out by the manufacturer of the protective gloves and has to b of a maximum of 15 minutes gloves made of the following materials ar s vork clothing. |

Printing date 14.04.2016Version number 5Revision: 13.04.2016

| Trade name: | ICPL_6 | Reagent |
|-------------|--------|---------|
|-------------|--------|---------|

| | (Contd. of page 3) |
|---|--|
| · Explosion limits: | |
| Lower: | 1,8 Vol % |
| Upper: | Zers. Vol % |
| · Vapour pressure at 20 °C: | 2,5 hPa |
| · Density: | Not determined |
| • Solubility in / Miscibility with Water at 20 °C: | 1000 g/l |
| · Solvent content: | |
| Organic solvents: | > 90,0 % |
| • 9.2 Other information | The physico-chemical data correspond to pure DMSO. |

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 further relevant informations available.
- 10.4 Conditions to avoid high ttemperatures
- exposure to the light • **10.5 Incompatible materials:** Avoid contact with: Oxidizers Acids Halides of organic and inorganic acids Methyl bromide, sodium hydride Zinc and steel (in the presence of water) • **10.6 Hazardous decomposition products:** In case of fire: See Section 5

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)

- · 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.
- \cdot **Other information:** The product is rapidly biodegradable.
- $\cdot \ \textbf{12.3 Bioaccumulative potential} \ No \ further \ relevant \ information \ available.$
- \cdot 12.4 Mobility in soil No further relevant information available.

 $(Contd. \ on \ page \ 5)$

GB

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: ICPL_6 Reagent

· Additional ecological information:

· General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water. Do not allow product to reach ground water, water course or sewage system.

• 12.5 Results of PBT and vPvB assessment

• **PBT:** PBT - assessment not available.

• **vPvB**: vPvB - assessment not available.

• 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

· Uncleaned packagings:

· Recommendation:

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

2

• **Recommended cleansing agent:** Water, if necessary with cleansing agents.

SECTION 14: Transport information

| SECTION 14. Transport injornation | |
|--|--|
| · 14.1 UN-Number · ADR, ADN, IMDG, IATA | Void |
| \cdot ADR, ADN, IMDG, IATA | voia |
| · 14.2 UN proper shipping name | |
| · ADR, ADN, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | |
| · ADR, IMDG, IATA | |
| · Class | Void |
| · Label | - |
| · ADN/R Class: | Void |
| · 14.4 Packing group | |
| · ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards: | Not applicable. |
| • Marine pollutant: | No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Ann | ex II of |
| Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · ADR | |
| · Transport category | - |
| · UN "Model Regulation": | Void |

(Contd. on page 6)

(Contd. of page 4)

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: ICPL 6 Reagent

(Contd. of page 5)

SECTION 15: Regulatory information

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

· National regulations

· Technical instructions (air):

| Class | Share in % |
|-------|------------|
| NK | 80-100 |

• Water hazard 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 MSDS: Product safety department

· Contact: +49 6221 13840-35

· 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 PBT: persistent, bioaccumulative, toxic substance (REACH) vPvB: very persistent, very bioaccumulative substance (REACH) REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals CLP: Regulation on classification, labelling and packaging of substances and mixtures 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

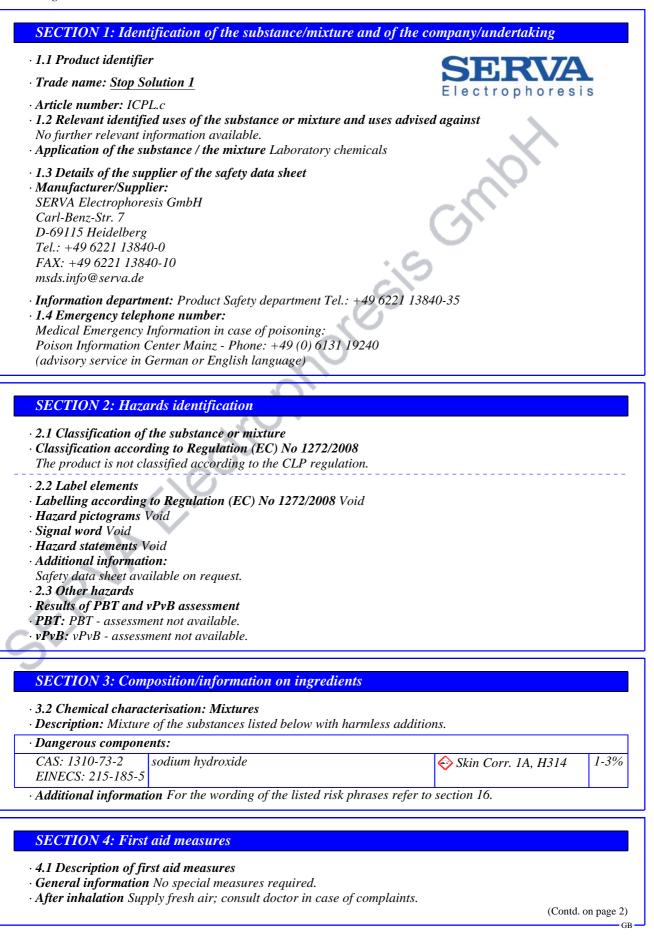
vPvB: very Persistent and very Bioaccumulative

* Data compared to the previous version altered.

Version number 5

Printing date 14.04.2016

Revision: 13.04.2016



Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 1)

Trade name: Stop Solution 1

- After skin contact Immediately wash with water and soap and rinse thoroughly. • After eye contact
- Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult doctor In case of complaints.
- After swallowing Wash out mouth. Seek medical advice if discomfort occurs.
- 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
- CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing. Ensure adequate ventilation Avoid contact with the eyes and skin.
6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

Dilute with plenty of water.

- 6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.
- 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 Ensure good ventilation/exhaustion at the workplace.
- · Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- Requirements to be met by storerooms and receptacles: Store at -15 to -25 °C
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed and store in dry conditions.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- · Components 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 that were valid during the creation were used as basis.

