Kit Components

Product code	Description
39233	**SERVA ICPL (TM) - Quadruplex Plus 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
ICPL.k	Protein-Mix for ICPL_4
ICPL.l	ICPL_4 Reagent
ICPL.m	ICPL_10 Reagent
ICPL.n	Protein-Mix for ICPL_10
ICPL.o	ICPL Standard Plus
ICPL.p	Trypsin NB sequencing grade, modified from porcine pancreas
ICPL.r	Endoproteinase Glu-C (V8 proteinase), MS approved from Staphylococcus aureus

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

· **1.1 Product identifier**

· **Trade name: ICPL_0 Reagent**

· **Article number:** ICPL.a
· **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**
The product is not classified according to the CLP regulation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** 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:** Void

*
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.
Consult doctor In case of complaints.

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· ***After eye contact***
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist 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.*

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· ***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:***
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:***
Chloroprene rubber, CR
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:***	*Characteristic*
· ***Change in condition***	
Melting point/freezing point:	*18 °C*
Initial boiling point and boiling range:	*189 °C*
· ***Flash point:***	*87 °C*
· ***Ignition temperature:***	*270 °C*
· ***Self igniting:***	*Product is not selfigniting.*
· ***Explosive properties:***	*Product does not present an explosion hazard.*
· ***Explosion limits:***	
Lower:	*1.8 Vol %*

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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 %
· **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.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.

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· ***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:***	*Not applicable.*
· ***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***	
· ***Transport category***	-
· ***UN "Model Regulation":***	*Void*

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Trade name: ICPL_0 Reagent

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*
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 SDS:** 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.**

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

· **1.1 Product identifier**

· **Trade name: ICPL_6 Reagent**

· **Article number:** ICPL.b
· **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**
The product is not classified according to the CLP regulation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** 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:** Void
· **Additional information** For the wording of the listed hazard phrases refer to section 16.

*
SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information** No special measures required.
· **After inhalation** 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.

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· ***After eye contact***
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist 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.*

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· ***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:***
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:***
Chloroprene rubber, CR
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:***	*Characteristic*
· ***Change in condition***	
Melting point/freezing point:	*18 °C*
Initial boiling point and boiling range:	*189 °C*
· ***Flash point:***	*87 °C*
· ***Ignition temperature:***	*270 °C*
· ***Self igniting:***	*Product is not selfigniting.*

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

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· ***Other information:*** *The product is rapidly biodegradable.*
· ***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:***	*Not applicable.*
· ***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***	
· ***Transport category***	-
· ***UN "Model Regulation":***	*Void*

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*
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 SDS:** 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.**

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

· **1.1 Product identifier**

· **Trade name: Stop Solution 1**

· **Article number:** ICPL.c
· **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**
The product is not classified according to the CLP regulation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **Additional information:**
Safety data sheet available on request.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** 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:**

CAS: 1310-73-2 EINECS: 215-185-5	sodium hydroxide	Skin Corr. 1A, H314	1-3%

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

*
SECTION 4: First aid measures

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

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· ***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 ophthalmologist 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*** *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.*

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· ***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:***
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.*

*
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*
· ***Change in condition***	
Melting point/freezing point:	*undetermined*
Initial boiling point and boiling range:	*ca. 100 °C*
· ***Flash point:***	*Not applicable*
· ***Self igniting:***	*Product is not selfigniting.*

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Trade name: Stop Solution 1

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· **Explosive properties:**	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**
· **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.
· **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.

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Trade name: Stop Solution 1

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*
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:**	*Not applicable.*
· **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**	
· **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.

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· ***Relevant phrases***
H314 Causes severe skin burns and eye damage.

· ***Department issuing SDS:*** *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 Corr. 1A: Skin corrosion/irritation – Category 1A
· **** Data compared to the previous version altered.***

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

· **1.1 Product identifier**

· **Trade name: Reduction Solution**

· **Article number:** ICPL.d
· **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**

GHS05

Eye Dam. 1 H318 Causes serious eye damage.

· **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** GHS05
· **Signal word** Danger

· **Hazard-determining components of labelling:**
Tris(2-carboxyethyl)phosphine hydrochloride
· **Hazard statements**
H318 Causes serious eye damage.
· **Precautionary statements**
P260 Do not breathe vapours.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** PBT - assessment not available.
· **vPvB:** vPvB - assessment not available.