GB

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

Printing date 14.04.2016

*

Version number 5

Revision: 13.04.2016

Trade name: Stop Solution 1

| | (Contd. of page 2) |
|---|--|
| · 8.2 Exposure controls | |
| · Personal protective equipment | t i i i i i i i i i i i i i i i i i i i |
| · General protective and hygien | |
| Keep away from foodstuffs, bev | |
| Store protective clothing separ | |
| Immediately remove all soiled | |
| Avoid contact with the eyes and | |
| Wash hands before breaks and | at the end of work. |
| Breathing equipment: | |
| Short term filter device: Filter P2. | |
| Protection of hands: | |
| Protective gloves. | |
| | permeable and resistant to the product/ the substance/ the preparation. |
| | mendation to the glove material can be given for the product/ the preparation/ |
| Selection of the glove mater | rial on consideration of the penetration times, rates of diffusion and the |
| degradation Material of along | |
| Material of gloves | oves does not only depend on the material, but also on further marks of quality |
| and varies from manufacturer | <i>r</i> to manufacturer. As the product is a preparation of several substances, the can not be calculated in advance and has therefore to be checked prior to the |
| Penetration time of glove mate | erial |
| The exact break trough time h | as to be found out by the manufacturer of the protective gloves and has to be |
| | |
| observed. | |
| For the permanent contact of | of a maximum of 15 minutes gloves made of the following materials are |
| For the permanent contact of suitable: | of a maximum of 15 minutes gloves made of the following materials are |
| For the permanent contact of suitable: Natural rubber, NR | of a maximum of 15 minutes gloves made of the following materials are |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR | of a maximum of 15 minutes gloves made of the following materials are |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses | |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses | |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo | ork clothing. |
| For the permanent contact of suitable: Natural rubber, NR | ork clothing. |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys | ork clothing. chemical properties |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information | ork clothing. chemical properties |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information Appearance: | ork clothing. chemical properties ical and chemical properties |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information Appearance: Form: | ork clothing. chemical properties ical and chemical properties Solution |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information Appearance: Form: Colour: | ork clothing. chemical properties ical and chemical properties Solution Colourless |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information Appearance: Form: Colour: Odour: | ork clothing. chemical properties ical and chemical properties Solution Colourless Odourless |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information Appearance: Form: Colour: Odour: pH-value at 20 °C: | ork clothing. chemical properties ical and chemical properties Solution Colourless |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information Appearance: Form: Colour: Odour: pH-value at 20 °C: Change in condition | ork clothing. chemical properties ical and chemical properties Solution Colourless Odourless 8,5 |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information Appearance: Form: Colour: Odour: pH-value at 20 °C: Change in condition Melting point/Melting range | ork clothing. chemical properties ical and chemical properties Solution Colourless Odourless 8,5 :: undetermined |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information Appearance: Form: Colour: Odour: pH-value at 20 °C: Change in condition | ork clothing. chemical properties ical and chemical properties Solution Colourless Odourless 8,5 :: undetermined |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information Appearance: Form: Colour: Odour: pH-value at 20 °C: Change in condition Melting point/Melting range | ork clothing. chemical properties ical and chemical properties Solution Colourless Odourless 8,5 :: undetermined |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information Appearance: Form: Colour: Odour: pH-value at 20 °C: Change in condition Melting point/Melting range Boiling point/Boiling range: Flash point: Self igniting: | ork clothing. chemical properties ical and chemical properties Solution Colourless Odourless 8,5 :: undetermined ca. 100 °C Not applicable Product is not selfigniting. |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information Appearance: Form: Colour: Odour: pH-value at 20 °C: Change in condition Melting point/Melting range Boiling point/Boiling range Flash point: Self igniting: Danger of explosion: | ork clothing. chemical properties ical and chemical properties Solution Colourless Odourless Odourless 8,5 :: undetermined ca. 100 °C Not applicable |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wood statements SECTION 9: Physical and statements 9.1 Information on basic phys General Information Appearance: Form: Colour: Odour: Odour: PH-value at 20 °C: Change in condition Melting point/Melting range Boiling point/Boiling range: Flash point: Self igniting: Danger of explosion: Density: | ork clothing. chemical properties ical and chemical properties Solution Colourless Odourless 8,5 :: undetermined ca. 100 °C Not applicable Product is not selfigniting. |
| For the permanent contact of suitable: Natural rubber, NR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective wo SECTION 9: Physical and 9.1 Information on basic phys General Information Appearance: Form: Colour: Odour: PH-value at 20 °C: Change in condition Melting point/Melting range Boiling point/Boiling range Elash point: Self igniting: Danger of explosion: | ork clothing. chemical properties ical and chemical properties Solution Colourless Odourless 8,5 :: undetermined ca. 100 °C Not applicable Product is not selfigniting. Product does not present an explosion hazard. |

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 3)

Trade name: Stop Solution 1

- · Solvent content:
 - Organic solvents:
- 9.2 Other information
- 0,0 % *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 further relevant informations available.
- 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 further relevant informations available.

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)
- · 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.
- \cdot 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 2 (German Regulation) (Self-assessment): hazardous for water. Do not allow product to reach ground water, water course or sewage system.
- · 12.5 Results of PBT and vPvB assessment
- · **PBT:** PBT assessment not available.
- · **vPvB**: vPvB assessment not available.
- · 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

(Contd. on page 5)

GB

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 4)

Trade name: Stop Solution 1

· Uncleaned packagings:

· Recommendation:

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

• **Recommended cleansing agent:** Water, if necessary with cleansing agents.

SECTION 14: Transport information

| SECTION 14. Transport injormation | |
|--|--|
| · 14.1 UN-Number · ADR, ADN, IMDG, IATA | Void |
| · 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | |
| · ADR, IMDG, IATA · Class · Label | Void |
| · ADN/R Class: | Void |
| · 14.4 Packing group · ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards: · Marine pollutant: | Not applicable. No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex Marpol and the IBC Code | II of Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| • ADR • Transport category | - |
| · UN "Model Regulation": | Void |

SECTION 15: Regulatory information

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

· National regulations

• Water hazard class: Water hazard class 2 (Self-assessment): 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** H314 Causes severe skin burns and eye damage.

- · Department issuing MSDS: Product safety department
- · Contact: +49 6221 13840-35
- 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

PBT: persistent, bioaccumulative, toxic substance (REACH)

(Contd. on page 6)

GB

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 5)

Trade name: Stop Solution 1

| vPvB: very persistent, very bioaccumulative substance (REACH) |
|---|
| REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals |
| CLP: Regulation on classification, labelling and packaging of substances and mixtures |
| ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreemen |

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

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

• * Data compared to the previous version altered.

GB

Version number 6

Printing date 14.04.2016

*

*

Revision: 13.04.2016

| | entifier | |
|--|--|---|
| · Trade name: I | Reduction Solution | SERVA |
| - • Article numbe • 1.2 Relevant id No further rele | r: ICPL.d | Electrophoresis or mixture and uses advised against aboratory chemicals |
| 1.3 Details of a Manufacturer, SERVA Electro Carl-Benz-Str. D-69115 Heid Tel.: +49 6221 FAX: +49 622 msds.info@ser Information da 1.4 Emergency | the supplier of the safety data /Supplier: ophoresis GmbH 7 elberg / 13840-0 1 13840-10 va.de epartment: Product Safety dep y telephone number: | sheet artment Tel.: +49 6221 13840-35 |
| Medical Emerg Poison Inform | gency Information in case of pe ation Center Mainz - Phone: + ce in German or English langu | 49 (0) 6131 19240 |
| | | |
| SECTION 2: | Hazards identification | |
| · Classification | ion of the substance or mixtur according to Regulation (EC) | |
| GHS | according to Regulation (EC) | No 1272/2008 |
| GHS Eye Dam. 1 H | according to Regulation (EC) 505 318 Causes serious eye dama | No 1272/2008 |
| Eye Dam. 1 H • 2.2 Label elem • Labelling acco The product is | according to Regulation (EC) 505 318 Causes serious eye dama cents ording to Regulation (EC) No classified and labelled accord rams GHS05 | No 1272/2008 ge. 1272/2008 |
| Eye Dam. 1 H 2.2 Label elem Labelling acco The product is Hazard pictog Signal word D Hazard-detern Tris(2-carboxy | according to Regulation (EC) 505 318 Causes serious eye dama ents ording to Regulation (EC) No classified and labelled accord rams GHS05 anger mining components of labellin wethyl)phosphine hydrochloride | No 1272/2008 ge. 1272/2008 ing to the CLP regulation. g: |
| Eye Dam. 1 H 2.2 Label elem Labelling accord The product is Hazard pictog Signal word D Hazard-detern Tris(2-carboxy Hazard statem H318 Causes s | according to Regulation (EC) 505 318 Causes serious eye dama rents ording to Regulation (EC) No classified and labelled accord rams GHS05 anger nining components of labellin ethyl)phosphine hydrochloride ents verious eye damage. | No 1272/2008 ge. 1272/2008 ing to the CLP regulation. g: |
| Eye Dam. 1 H Eye Dam. 1 H 2.2 Label elem Labelling accord The product is Hazard pictog Signal word D Hazard-detern Tris(2-carboxy Hazard statem H318 Causes s Precautionary P280 | according to Regulation (EC) 505 318 Causes serious eye dama ents ording to Regulation (EC) No classified and labelled accord rams GHS05 anger anining components of labellin eethyl)phosphine hydrochloride ents erious eye damage. statements Wear protective gloves/pt | No 1272/2008 ge. 1272/2008 ing to the CLP regulation. g: |
| <i>Eye Dam. 1 H</i> <i>Eye Dam. 1 H</i> <i>2.2 Label elem</i> <i>Labelling according to the product is</i> <i>Hazard pictog</i> <i>Signal word D</i> <i>Hazard-determ</i> <i>Tris(2-carboxy</i> <i>Hazard statem</i> <i>H318 Causes s</i> <i>Precautionary</i> <i>P280</i> <i>P260</i> <i>P305+P351+H</i> | according to Regulation (EC) 505 318 Causes serious eye dama 505 318 Causes serious eye dama 507 507 507 507 507 507 507 507 | No 1272/2008 ge. 1272/2008 ing to the CLP regulation. g: rotective clothing/eye protection/face protection. ously with water for several minutes. Remove contact lenses ontinue rinsing. |
| Eye Dam. 1 H Eye Dam. 1 H 2.2 Label elem Labelling accord The product is Hazard pictoge Signal word D Hazard-detern Tris(2-carboxy Hazard statem H318 Causes s Precautionary P280 P260 | according to Regulation (EC) 505 318 Causes serious eye dama 505 518 Causes serious eye dama 507 518 Causes serious eye dama 507 518 Causes serious eye damage 518 Causes serious of labellan 518 Causes serious (EC) No 518 Causes serious eye damage 518 Causes serious of labellan 518 Causes serious eye damage 518 Causes serious of labellan 518 Causes serious of labellan 518 Causes serious eye damage 518 Causes serious of labellan 518 Causes serious eye damage 518 Causes serious of labellan 518 Causes serious eye damage 518 Causes serious eye damage. 518 Causes serious of labellan 518 Causes serious eye damage 518 Causes serious eye damage. 518 Causes serious eye damage. | No 1272/2008 ge. 1272/2008 ing to the CLP regulation. g: rotective clothing/eye protection/face protection. ously with water for several minutes. Remove contact lenses ontinue rinsing. |

Printing date 14.04.2016

Version number 6

Revision: 13.04.2016

Trade name: Reduction Solution

(Contd. of page 1)

5-15%

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

• Description: Mixture of the substances listed below with harmless additions.

· Dangerous components:

51805-45-9 Tris(2-carboxyethyl)phosphine hydrochloride

📀 Eye Dam. 1, H318; 🚸 Skin Irrit. 2, H315; STOT SE 3, H335

• Additional information For the wording of the listed risk 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 Supply fresh air; consult doctor in case of complaints.
- After skin contact Immediately wash with water and soap and rinse thoroughly.
- · After eye contact

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult doctor In case of complaints.

- After swallowing Wash out mouth. Seek medical advice if discomfort occurs.
- 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
- CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
 Ensure adequate ventilation Avoid contact with the eyes and skin.
- 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water. Dilute with plenty of water.
- 6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.
- 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 protection against explosions and fires: No special measures required.

(Contd. on page 3)

Printing date 14.04.2016

Version number 6

Revision: 13.04.2016

Trade name: Reduction Solution

- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- Requirements to be met by storerooms and receptacles: Store at -15 to -25 °C
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed and store in dry conditions.
- · 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- Components 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 that were valid during the creation were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment
- · General protective and hygienic measures

The usual precautionary measures should be adhered to when handling chemicals.

- **Breathing equipment:** Short term filter device:
- Filter P2.
- Protection of hands:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· 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.
- \cdot For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:

Natural rubber, NR

Nitrile rubber, NBR

- Eye protection: Safety glasses • Body protection: Protective work clothing.
- SECTION 9: Physical and chemical properties

 9.1 Information on basic physical and chemical properties

 General Information

 Appearance:

 Form:
 Solution

 Colour:
 Colourless

 Odour:
 Odourless

 pH-value at 20 °C:
 8,5

(Contd. of page 2)

Printing date 14.04.2016

Version number 6

Revision: 13.04.2016

Trade name: Reduction Solution

| | | (Contd. of page 3) |
|---|--|--------------------|
| • Change in condition Melting point/Melting range: Boiling point/Boiling range: | | |
| · Flash point: | not determined | |
| · Self igniting: | Product is not selfigniting. | |
| • Danger of explosion: | Product does not present an explosion hazard. | |
| · Density: | Not determined | |
| · Solubility in / Miscibility with Water: | Fully miscible | |
| · Solvent content: Organic solvents: | 0,0 % | |
| Solids content: • 9.2 Other information | 10 % 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 further relevant informations available.
- 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 further relevant informations available.

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
- Causes serious eye damage.
- · 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.

(Contd. on page 5)

Printing date 14.04.2016

Version number 6

Revision: 13.04.2016

(Contd. of page 4)

Trade name: Reduction Solution

Do not allow product to reach ground water, water course or sewage system.

· 12.5 Results of PBT and vPvB assessment

· **PBT:** PBT - assessment not available.

· **vPvB**: vPvB - assessment not available.

· 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

· Uncleaned packagings:

· Recommendation:

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

• Recommended cleansing agent: Water, if necessary with cleansing agents.

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 | |
| · Class | Void |
| · Label | - |
| · 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. |
| ·ADR | |
| \cdot Excepted quantities (EQ) | Code: - |
| | Maximum net quantity per inner packaging: - |
| | Maximum net quantity per outer packaging: - |
| ·IMDG | |
| \cdot Excepted quantities (EQ) | Code: - |
| | Maximum net quantity per inner packaging: - |
| | Maximum net quantity per outer packaging: - |
| · UN "Model Regulation": | Void |
| | |

(Contd. on page 6)

Printing date 14.04.2016

Version number 6

Revision: 13.04.2016

Trade name: Reduction Solution

(Contd. of page 5)

SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · National regulations
- Water hazard 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

H315 Causes skin irritation. H318 Causes serious eye damage.

H335 May cause respiratory irritation.

· Department issuing MSDS: Product safety department

· Contact: +49 6221 13840-35

· 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 PBT: persistent, bioaccumulative, toxic substance (REACH) vPvB: very persistent, very bioaccumulative substance (REACH) REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals CLP: Regulation on classification, labelling and packaging of substances and mixtures 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 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2 Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3 • * Data compared to the previous version altered.

Printing date 14.04.2016

*

*

Version number 5

Revision: 13.04.2016

| 1 ming duie 14.04.20 | | on number 5 | <i>Revision</i> . 15.04.2010 |
|---|--|------------------------------|---|
| SECTION 1: Ide | entification of the substance | /mixture and of the com | pany/undertaking |
| · 1.1 Product identij | fier | | SEDT7A |
| • Trade name: <u>Alky</u> | lation Reagent | | Electrophoresis |
| · Article number: IC | CPL.e | | rectrophoresis |
| • CAS Number: | | | |
| 144-48-9 • EC number: | | | |
| 205-630-1 | | | |
| | ified uses of the substance or <i>i</i> | nixture and uses advised a | gainst |
| | t information available. substance / the mixture Labor | atory chemicals | |
| | supplier of the safety data shee | | 5 |
| · Manufacturer/Sup | | 1 | |
| SERVA Electropho | | . 6 | |
| Carl-Benz-Str. 7 D-69115 Heidelber | ra | C | |
| Tel.: +49 6221 138 | | 0.2 | |
| FAX: +49 6221 13 | | 0 | |
| msds.info@serva.d | | \circ | |
| Information depar 1.4 Emergency teld | tment: Product Safety departn | nent Tel.: +49 6221 13840- | 35 |
| | ry Information in case of poisor | ning: | |
| Poison Information | n Center Mainz - Phone: +49 (| 0) 6131 19240 | |
| (advisory service in | n German or English language |) | |
| | | | |
| SECTION 2: Ha | zards identification | | |
| · 2.1 Classification | of the substance or mixture | | |
| | ording to Regulation (EC) No | 1272/2008 | |
| | | | |
| GHS07 | januar. | | |
| | | | |
| | Causes skin irritation. | | |
| | Causes serious eye irritation. May cause respiratory irritati | | |
| | | <i>on.</i> | |
| • 2.2 Label elements | s ng to Regulation (EC) No 1272 | 2/2008 | |
| | assified and labelled according | | |
| · Hazard pictogram | | | |
| · Signal word Warn | | | |
| • Hazard-determinir 2-iodoacetamide | ng components of labelling: | | |
| · Hazard statements | : | | |
| H315 Causes skin | | | |
| H319 Causes serio H335 May cause r | pus eye irritation. espiratory irritation. | | |
| · Precautionary stat | | | |
| P280 | Wear protective gloves/protective gloves/protect | tive clothing/eye protection | n/face protection. |
| P261 P302+P352 | Avoid breathing dust. IF ON SKIN: Wash with plen | by of water | |
| | | | inutes. Remove contact lenses, if |
| | present and easy to do. Contin | nue rinsing. | |
| P304+P340 | IF INHALED: Remove person | n to fresh air and keep com | fortable for breathing. (Contd. on page 2) |
| | | | |

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 1)

Trade name: Alkylation Reagent

P337+P313 If eye irritation persists: Get medical advice/attention.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

• **PBT:** PBT - assessment not available.

· **vPvB**: vPvB - assessment not available.