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Trade name: Reduction Solution

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*
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	5-15%

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

*
SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information** No special measures required.
· **After inhalation** 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 ophthalmologist 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** 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.

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Trade name: Reduction Solution

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· ***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***
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.
· ***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*

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Trade name: Reduction Solution

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· ***Change in condition***	
Melting point/freezing point:	*undetermined*
Initial boiling point and boiling range:	*ca. 100 °C*
· ***Flash point:***	*not determined*
· ***Self igniting:***	*Product is not selfigniting.*
· ***Explosive properties:***	*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:	*10 %*
· ***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***
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.*

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Trade name: Reduction Solution

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· ***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, 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***	
· ***Excepted quantities (EQ)***	*Code: -* *Maximum net quantity per inner packaging: -* *Maximum net quantity per outer packaging: -*
· ***IMDG***	
· ***Excepted quantities (EQ)***	*Code: -* *Maximum net quantity per inner packaging: -* *Maximum net quantity per outer packaging: -*

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· ***UN "Model Regulation":*** *Void*

*
SECTION 15: Regulatory information

· ***15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture***
· ***REGULATION (EC) No 1907/2006 ANNEX XVII*** *Conditions of restriction: 3*

· ***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 SDS:*** *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 – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
· **** Data compared to the previous version altered.***

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

· **1.1 Product identifier**

· **Trade name: Alkylation Reagent**

· **Article number:** ICPL.e
· **CAS Number:**
144-48-9
· **EC number:**
205-630-1
· **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**

GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
· **Hazard pictograms** GHS07
· **Signal word** Warning

· **Hazard-determining components of labelling:**
2-iodoacetamide
· **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
· **Precautionary statements**
P261 Avoid breathing dust.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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:*** C_2H_4INO
· ***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 ophthalmologist 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.

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Trade name: Alkylation Reagent

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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.
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***
· ***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.

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· ***For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:***
Neoprene gloves
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:	*Crystalline*
Colour:	*white to almost white*
· ***Odour:***	*uncharacteristic*
· ***Change in condition***	
Melting point/freezing point:	*91- 94 °C*
Initial boiling point and boiling range:	*undetermined*
· ***Flash point:***	*Not applicable*
· ***Flammability (solid, gaseous)***	*Product is not flammable.*
· ***Explosive properties:***	*Product does not present an explosion hazard.*
· ***Density:***	*Not determined*
· ***Solubility in / Miscibility with***	
Water:	*Soluble*
· ***Alcohols:***	*Readily soluble*
· ***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:*** *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.*

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· **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**
May cause respiratory irritation.
· **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.

· **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:**	Not applicable.
· **Marine pollutant:**	No

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· **14.6 Special precautions for user**	Not applicable.
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	Not 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 %
I	80-100

· **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.

· **Department issuing SDS:** 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
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 – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
· *** Data compared to the previous version altered.**

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

· **1.1 Product identifier**

· **Trade name: Stop solution 2**

· **Article number:** ICPL.f
· **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

Carc. 2 H351 Suspected of causing cancer.

GHS05

Met. Corr.1 H290 May be corrosive to metals.

GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

· **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** GHS05, GHS07, GHS08
· **Signal word** Warning

· **Hazard-determining components of labelling:**
hydroxylammonium chloride
· **Hazard statements**
H290 May be corrosive to metals.
H315 Causes skin irritation.

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Trade name: Stop solution 2

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H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.

· ***Precautionary statements***

P201	*Obtain special instructions before use.*
P280	*Wear protective gloves/protective clothing/eye protection/face protection.*
P301+P312	*IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*
P302+P352	*IF ON SKIN: Wash with plenty of soap and water.*
P304+P340	*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*
P305+P351+P338	*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

· ***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:***

CAS: 5470-11-1 *EINECS: 226-798-2*	*hydroxylammonium chloride* *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*	*5-15%*

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

*
SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information***
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 ophthalmologist 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*** *No further relevant information available.*

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· ***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.
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.