SECTION 3: Composition/information on ingredients

· 3.1 Chemical characterisation: Substances

· CAS No. Description:

144-48-9 2-iodoacetamide

- Identification number(s):
- **EC number:** 205-630-1
- Description:
- · Empirical formula: C₂H₄INO

• **MW:** 185.0

SECTION 4: First aid measures

• 4.1 Description of first aid measures

- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After skin contact Immediately wash with water and soap and rinse thoroughly.
- · After eye contact

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult doctor In case of complaints.

- · After swallowing Wash out mouth. Seek medical advice if discomfort occurs.
- 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
- CO_2 , extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. • 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be formed, but not limited to: Nitrogen oxides (NOx) Hydrogen iodide (HI) Carbon monoxide and carbon dioxide

- · 5.3 Advice for firefighters
- Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
 Ensure adequate ventilation Avoid contact with the eyes and skin.
 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
 6.3 Methods and material for containment and cleaning up: Pick up mechanically.
 Dispose contaminated material as waste according to item 13.
 6.4 Reference to other sections
- See Section 7 for information on safe handling

(Contd. on page 3)

GB

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 2)

Trade name: Alkylation Reagent

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 Ensure good ventilation/exhaustion at the workplace. Prevent formation of dust. Avoid contact with eyes and skin.
- · Information about protection against explosions and fires: Keep ignition sources away Do not smoke.
- 7.2 Conditions for safe storage, including any incompatibilities
- · Storage

2

- Requirements to be met by storerooms and receptacles: Store at -15 to -25 °C
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed and store in dry conditions. Keep receptacle tightly sealed.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- · Components with limit values that require monitoring at the workplace: Not required.
- Additional information: The lists that were valid during the creation were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment
- General protective and hygienic measures Keep away from foodstuffs, beverages and feed. Store protective clothing separately. Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.
- **Breathing equipment:** Short term filter device: Filter P2.
- · Protection of hands:
- Neoprene gloves
- Protective gloves.
- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
- Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- · 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.
- \cdot For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:

Neoprene gloves Nitrile rubber, NBR

(Contd. on page 4)

GB

Version number 5

Revision: 13.04.2016

Trade name: Alkylation Reagent

Printing date 14.04.2016

- · Eye protection: Safety glasses
- · Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

| 9.1 Information on basic physi General Information Appearance: Form: Colour: Odour: | cal and chemical properties Crystalline white to almost white uncharacteristic |
|--|---|
| • Change in condition Melting point/Melting range: Boiling point/Boiling range: | |
| · Flash point: | Not applicable |
| · Flammability (solid, gaseous) | Product is not flammable. |
| • Danger of explosion: | Product does not present an explosion hazard. |
| · Density: | Not determined |
| Solubility in / Miscibility with Water: Alcohols: Organic solvents: | Soluble Readily soluble 0.0 % |
| • Solids content: • 9.2 Other information | 100.0 % 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 further relevant informations available.
- · 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: Avoid contact with strong oxidizers.
- 10.6 Hazardous decomposition products: In case of fire: See Section 5

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
- Causes skin irritation.
- Serious eye damage/irritation
- Causes serious eye irritation.
- 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.
- $\cdot \textit{Reproductive toxicity Based on available data, the classification criteria are not met.}$

· STOT-single exposure

May cause respiratory irritation.

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

(Contd. on page 5)

GB

(Contd. of page 3)

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Alkylation Reagent

· 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 2 (German Regulation) (Self-assessment): hazardous for water. Do not allow product to reach ground water, water course or sewage system.

- · 12.5 Results of PBT and vPvB assessment
- · PBT: PBT assessment not available.
- · **vPvB**: vPvB assessment not available.
- · 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

· Uncleaned packagings:

· Recommendation:

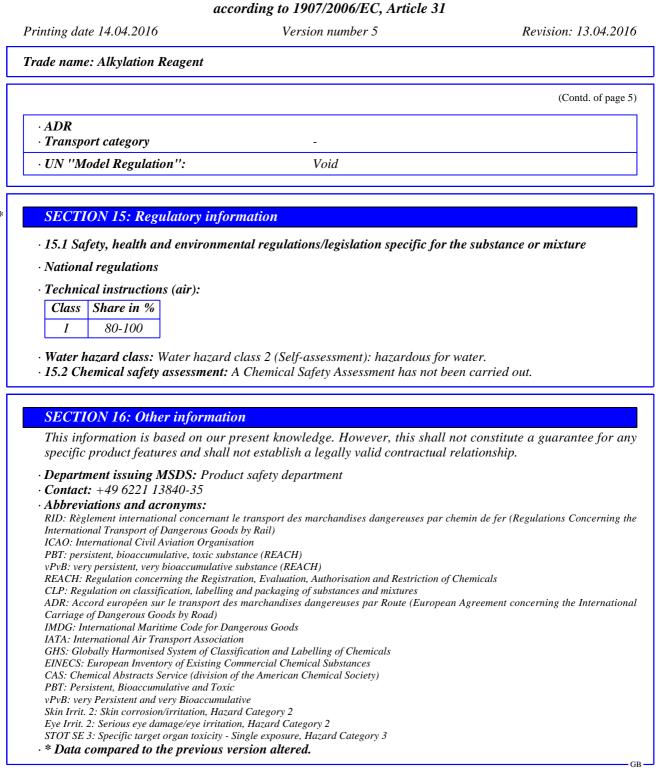
Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

• Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION 14: Transport information

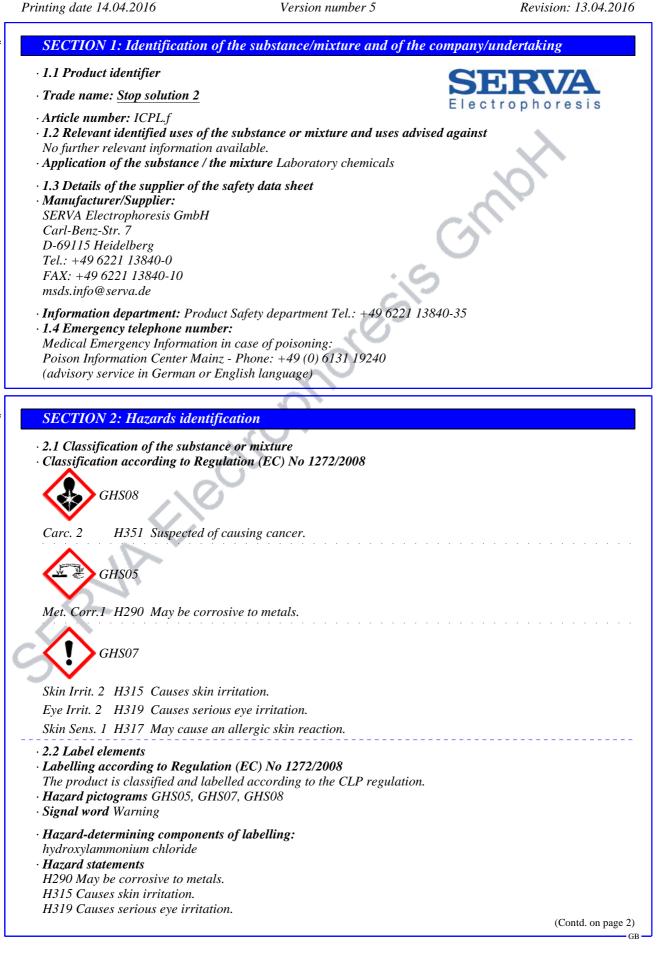
| · 14.1 UN-Number · ADR, ADN, IMDG, IATA | Void |
|---|--|
| · 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | |
| · ADR, IMDG, IATA · Class | Void |
| · Label · ADN/R Class: | - Void |
| · 14.4 Packing group · ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards: · Marine pollutant: | Not applicable. No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Anne Marpol and the IBC Code | x II of Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |

GR



Version number 5

Revision: 13.04.2016



Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Stop solution 2

| | (Contd. of page 1) | | |
|--------------------------------------|--|--|--|
| H317 May cause | an allergic skin reaction. | | |
| H351 Suspected of | f causing cancer. | | |
| · Precautionary sta | tements | | |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. | | |
| P201 | Obtain special instructions before use. | | |
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water. | | |
| P305+P351+P33 | 8 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if | | |
| | present and easy to do. Continue rinsing. | | |
| P301+P312 | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. | | |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. | | |
| · 2.3 Other hazards | | | |
| · Results of PBT and vPvB assessment | | | |
| | | | |

· **PBT:** PBT - assessment not available.

· **vPvB**: vPvB - assessment not available.

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

· Description: Mixture of the substances listed below with harmless additions.

· Dangerous components:

| | 5 | - | | |
|---|--------------|--------|---|-------|
| | CAS: 5470-11 | !-1 | hydroxylammonium chloride | 5-15% |
| | EINECS: 226 | -798-2 | 🚸 Carc. 2, H351; STOT RE 2, H373; 🚸 Met. Corr.1, H290; 🚸 Aquatic Acute | |
| | | | 1, H400; 🚯 Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye | |
| | | | Irrit. 2, H319; Skin Sens. 1, H317 | |
| - | | | | |

• Additional information For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- · After inhalation Supply fresh air; consult doctor in case of complaints.
- After skin contact
- Immediately wash with water and soap and rinse thoroughly.

Consult doctor In case of complaints.

· After eye contact

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult doctor In case of complaints.

- After swallowing Wash out mouth. Seek medical advice if discomfort occurs.
- 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

 CO_2 , extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- \cdot 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained respiratory protective device.

(Contd. on page 3)

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Stop solution 2

(Contd. of page 2)

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing. Ensure adequate ventilation Avoid contact with the eyes and skin.
- 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water. Dilute with plenty of water.
- 6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.
- 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 Ensure good ventilation/exhaustion at the workplace.

- · Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- Requirements to be met by storerooms and receptacles: Store at -15 to -25 °C
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed and store in dry conditions.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

• Additional information about design of technical systems: No further data; see item 7.

- · 8.1 Control parameters
- · Components 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 that were valid during the creation were used as basis.

· 8.2 Exposure controls

- · Personal protective equipment
- General protective and hygienic measures Keep away from foodstuffs, beverages and feed. Store protective clothing separately. Immediately remove all soiled and contaminated clothing Avoid contact with the eyes and skin. Wash hands before breaks and at the end of work.
- **Breathing equipment:** Short term filter device: Filter P2.
- Protection of hands:
- Neoprene gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

(Contd. on page 4)

GB -

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 3)

Trade name: Stop solution 2

· 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· 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.

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

Natural rubber, NR

Nitrile rubber, NBR

• Eye protection: Tightly sealed goggles.

· Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

| • 9.1 Information on basic physical and chemical properties | | |
|---|---|--|
| · General Information | | |
| · Appearance: | | |
| Form: | Solution | |
| Colour: | Colourless | |
| · Odour: | Odourless | |
| · pH-value at 20 •C: | 8,3 | |
| • Change in condition Melting point/Melting range. Boiling point/Boiling range: | | |
| · Flash point: | not determined | |
| · Self igniting: | Product is not selfigniting. | |
| • Danger of explosion: | Product does not present an explosion hazard. | |
| · Density: | Not determined | |
| · Solubility in / Miscibility with Water: | Fully miscible | |
| · Solvent content: | | |
| Organic solvents: | 0,0 % | |
| · VOC %: | 0.00 % | |
| • 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 further relevant informations available.
- 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 further relevant informations available.

(Contd. on page 5)

GR

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 4)

Trade name: Stop solution 2

| 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: | | |
| 5470-11-1 hydroxylammonium chloride | | |
| Oral LD50 400 mg/kg (Maus) | | |
| 141 mg/kg (rat) | | |
| · Primary irritant effect: | | |

· Primary irritant effect: · Skin corrosion/irritation

Causes skin irritation.

· Serious eye damage/irritation Causes serious eye irritation.

- · Respiratory or skin sensitisation
- May cause an allergic skin reaction.

SECTION 11: Toxicological information

- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity
- Suspected of causing cancer.
- *Reproductive toxicity* Based on available data, the classification criteria are not met.
- STOT-single exposure Based on available data, the classification criteria are not met.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- · 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 danger class 3 (German Regulation) (Self-assessment): extremely hazardous for water.

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

- · 12.5 Results of PBT and vPvB assessment
- · PBT: PBT assessment not available.
- · vPvB: vPvB assessment not available.

• 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

- · Uncleaned packagings:
- · Recommendation:

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

· Recommended cleansing agent: Water, if necessary with cleansing agents.

(Contd. on page 6)

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Stop solution 2

(Contd. of page 5)

| SECTION 14: Transport information | |
|---|--|
| 14.1 UN-Number ADR, ADN, IMDG, IATA | Void |
| 14.2 UN proper shipping name ADR, ADN, IMDG, IATA | Void |
| 14.3 Transport hazard class(es) | |
| ADR, IMDG, IATA Class Label | Void |
| ADN/R Class: | - Void |
| 14.4 Packing group ADR, IMDG, IATA | Void |
| 14.5 Environmental hazards: Marine pollutant: | Not applicable. No |
| 14.6 Special precautions for user | Not applicable. |
| 14.7 Transport in bulk according to Anne Marpol and the IBC Code | ex II of Not applicable. |
| Transport/Additional information: | Not dangerous according to the above specifications. |
| ADR Transport category | - |
| UN ''Model Regulation'': | Void |

SECTION 15: Regulatory information

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

· National regulations

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

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

SECTION 16: Other information

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

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
Department issuing MSDS: Product safety department
Contact: +49 6221 13840-35
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

PBT: persistent, bioaccumulative, toxic substance (REACH)

(Contd. on page 7)

GB

Printing date 14.04.2016

Version number 5

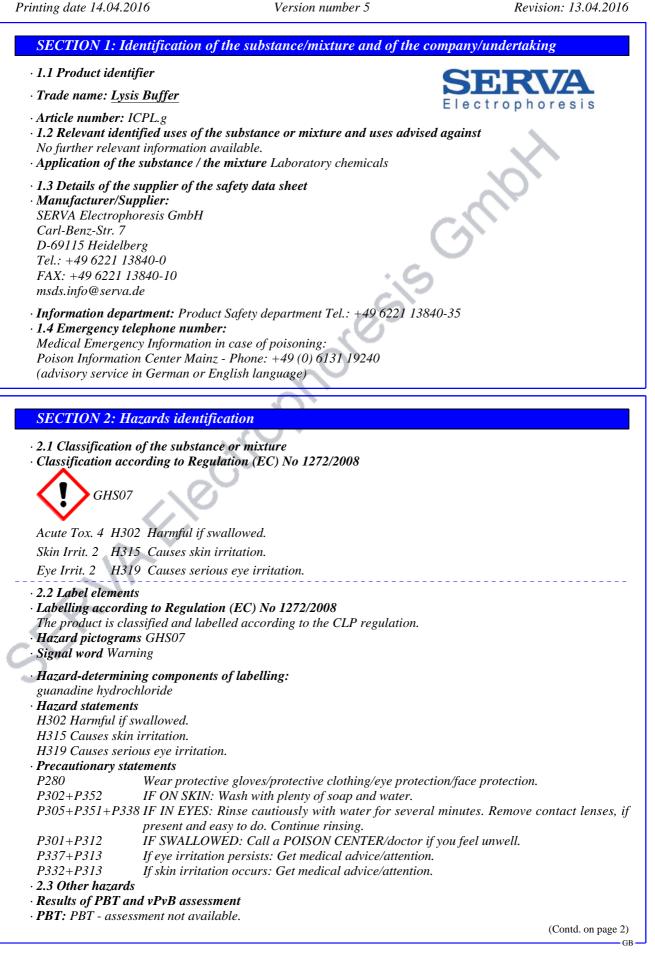
Revision: 13.04.2016

Trade name: Stop solution 2

| (Contd. of page 6) | |
|---|--|
| vPvB: very persistent, very bioaccumulative substance (REACH) | |
| REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals | |
| CLP: Regulation on classification, labelling and packaging of substances and mixtures | |
| 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) | |
| LC50: Lethal concentration, 50 percent | |
| LD50: Lethal dose, 50 percent | |
| PBT: Persistent, Bioaccumulative and Toxic | |
| vPvB: very Persistent and very Bioaccumulative | |
| Met. Corr.1: Corrosive to metals, Hazard Category 1 | |
| Acute Tox. 4: Acute toxicity, Hazard Category 4 | |
| Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2 | |
| Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2 | |
| Skin Sens. 1: Sensitisation - Skin, Hazard Category 1 | |
| Carc. 2: Carcinogenicity, Hazard Category 2 | |
| STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2 | |
| Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1 | |
| $\cdot *$ Data compared to the previous version altered. | |
| | |

Version number 5

Revision: 13.04.2016



Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 1)

40-70%

Trade name: Lysis Buffer

· **vPvB**: vPvB - assessment not available.