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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:*** *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/freezing point:	*undetermined*
Initial boiling point and boiling range:	*undetermined*
· ***Flash point:***	*not determined*
· ***Self igniting:***	*Product is not selfigniting.*
· ***Explosive properties:***	*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.*

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· ***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.*

· ***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:***
· ***Skin corrosion/irritation***
Causes skin irritation.
· ***Serious eye damage/irritation***
Causes serious eye irritation.
· ***Respiratory or skin sensitisation***
May cause an allergic skin reaction.
· ***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.

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· **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:**	Not applicable.
· **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**	
· **Transport category**	-
· **UN "Model Regulation":**	Void

*
SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 65

· **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 SDS:** Product safety department

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· ***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
Met. Corr.1: Corrosive to metals – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 2: Carcinogenicity – Category 2
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

· **** Data compared to the previous version altered.***

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

· **1.1 Product identifier**

· **Trade name: Lysis Buffer**

· **Article number:** ICPL.g
· **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**

GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.

· **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** GHS07
· **Signal word** Warning

· **Hazard-determining components of labelling:**
guanadine hydrochloride
· **Hazard statements**
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
· **Precautionary statements**
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.

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Trade name: Lysis Buffer

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· ***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:**		
CAS: 50-01-1 EINECS: 200-002-3	guanadine hydrochloride Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	40-70%

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

*
SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information***
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 ophthalmologist 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*** *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

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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
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*

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· **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
· **Change in condition**	
Melting point/freezing point:	undetermined
Initial boiling point and boiling range:	undetermined
· **Flash point:**	Not applicable
· **Self igniting:**	Product is not selfigniting.
· **Explosive properties:**	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**
· **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.

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

*
SECTION 12: Ecological information

· ***12.1 Toxicity***
· ***Aquatic toxicity:*** *No further relevant information available.*
· ***12.2 Persistence and degradability*** *No further relevant information available.*
· ***12.3 Bioaccumulative potential*** *No further relevant information available.*
· ***12.4 Mobility in soil*** *No further relevant information available.*
· ***Additional ecological information:***
· ***General notes:***
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
Do not allow 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:***	*Not applicable.*
· ***Marine pollutant:***	*No*

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· **14.6 Special precautions for user**	*Not applicable.*
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	*Not applicable.*
· **Transport/Additional information:**	*Not 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**
· **REGULATION (EC) No 1907/2006 ANNEX XVII** *Conditions of restriction: 3*

· **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 SDS:** *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 – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
· *** Data compared to the previous version altered.**

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

· **1.1 Product identifier**

· **Trade name: Solution Buffer**

· **Article number:** ICPL.h
· **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**
The product is not classified according to the CLP regulation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** 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:** Void
· **Additional information** For the wording of the listed hazard phrases refer to section 16.

*
SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **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 ophthalmologist In case of complaints.
· **After swallowing** Wash out mouth. Seek medical advice if discomfort occurs.

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· ***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*** *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.*

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· ***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:*** *Suitable respiratory protective device recommended.*
· ***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.
· ***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*
· ***Change in condition***	
Melting point/freezing point:	*undetermined*
Initial boiling point and boiling range:	*undetermined*
· ***Flash point:***	*Not applicable*
· ***Self igniting:***	*Product is not selfigniting.*
· ***Explosive properties:***	*Product does not present an explosion hazard.*
· ***Density:***	*Not determined*
· ***Solubility in / Miscibility with***	
Water:	*Fully miscible*
· ***Solvent content:***	
Organic solvents:	*0.0 %*

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

*
SECTION 10: Stability and reactivity

· ***10.1 Reactivity*** *No further relevant information available.*
· ***10.2 Chemical stability***
· ***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.*
· ***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.

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Trade name: Solution Buffer

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· ***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:***	*Not applicable.*
· ***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***	
· ***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 SDS:*** *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

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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.***

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

Printing date 03.05.2018 *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.

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Safety data sheet
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Printing date 03.05.2018 *Version number 5* *Revision: 13.04.2016*

Trade name: Protein-Mix for ICPL_0

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*
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 EINECS: 232-576-6	Carbonic anhydrase	Resp. Sens. 1, H334	15-30%

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

*
SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***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 ophthalmologist 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***
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*** *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.