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

• **Description:** Mixture of the substances listed below with harmless additions.

· Dangerous components:

CAS: 50-01-1 guanadine hydrochloride

EINECS: 200-002-3 🚯 Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319

• Additional information For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After skin contact Immediately wash with water and soap and rinse thoroughly.
- · After eye contact

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult doctor In case of complaints.

- · After swallowing Wash out mouth. Seek medical advice if discomfort occurs.
- · 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

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- · 6.1 Personal precautions, protective equipment and emergency procedures
- Wear protective clothing.
- Ensure adequate ventilation
- Avoid contact with the eyes and skin.
- · 6.2 Environmental precautions:
- Do not allow to enter sewers/ surface or ground water. Dilute with plenty of water.
- · 6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.
- · 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.

(Contd. on page 3)

GR

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Lysis Buffer

(Contd. of page 2)

SECTION 7: Handling and storage

- •7.1 Precautions for safe handling Ensure good ventilation/exhaustion at the workplace.
- Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage

*

- Requirements to be met by storerooms and receptacles: Store at -15 to -25 °C
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed and store in dry conditions.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- · Components 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 that were valid during the creation were used as basis.

· 8.2 Exposure controls

- · Personal protective equipment
- \cdot General protective and hygienic measures
- Keep away from foodstuffs, beverages and feed. Store protective clothing separately. Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

• Breathing equipment:

Short term filter device: Filter P2.

- Protection of hands:
- Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/

the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· 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.

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

Natural rubber, NR Nitrile rubber, NBR

- Eye protection: Safety glasses
- · Body protection: Protective work clothing.

(Contd. on page 4)

GR

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Lysis Buffer

(Contd. of page 3)

| SECTION 9: Physical and chemical properties | | |
|--|---|--|
| 9.1 Information on basic phys General Information | ical and chemical properties | |
| Appearance: | | |
| Form: | Solution | |
| Colour: | Colourless | |
| Odour: | Odourless | |
| pH-value at 20 °C: | 8,5 | |
| Change in condition Melting point/Melting range Boiling point/Boiling range: | | |
| Flash point: | Not applicable | |
| Self igniting: | Product is not selfigniting. | |
| Danger of explosion: | Product does not present an explosion hazard. | |
| Density: | Not determined | |
| Solubility in / Miscibility with Water: | Fully miscible | |
| 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

2

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

- 10.3 Possibility of hazardous reactions No further relevant informations available.
- 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 further relevant informations available.

SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- Acute toxicity

Harmful if swallowed.

· LD/LC50 values that are relevant for classification:

50-01-1 guanadine hydrochloride

Oral LD50 475 mg/kg (rat)

Dermal | LD50 | > 2000 mg/kg (rabbit)

- · Primary irritant effect:
- · Skin corrosion/irritation
- Causes skin irritation.

• Serious eye damage/irritation Causes serious eye irritation.

• 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.

 \cdot Carcinogenicity Based on available data, the classification criteria are not met.

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

(Contd. on page 5)

GB

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Lysis Buffer

(Contd. of page 4)

GB

- 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 product to reach ground water, water course or sewage system.

- · 12.5 Results of PBT and vPvB assessment
- · **PBT:** PBT assessment not available.
- · vPvB: vPvB assessment not available.
- · 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

- · Uncleaned packagings:
- · Recommendation:

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

• Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION 14: Transport information

| · 14.1 UN-Number · ADR, ADN, IMDG, IATA | Void | |
|--|-----------------|--|
| · 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA | Void | |
| · 14.3 Transport hazard class(es) | | |
| · ADR, IMDG, IATA | | |
| · Class | Void | |
| · Label | - | |
| · ADN/R Class: | Void | |
| · 14.4 Packing group | | |
| · ADR, IMDĞ, IATA | Void | |
| · 14.5 Environmental hazards: | Not applicable. | |
| · Marine pollutant: | No | |
| · 14.6 Special precautions for user | Not applicable. | |
| · 14.7 Transport in bulk according to Ann | ex II of | |
| Marpol and the IBC Code | Not applicable. | |

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Lysis Buffer

| | (Contd. of page 5) |
|-------------------------------------|--|
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · ADR · Transport category | - |
| · UN ''Model Regulation'': | Void |

SECTION 15: Regulatory information

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

· National regulations

- Water hazard 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

H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation.

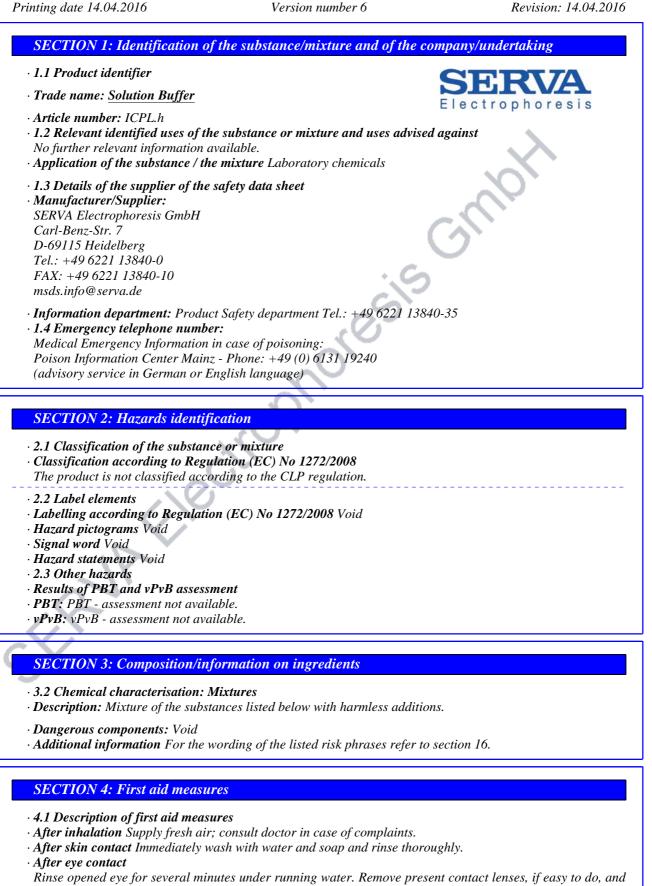
· Department issuing MSDS: Product safety department

· Contact: +49 6221 13840-35

· 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 PBT: persistent, bioaccumulative, toxic substance (REACH) vPvB: very persistent, very bioaccumulative substance (REACH) REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals CLP: Regulation on classification, labelling and packaging of substances and mixtures 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) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative Acute Tox. 4: Acute toxicity, Hazard Category 4 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2 • * Data compared to the previous version altered.

Version number 6

Revision: 14.04.2016



continue rinsing. Consult doctor In case of complaints. · After swallowing Wash out mouth. Seek medical advice if discomfort occurs.

(Contd. on page 2)

GB

Printing date 14.04.2016

Version number 6

Revision: 14.04.2016

Trade name: Solution Buffer

(Contd. of page 1)

• 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

- CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

• 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing. Ensure adequate ventilation Avoid contact with the eyes and skin.

• 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water. Dilute with plenty of water.

• 6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.

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 Ensure good ventilation/exhaustion at the workplace.

- · Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- Requirements to be met by storerooms and receptacles: Store at -15 to -25 °C
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed and store in dry conditions.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

• Additional information about design of technical systems: No further data; see item 7.

· 8.1 Control parameters

· Components 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 that were valid during the creation were used as basis.

· 8.2 Exposure controls

- · Personal protective equipment
- General protective and hygienic measures Keep away from foodstuffs, beverages and feed. Store protective clothing separately.

(Contd. on page 3)

⁻ GI

Printing date 14.04.2016

Version number 6

Revision: 14.04.2016

Trade name: Solution Buffer

| × 1. 1 11 | (Contd. of page |
|---|---|
| | piled and contaminated clothing |
| Avoid contact with the eye | |
| Wash hands before breaks | |
| | itable respiratory protective device recommended. |
| Protection of hands: | |
| | be impermeable and resistant to the product/ the substance/ the preparation. |
| 0 | ecommendation to the glove material can be given for the product/ the preparatio |
| the chemical mixture. | |
| | naterial on consideration of the penetration times, rates of diffusion and th |
| degradation | |
| • Material of gloves | ble gloves does not only depend on the material, but also on further marks of qual |
| and varies from manufac | cturer to manufacturer. As the product is a preparation of several substances, the aterial can not be calculated in advance and has therefore to be checked prior to the |
| · Penetration time of glove | material |
| The exact break trough ti | ime has to be found out by the manufacturer of the protective gloves and has to b |
| observed. | |
| - | tact of a maximum of 15 minutes gloves made of the following materials a |
| suitable: | |
| Natural rubber, NR | |
| Nitrile rubber, NBR | |
| • Eye protection: Safety gla | |
| • Body protection: Protecti | ve work clothing. |
| | |
| SECTION 0. Physical | and chemical properties |
| SECTION 9: Thysicar | and chemical properties |
| • 9.1 Information on basic | physical and chemical properties |
| · General Information | |
| · Appearance: | |
| FF | |
| Form: | Solution |
| Form: Colour: | Solution Colourless |
| | |
| Colour: • Odour: | Colourless Odourless |
| Colour: • Odour: • pH-value at 20 °C: | Colourless |
| Colour: • Odour: • pH-value at 20 °C: • Change in condition | Colourless Odourless 8,5 |
| Colour: • Odour: • pH-value at 20 °C: • Change in condition Melting point/Melting r | Colourless Odourless 8,5 range: undetermined |
| Colour: • Odour: • pH-value at 20 °C: • Change in condition | Colourless Odourless 8,5 range: undetermined |
| Colour: • Odour: • pH-value at 20 °C: • Change in condition Melting point/Melting r | Colourless Odourless 8,5 range: undetermined |
| Colour: • Odour: • pH-value at 20 °C: • Change in condition Melting point/Melting r Boiling point/Boiling rd | Colourless Odourless 8,5 range: undetermined ange: undetermined |

| · Selj ignuing: | Product is not settighting. | |
|--|---|--|
| · Danger of explosion: | Product does not present an explosion hazard. | |
| · Density: | Not determined | |
| · Solubility in / Miscibility with Water: | Fully miscible | |
| Solvent content: Organic solvents: 9.2 Other information | 0,0 % 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. (Contd. on page 4)

GB

Printing date 14.04.2016

Version number 6

Revision: 14.04.2016

Trade name: Solution Buffer

- 10.3 Possibility of hazardous reactions No further relevant informations available.
- 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 further relevant informations available.

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)
- · 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.
- \cdot **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: Generally not hazardous for water.
- · 12.5 Results of PBT and vPvB assessment
- · **PBT:** PBT assessment not available.
- · **vPvB**: vPvB assessment not available.
- · 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

- · Uncleaned packagings:
- · Recommendation:

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

• Recommended cleansing agent: Water, if necessary with cleansing agents.

| SECTION 14: Transport information | | |
|--|------|-------------------|
| · 14.1 UN-Number · ADR, ADN, IMDG, IATA | Void | |
| · 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA | Void | |
| | | (Contd. on page 5 |

(Contd. of page 3)

GR

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

| Printing date 14.04.2016 | Version number 6 | Revision: 14.04.2016 |
|--------------------------|------------------|----------------------|
| | | |

Trade name: Solution Buffer

| | (Contd. of |
|--|--|
| 14.3 Transport hazard class(es) | |
| ADR, IMDG, IATA | |
| Class | Void |
| Label | - |
| ADN/R Class: | Void |
| 14.4 Packing group | |
| ADR, IMDĠ, IATA | Void |
| 14.5 Environmental hazards: | Not applicable. |
| Marine pollutant: | No |
| 14.6 Special precautions for user | Not applicable. |
| 14.7 Transport in bulk according to An | nex II of |
| Marpol and the IBC Code | Not applicable. |
| Transport/Additional information: | Not dangerous according to the above specifications. |
| ADR | |
| Transport category | - |
| UN "Model Regulation": | Void |

SECTION 15: Regulatory information

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

· National regulations

· Water hazard class: Generally not 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 MSDS: Product safety department

· Contact: +49 6221 13840-35

· 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

PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative substance (REACH)

REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

CLP: Regulation on classification, labelling and packaging of substances and mixtures

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 * Data compared to the province version altered

 \cdot * Data compared to the previous version altered.

Printing date 14.04.2016 Version number 5 Revision: 13.04.2016 SECTION 1: Identification of the substance/mixture and of the company/undertaking · 1.1 Product identifier • Trade name: Protein-Mix for ICPL_0 · Article number: ICPL.i · 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: SERVA Electrophoresis GmbH Carl-Benz-Str. 7 D-69115 Heidelberg Tel.: +49 6221 13840-0 FAX: +49 6221 13840-10 msds.info@serva.de · Information department: Product Safety department Tel.: +49 6221 13840-35 · 1.4 Emergency telephone number: Medical Emergency Information in case of poisoning: Poison Information Center Mainz - Phone: +49 (0) 6131 19240 (advisory service in German or English language) **SECTION 2: Hazards identification** · 2.1 Classification of the substance or mixture · Classification according to Regulation (EC) No 1272/2008 GHS08 Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. · 2.2 Label elements · Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation. · Hazard pictograms GHS08 · Signal word Danger · Hazard-determining components of labelling: Carbonic anhydrase · Hazard statements H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. · Precautionary statements P261 Avoid breathing dust. P284 Wear respiratory protection. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. · 2.3 Other hazards · Results of PBT and vPvB assessment · **PBT:** PBT - assessment not available. · vPvB: vPvB - assessment not available. (Contd. on page 2)

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Protein-Mix for ICPL_0

(Contd. of page 1)

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

• Description: Mixture of the substances listed below with harmless additions.

· Dangerous components:

CAS: 9001-03-0 Carbonic anhydrase EINECS: 232-576-6

🚸 Resp. Sens. 1, H334

H334 15-30%

• Additional information For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- After inhalation Supply fresh air; consult doctor in case of complaints.
- After skin contact Immediately wash with water and soap and rinse thoroughly.
- · After eye contact

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult doctor In case of complaints.

· After swallowing

Wash out mouth. Drink plenty of water and supply fresh air. Seek medical advice if discomfort occurs.

- 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
- CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing. Ensure adequate ventilation Do not inhale dusts. Avoid contact with the eyes and skin.
 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water. Dilute with plenty of water.
 6.3 Methods and material for containment and cleaning up: Pick up mechanically. Dispose contaminated material as waste according to item 13.
 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 precautions are necessary if used correctly.

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Protein-Mix for ICPL_0

Ensure good ventilation/exhaustion at the workplace. Prevent formation of dust.

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

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage

 \cdot Requirements to be met by storerooms and receptacles: Store at -15 to -25 °C

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

• Further information about storage conditions: Keep receptacle tightly sealed and store in dry conditions.

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

SECTION 8: Exposure controls/personal protection

*

• Additional information about design of technical systems: No further data; see item 7.

- · 8.1 Control parameters
- · Components 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 that were valid during the creation were used as basis.

- · 8.2 Exposure controls
- · Personal protective equipment
- · General protective and hygienic measures
- The usual precautionary measures should be adhered to when handling chemicals.
- **Breathing equipment:** Short term filter device:
- Filter P2.
- · Protection of hands:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· 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.

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· 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.

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

Natural rubber, NR Nitrile rubber, NBR

• Eye protection: Safety glasses

· Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties
- · General Information
- · Appearance: Form:

lyophilisate

(Contd. on page 4)

(Contd. of page 2)

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Protein-Mix for ICPL_0

| | (Contd. of page |
|---|---|
| Colour: | Whitish |
| · Odour: | Odourless |
| Change in condition Melting point/Melting range: Boiling point/Boiling range: | |
| · Flash point: | Not applicable |
| · Self igniting: | Product is not selfigniting. |
| · Danger of explosion: | Product does not present an explosion hazard. |
| · Density: | Not determined |
| · Solubility in / Miscibility with Water: | Easily soluble |
| · 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 further relevant informations available.
- · 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 further relevant informations available.