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Trade name: Protein-Mix for ICPL_0

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*
SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
No special precautions are necessary if used correctly.
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**
· **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.

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Trade name: Protein-Mix for ICPL_0

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*
SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	lyophilisate
Colour:	Whitish
· **Odour:**	Odourless
· **Change in condition**	
Melting point/freezing point:	undetermined
Initial boiling point and boiling range:	undetermined
· **Flash point:**	Not applicable
· **Self igniting:**	Product is not selfigniting.
· **Explosive properties:**	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.
· **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.

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Trade name: Protein-Mix for ICPL_0

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· **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.

*
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:**	Not applicable.
· **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**	
· **Transport category**	-
· **UN "Model Regulation":**	Void

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Printing date 03.05.2018 *Version number 5* *Revision: 13.04.2016*

Trade name: Protein-Mix for ICPL_0

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*
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 SDS:** 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: Respiratory sensitisation – Category 1
· *** Data compared to the previous version altered.**

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

Printing date 03.05.2018 *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.

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Trade name: Protein-Mix for ICPL_6

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*
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 EINECS: 232-576-6	Carbonic anhydrase	Resp. Sens. 1, H334	60-80%

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

*
SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **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 ophthalmologist 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**
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** 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.

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Trade name: Protein-Mix for ICPL_6

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*
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

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Trade name: Protein-Mix for ICPL_6

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· ***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*
Colour:	*Whitish*
· ***Odour:***	*Odourless*
· ***Change in condition***	
Melting point/freezing point:	*undetermined*
Initial boiling point and boiling range:	*undetermined*
· ***Flash point:***	*Not applicable*
· ***Self igniting:***	*Product is not selfigniting.*
· ***Explosive properties:***	*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.*

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Trade name: Protein-Mix for ICPL_6

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· ***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:***	*Not applicable.*
· ***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.*

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Trade name: Protein-Mix for ICPL_6

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· **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 SDS:** *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: Respiratory sensitisation – Category 1
· *** Data compared to the previous version altered.**

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

· **1.1 Product identifier**

· **Trade name: Protein-Mix for ICPL_4**

· **Article number:** ICPL.k
· **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.

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Trade name: Protein-Mix for ICPL_4

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*
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 EINECS: 232-576-6	Carbonic anhydrase	Resp. Sens. 1, H334	30-50%

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

*
SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **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 ophthalmologist 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**
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** 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.

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Trade name: Protein-Mix for ICPL_4

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*
SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
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**
· **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.
Do not inhale dust / smoke / mist.
Wash hands before breaks and at the end of work.
· **Breathing equipment:**
Suitable respiratory protective device recommended.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **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

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· ***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
Colour:	Whitish
· **Odour:**	Odourless
· **Change in condition**	
Melting point/freezing point:	undetermined
Initial boiling point and boiling range:	undetermined
· **Flash point:**	Not applicable
· **Self igniting:**	Product is not selfigniting.
· **Explosive properties:**	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.*

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Trade name: Protein-Mix for ICPL_4

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· ***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:***	*Not applicable.*
· ***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.*

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Trade name: Protein-Mix for ICPL_4

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· **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 SDS:** *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: Respiratory sensitisation – Category 1
· *** Data compared to the previous version altered.**

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

· **1.1 Product identifier**

· **Trade name: ICPL_4 Reagent**

· **Article number:** ICPL.l
· **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**
The product is not classified according to the CLP regulation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** 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:** Void

*
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 ophthalmologist In case of complaints.
· **After swallowing** Wash out mouth. Seek medical advice if discomfort occurs.

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Trade name: ICPL_4 Reagent

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· ***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.*

· ***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.