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
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- · 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.
- $\cdot \textit{STOT-single exposure Based on available data, the classification criteria are not met.}$
- \cdot **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.
- \cdot 12.3 Bioaccumulative potential No further relevant information available.
- 12.4 Mobility in soil No further relevant information available.
- \cdot Additional ecological information:

· General notes:

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

(Contd. on page 5)

GB

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Protein-Mix for ICPL_0

Do not allow product to reach ground water, water course or sewage system.

· 12.5 Results of PBT and vPvB assessment

• **PBT:** PBT - assessment not available.

· vPvB: vPvB - assessment not available.

· 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

· Uncleaned packagings:

· Recommendation:

2

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

| SECTION 14: Transport informatio | n |
|--|--|
| · 14.1 UN-Number · ADR, ADN, IMDG, IATA | Void |
| · 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | |
| · ADR, IMDG, IATA | |
| · Class | Void |
| ·Label | - |
| · ADN/R Class: | Void |
| · 14.4 Packing group | |
| · ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards: | Not applicable. |
| • Marine pollutant: | No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to An | nex II of |
| Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · ADR | |
| · Transport category | - |
| · UN "Model Regulation": | Void |

SECTION 15: Regulatory information

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

· National regulations

· Water hazard 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.

(Contd. on page 6)

⁽Contd. of page 4)

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Protein-Mix for ICPL_0

(Contd. of page 5)

| | nation is based on our present knowledge. However, this shall not constitute a guarantee for a oduct features and shall not establish a legally valid contractual relationship. |
|---------------|--|
| Relevant p | hrases |
| | cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Departmen | t issuing MSDS: Product safety department |
| | 49 6221 13840-35 |
| Abbreviatio | ons and acronyms: |
| | ent international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning |
| International | Transport of Dangerous Goods by Rail) |
| | utional Civil Aviation Organisation |
| PBT: persiste | nt, bioaccumulative, toxic substance (REACH) |
| vPvB: very pe | rsistent, very bioaccumulative substance (REACH) |
| | llation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals |
| | ion on classification, labelling and packaging of substances and mixtures |
| | européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the Internation |
| | angerous Goods by Road) |
| | ational Maritime Code for Dangerous Goods |
| | tional Air Transport Association |
| | y Harmonised System of Classification and Labelling of Chemicals |
| | opean Inventory of Existing Commercial Chemical Substances opean List of Notified Chemical Substances |
| | al Abstracts Service (division of the American Chemical Society) |
| | nt, Bioaccumulative and Toxic |
| | rsistent and very Bioaccumulative |
| - | Sensitisation - Respirat., Hazard Category 1 |
| | pared to the previous version altered. |

Printing date 14.04.2016 Version number 5 Revision: 13.04.2016 SECTION 1: Identification of the substance/mixture and of the company/undertaking · 1.1 Product identifier • Trade name: Protein-Mix for ICPL_6 · Article number: ICPL.j · 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: SERVA Electrophoresis GmbH Carl-Benz-Str. 7 D-69115 Heidelberg Tel.: +49 6221 13840-0 FAX: +49 6221 13840-10 msds.info@serva.de · Information department: Product Safety department Tel.: +49 6221 13840-35 · 1.4 Emergency telephone number: Medical Emergency Information in case of poisoning: Poison Information Center Mainz - Phone: +49 (0) 6131 19240 (advisory service in German or English language) **SECTION 2: Hazards identification** · 2.1 Classification of the substance or mixture · Classification according to Regulation (EC) No 1272/2008 GHS08 Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. · 2.2 Label elements · Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation. · Hazard pictograms GHS08 · Signal word Danger · Hazard-determining components of labelling: Carbonic anhydrase · Hazard statements H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. · Precautionary statements P261 Avoid breathing dust. P284 Wear respiratory protection. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. · 2.3 Other hazards · Results of PBT and vPvB assessment · **PBT:** PBT - assessment not available. · vPvB: vPvB - assessment not available. (Contd. on page 2)

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Protein-Mix for ICPL_6

(Contd. of page 1)

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

• Description: Mixture of the substances listed below with harmless additions.

· Dangerous components:

CAS: 9001-03-0 Carbonic anhydrase EINECS: 232-576-6

🚸 Resp. Sens. 1, H334

, H334 60-80%

• Additional information For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- After inhalation
- Supply fresh air; consult doctor in case of complaints.
- In case of unconsciousness place patient stably in side position for transportation.
- · After skin contact Immediately wash with water and soap and rinse thoroughly.
- · After eye contact

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult doctor In case of complaints.

- · After swallowing
- Wash out mouth. Drink plenty of water and supply fresh air. Consult doctor if you feel unwell.
- 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

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing. Ensure adequate ventilation Do not inhale dusts. Avoid contact with the eyes and skin.
6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water. Dilute with plenty of water.
6.3 Methods and material for containment and cleaning up: Pick up mechanically. Dispose contaminated material as waste according to item 13.
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.

(Contd. on page 3)

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Protein-Mix for ICPL_6

(Contd. of page 2)

SECTION 7: Handling and storage

- · 7.1 Precautions for safe handling
- *Ensure good ventilation/exhaustion at the workplace. Prevent formation of dust.*
- Avoid contact with eyes and skin.
- Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- Requirements to be met by storerooms and receptacles: Store at -15 to -25 °C
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed and store in dry conditions.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

• Additional information about design of technical systems: No further data; see item 7.

- · 8.1 Control parameters
- · Components 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 that were valid during the creation were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment
- · General protective and hygienic measures
- Keep away from foodstuffs, beverages and feed.
- Store protective clothing separately.
- Immediately remove all soiled and contaminated clothing
- Avoid contact with the eyes and skin.

Wash hands before breaks and at the end of work.

- Breathing equipment:
- Short term filter device: Filter P2.
- · Protection of hands:
- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· 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.

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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

Natural rubber, NR Nitrile rubber, NBR • **Eye protection:** Safety glasses

(Contd. on page 4)

⁻ GB

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

(Contd. of page 3)

Trade name: Protein-Mix for ICPL 6

· Body protection: Protective work clothing.

| SECTION 9: Physical and c | hemical properties |
|---|---|
| • 9.1 Information on basic physi | cal and chemical properties |
| · General Information | |
| · Appearance: | |
| Form: | lyophilisate |
| Colour: | Whitish |
| · Odour: | Odourless |
| • Change in condition Melting point/Melting range: Boiling point/Boiling range: | |
| · Flash point: | Not applicable |
| · Self igniting: | Product is not selfigniting. |
| • Danger of explosion: | Product does not present an explosion hazard. |
| · Density: | Not determined |
| • Solubility in / Miscibility with Water: | Soluble |
| · Solvent content: Organic solvents: | 0,0 % |
| Solids content: | 100,0 % |
| · 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 further relevant informations available.
- · 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 further relevant informations available.

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

(Contd. on page 5)

GB

Printing date 14.04.2016

Version number 5

Revision: 13.04.2016

Trade name: Protein-Mix for ICPL_6

· 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 product to reach ground water, water course or sewage system.

- · 12.5 Results of PBT and vPvB assessment
- · PBT: PBT assessment not available.
- · **vPvB**: vPvB assessment not available.
- · 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

· Uncleaned packagings:

· Recommendation:

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

• Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION 14: Transport information

| · 14.1 UN-Number · ADR, ADN, IMDG, IATA | Void |
|---|--|
| · 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | |
| · ADR, IMDG, IATA · Class | Void |
| · Label · ADN/R Class: | - Void |
| · 14.4 Packing group · ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards: · Marine pollutant: | Not applicable. No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Anne Marpol and the IBC Code | x II of Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |

GB

(Contd. of page 5)

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

Printing date 14.04.2016Version number 5Revision: 13.04.2016

Trade name: Protein-Mix for ICPL_6

· ADR

· Transport category

· UN "Model Regulation":

Void

SECTION 15: Regulatory information

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

- · National regulations
- Water hazard 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

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

- · Department issuing MSDS: Product safety department
- · Contact: +49 6221 13840-35

· 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 PBT: persistent, bioaccumulative, toxic substance (REACH) vPvB: very persistent, very bioaccumulative substance (REACH) REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals CLP: Regulation on classification, labelling and packaging of substances and mixtures 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 Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1 • * Data compared to the previous version altered.