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Trade name: ICPL_4 Reagent

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· ***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:***
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:***
Chloroprene rubber, CR
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:***	*Characteristic*
· ***Change in condition***	
Melting point/freezing point:	*undetermined*
Initial boiling point and boiling range:	*189 °C*
· ***Flash point:***	*87 °C*
· ***Ignition temperature:***	*270 °C*
· ***Self igniting:***	*Product is not selfigniting.*
· ***Explosive properties:***	*Product does not present an explosion hazard.*
· ***Explosion limits:***	
Lower:	*1.8 Vol %*
Upper:	*28.5 Vol %*

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Trade name: ICPL_4 Reagent

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· ***Vapour pressure at 20 °C:***	*2.5 hPa*
· ***Density:***	*Not determined*
· ***Solubility in / Miscibility with Water:***	*Fully miscible*
· ***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:***
No further relevant information available.
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.*
· ***Other information:*** *The product is rapidly biodegradable.*
· ***12.3 Bioaccumulative potential*** *No further relevant information available.*
· ***12.4 Mobility in soil*** *No further relevant information available.*

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Trade name: ICPL_4 Reagent

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· ***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*** *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:***	*Not applicable.*
· ***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***	
· ***Transport category***	-
· ***UN "Model Regulation":***	*Void*

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Trade name: ICPL_4 Reagent

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*
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 SDS:*** *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.***

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

· **1.1 Product identifier**

· **Trade name: ICPL_10 Reagent**

· **Article number:** ICPL.m
· **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**
The product is not classified according to the CLP regulation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** 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:** Void

*
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 ophthalmologist In case of complaints.
· **After swallowing** Wash out mouth. Seek medical advice if discomfort occurs.

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Trade name: ICPL_10 Reagent

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· ***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*** *No special measures required.*
· ***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:*** *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.*

· ***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.

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Trade name: ICPL_10 Reagent

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· ***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 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:***
Chloroprene rubber, CR
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:***	*Characteristic*
· ***Change in condition***	
Melting point/freezing point:	*undetermined*
Initial boiling point and boiling range:	*189 °C*
· ***Flash point:***	*87 °C*
· ***Ignition temperature:***	*270 °C*
· ***Self igniting:***	*Product is not selfigniting.*
· ***Explosive properties:***	*Product does not present an explosion hazard.*
· ***Explosion limits:***	
Lower:	*1.8 Vol %*
Upper:	*Dec. Vol %*
· ***Vapour pressure at 20 °C:***	*2.5 hPa*
· ***Density:***	*Not determined*

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Trade name: ICPL_10 Reagent

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· **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:**
No further relevant information available.
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.
· **Other information:** The product is rapidly biodegradable.
· **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.

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Trade name: ICPL_10 Reagent

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· ***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*** *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:***	*Not applicable.*
· ***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***	
· ***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*

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

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Trade name: ICPL_10 Reagent

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

SECTION 16: Other information

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

· ***Department issuing SDS:*** *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.***

Safety data sheet
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*
SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name: Protein-Mix for ICPL_10**

· **Article number:** ICPL.n
· **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.

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Trade name: Protein-Mix for ICPL_10

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*
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 EINECS: 232-576-6	Carbonic anhydrase	Resp. Sens. 1, H334	15-30%

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

*
SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information** No special measures required.
· **After inhalation** 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 ophthalmologist 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**
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** 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.
· **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**
Ensure good ventilation/exhaustion at the workplace.

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Trade name: Protein-Mix for ICPL_10

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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***
· ***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.
· ***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*
Colour:	*Whitish*
· ***Odour:***	*Odourless*

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Trade name: Protein-Mix for ICPL_10

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· **Change in condition**	
Melting point/freezing point:	undetermined
Initial boiling point and boiling range:	undetermined
· **Flash point:**	Not applicable
· **Self igniting:**	Product is not selfigniting.
· **Explosive properties:**	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.
· **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.

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Trade name: Protein-Mix for ICPL_10

(Contd. of page 4)

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

*
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:***	*Not applicable.*
· ***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***	
· ***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.*

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Trade name: Protein-Mix for ICPL_10

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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 SDS:*** *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: Respiratory sensitisation – Category 1
· **** Data compared to the previous version altered.***

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

Printing date 03.05.2018 *Version number 1* *Revision: 03.05.2018*

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

· **1.1 Product identifier**

· **Trade name: ICPL Standard Plus**

· **Article number:** ICPL.o
· **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**
The product is not classified according to the CLP regulation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **Additional information:**
Contains Carbonic anhydrase. May produce an allergic reaction.
Safety data sheet available on request.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**
· **Description:** Mixture of the substances listed below with harmless additions.

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

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information** No special measures required.
· **After inhalation** Supply fresh air; consult doctor in case of complaints.
· **After skin contact** Immediately rinse with water.

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Trade name: ICPL Standard Plus

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· ***After eye contact*** *Rinse opened eye for several minutes under running water.*
· ***After swallowing***
Rinse out mouth and then drink plenty of water.
If symptoms persist consult doctor.
· ***4.2 Most important symptoms and effects, both acute and delayed***
No further relevant information available.
· ***4.3 Indication of any immediate medical attention and special treatment needed***
No further relevant information available.

SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents***
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*** *No further relevant information available.*
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *Mount respiratory protective device.*

SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures*** *Wear protective clothing.*
· ***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.*
· ***6.4 Reference to other sections*** *No dangerous substances are released.*

SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling*** *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***
· ***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:*** *None.*
· ***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:*** *Suitable respiratory protective device recommended.*
· ***Protection of hands:***
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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Trade name: ICPL Standard Plus

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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

· **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:	*Powder*
Colour:	*White*
· **Odour:**	*Odourless*
· **Change in condition**	
Melting point/freezing point:	*undetermined*
Initial boiling point and boiling range:	*undetermined*
· **Flash point:**	*Not applicable*
· **Self igniting:**	*Product is not selfigniting.*
· **Explosive properties:**	*Product does not present an explosion hazard.*
· **Density:**	*Not determined*
· **Solubility in / Miscibility with**	
Water:	*Soluble*
· **Solvent content:**	
Organic solvents:	*0.0 %*
· **VOC %:**	*0.00 %*
· **Solids content:**	*10.0 %*
· **9.2 Other information**	*No further relevant information available.*

SECTION 10: Stability and reactivity

· **10.1 Reactivity** *No further relevant information available.*
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
· **10.3 Possibility of hazardous reactions** *No dangerous reactions known*
· **10.4 Conditions to avoid** *No further relevant information available.*
· **10.5 Incompatible materials:** *No further relevant information available.*

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Trade name: ICPL Standard Plus

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

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity** Based on available data, the classification criteria are not met.
· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

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

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

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Trade name: ICPL Standard Plus

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· **14.3 Transport hazard class(es)**	
· **ADR, ADN, IMDG, IATA**	
· **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 Annex 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:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

· **Department issuing SDS:** 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.**

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according to 1907/2006/EC, Article 31

Printing date 03.05.2018 *Version number 1* *Revision: 03.05.2018*

*

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

· **1.1 Product identifier**

· **Trade name: Trypsin NB sequencing grade, modified from porcine pancreas**

· **Article number:** ICPL.p
· **CAS Number:**
9002-07-7
· **EC number:**
232-650-8
· **Index number:**
647-010-00-7
· **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.

GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
· **Hazard pictograms** GHS07, GHS08
· **Signal word** Danger

· **Hazard-determining components of labelling:**
Trypsin
· **Hazard statements**
H315 Causes skin irritation.

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Trade name: Trypsin NB sequencing grade, modified from porcine pancreas

(Contd. of page 1)

H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.

· **Precautionary statements**

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P405	Store locked up.

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

SECTION 3: Composition/information on ingredients

· **3.1 Chemical characterisation: Substances**
· **CAS No. Description:**
9002-07-7 Trypsin
· **Identification number(s):**
· **EC number:** 232-650-8
· **Index number:** 647-010-00-7

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **After inhalation**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact** Immediately rinse with water.
· **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
· **After swallowing** Drink copious amounts of water and provide fresh air. Call for doctor immediately.
· **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** No further relevant information available.
· **5.3 Advice for firefighters**
· **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

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Safety data sheet
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Printing date 03.05.2018 *Version number 1* *Revision: 03.05.2018*

Trade name: Trypsin NB sequencing grade, modified from porcine pancreas

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· ***6.3 Methods and material for containment and cleaning up:***
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· ***6.4 Reference to other sections***
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***
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***
· ***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.*
· ***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.
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:***
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.
· ***For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:***
Natural rubber, NR
Nitrile rubber, NBR

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Safety data sheet
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Trade name: Trypsin NB sequencing grade, modified from porcine pancreas

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· **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:	Crystalline powder
Colour:	White
· **Odour:**	Odourless
· **pH-value (10 g/l) at 20 °C:**	2 - 3
· **Change in condition**	
Melting point/freezing point:	undetermined
Initial boiling point and boiling range:	undetermined
· **Flash point:**	Not applicable
· **Flammability (solid, gaseous)**	Product is not flammable.
· **Ignition temperature:**	
Decomposition temperature:	> 40 °C
· **Explosive properties:**	Product does not present an explosion hazard.
· **Density:**	Not determined
· **Bulk density at 20 °C:**	ca. 200 kg/m³
· **Solubility in / Miscibility with**	
Water at 20 °C:	10 g/l
Organic solvents:	0.0 %
· **VOC %:**	0.00 %
· **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 dangerous reactions known
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:**		
9002-07-7 Trypsin		
Oral	LD50	> 5000 mg/kg (rat)

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

Printing date 03.05.2018 *Version number 1* *Revision: 03.05.2018*

Trade name: Trypsin NB sequencing grade, modified from porcine pancreas

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· ***Primary irritant effect:***
· ***Skin corrosion/irritation***
Causes skin irritation.
· ***Serious eye damage/irritation***
Causes serious eye irritation.
· ***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***
May cause respiratory irritation.
· ***STOT-repeated exposure*** *Based on available data, the classification criteria are not met.*
· ***Aspiration hazard*** *Based on available data, the classification criteria are not met.*

SECTION 12: Ecological information

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

· ***Uncleaned packagings:***
· ***Recommendation:*** *Disposal must be made according to official regulations.*
· ***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, ADN, IMDG, IATA***	
· ***Class***	*Void*

(Contd. on page 6)

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

Printing date 03.05.2018 *Version number 1* *Revision: 03.05.2018*

Trade name: Trypsin NB sequencing grade, modified from porcine pancreas

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· **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 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 %
I	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 SDS:** 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
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
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Resp. Sens. 1: Respiratory sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
· ***** Data compared to the previous version altered.**

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

· **1.1 Product identifier**

· **Trade name: Endoproteinase Glu-C (V8 proteinase), MS approved from Staphylococcus aureus**

· **Article number:** ICPL.r
· **CAS Number:**
66676-43-5
· **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**
The substance is not classified according to the CLP regulation.

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

*
SECTION 3: Composition/information on ingredients

· **3.1 Chemical characterisation: Substances**
· **CAS No. Description:**
66676-43-5 Endoproteinase Glu-C from staphylococcus aureus
· **Identification number(s):** -

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 rinse with water.

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· ***After eye contact*** *Rinse opened eye for several minutes under running water.*
· ***After swallowing***
Rinse out mouth and then drink plenty of water.
If symptoms persist consult doctor.
· ***4.2 Most important symptoms and effects, both acute and delayed***
No further relevant information available.
· ***4.3 Indication of any immediate medical attention and special treatment needed***
No further relevant information available.

SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents***
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*** *No further relevant information available.*
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *No special measures required.*

SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures*** *Wear protective clothing.*
· ***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.*
· ***6.4 Reference to other sections*** *No dangerous substances are released.*

SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling*** *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***
· ***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.*
· ***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***
The usual precautionary measures should be adhered to when handling chemicals.
· ***Breathing equipment:*** *Suitable respiratory protective device recommended.*
· ***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.

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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.

· **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:	*Powder*
Colour:	*White*
· **Odour:**	*Odourless*
· **Change in condition**	
Melting point/freezing point:	*undetermined*
Initial boiling point and boiling range:	*undetermined*
· **Flash point:**	*Not applicable*
· **Flammability (solid, gaseous)**	*Product is not flammable.*
· **Explosive properties:**	*Product does not present an explosion hazard.*
· **Density:**	*Not determined*
· **Solubility in / Miscibility with**	
Water:	*Soluble*
Organic solvents:	*0.0 %*
· **VOC %:**	*0.00 %*
· **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 dangerous reactions known*
· **10.4 Conditions to avoid** *No further relevant information available.*
· **10.5 Incompatible materials:** *No further relevant information available.*
· **10.6 Hazardous decomposition products:** *No dangerous decomposition products known*

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

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

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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, ADN, IMDG, IATA**	
· **Class**	Void

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· **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 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:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

· **Department issuing SDS:** 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
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.***