03.05.2018 K	Kit Components
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Product code

39233 SERVA ICPL (TM) - Quadruplex Plus Kit

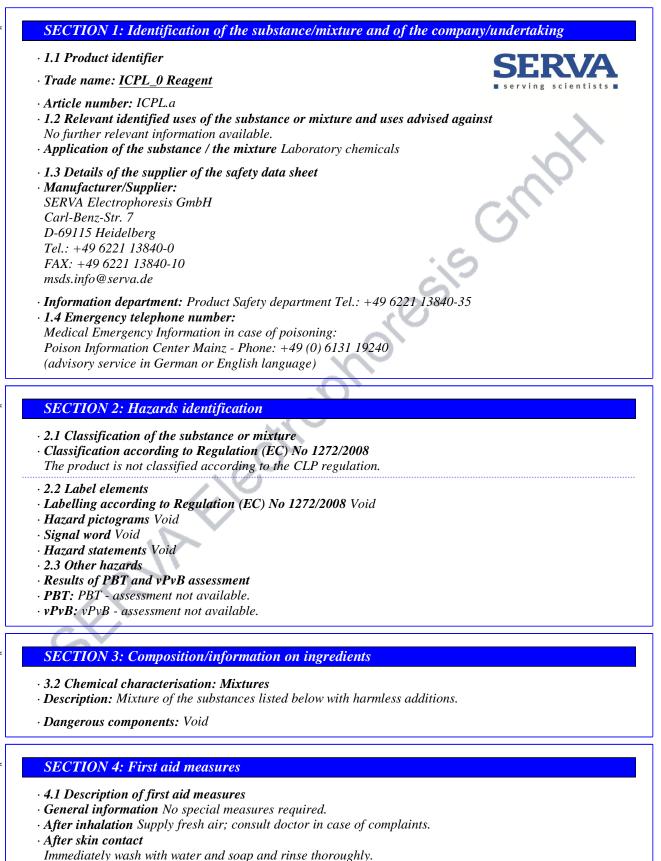
Description

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.1	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

Version number 5

Printing date 03.05.2018

Revision: 13.04.2016



Consult doctor In case of complaints.

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Trade name: ICPL_0 Reagent

· After eye contact

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult 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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Trade name: ICPL_0 Reagent

monitored at the workplace.	relevant quantities of materials with critical values that have to b
Additional information: The lists that	at were valid during the creation were used as basis.
8.2 Exposure controls	
Personal protective equipment	
General protective and hygienic med	
	hould 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 impermeduate Due to missing tests no recommendate the chemical mixture.	eable and resistant to the product/ the substance/ the preparation. tion to the glove material can be given for the product/ the preparation a consideration of the penetration times, rates of diffusion and th
degradation	
Material of gloves	
quality and varies from manufact	s does not only depend on the material, but also on further marks of turer to manufacturer. As the product is a preparation of severa ove material can not be calculated in advance and has therefore to b
	be found out by the manufacturer of the protective gloves and has to be
observed.	
Chloroprene rubber, CR Nitrile rubber, NBR	
<i>Eye protection:</i> Safety glasses Body protection: Protective work clo	othing.
Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical an	ical properties
Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi	ical properties
Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical an General Information Appearance: Form:	ical properties nd chemical properties Solution
Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical an General Information Appearance: Form: Colour:	ical properties nd chemical properties Solution Colourless
Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical an General Information Appearance: Form:	ical properties nd chemical properties Solution
Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical an General Information Appearance: Form: Colour: Odour:	ical properties nd chemical properties Solution Colourless Characteristic 18 °C
Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical an General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point:	ical properties nd chemical properties Solution Colourless Characteristic 18 °C
Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical an General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling ra	ical properties nd chemical properties Solution Colourless Characteristic 18 °C inge: 189 °C
Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical an General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling ra Flash point:	ical properties nd chemical properties Solution Colourless Characteristic 18 °C 189 °C 87 °C
Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical an General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling ra Flash point: Ignition temperature:	ical properties nd chemical properties Solution Colourless Characteristic 18 °C 189 °C 87 °C 270 °C
Eye protection: Safety glasses Body protection: Protective work cla SECTION 9: Physical and chemi 9.1 Information on basic physical an General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling ra Flash point: Ignition temperature: Self igniting: Explosive properties:	ical properties ind chemical properties Solution Colourless Characteristic 18 °C 18 °C 189 °C 87 °C 270 °C Product is not selfigniting.
Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical an General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling ra Flash point: Ignition temperature:	ical properties nd chemical properties Solution Colourless Characteristic 18 °C 189 °C 87 °C 270 °C
Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical an General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling ra Flash point: Ignition temperature: Self igniting:	ical properties ind chemical properties Solution Colourless Characteristic 18 °C 18 °C 189 °C 87 °C 270 °C Product is not selfigniting.

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Trade name: ICPL_0 Reagent

	(Contd. of page 3)
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: 9.2 Other information 	> 90 % The physico-chemical data correspond to pure DMSO.

SECTION 10: Stability and reactivity

· 10.1 Reactivity No further relevant information available.

· 10.2 Chemical stability

- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No further relevant informations available.
- 10.4 Conditions to avoid high ttemperatures

exposure to the light • 10.5 Incompatible materials:

Avoid contact with: Oxidizers Acids

Halides of organic and inorganic acids

Methyl bromide, sodium hydride

Zinc and steel (in the presence of water)

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

SECTION 11: Toxicological information

 \cdot 11.1 Information on toxicological effects

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

• Primary irritant effect:

• Skin corrosion/irritation Based on available data, the classification criteria are not met.

- · Serious eye damage/irritation Based on available data, the classification criteria are not met.
- Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

· CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)

- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.

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

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

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

SECTION 12: Ecological information

· 12.1 Toxicity

- Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- $\cdot \ \textbf{12.3 Bioaccumulative potential} \ No \ further \ relevant \ information \ available.$
- · 12.4 Mobility in soil No further relevant information available.

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Trade name: ICPL_0 Reagent

· Additional ecological information:

· General notes:

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

· 12.5 Results of PBT and vPvB assessment

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

- · **vPvB**: vPvB assessment not available.
- 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

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

· Uncleaned packagings:

· Recommendation:

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

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

SECTION 14: Transport information

· 14.1 UN-Number · ADR, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA	
· Class	Void
· Label · ADN/R Class:	- Void
· 14.4 Packing group · ADR, IMDG, IATA	Void
 14.5 Environmental hazards: Marine pollutant: 	Not applicable. No
\cdot 14.6 Special precautions for user	Not applicable.
• 14.7 Transport in bulk according to Anne	•
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.

Printing date 03.05.2018	Version number 5	Revision: 13.04.2010
SECTION 1: Identification	of the substance/mixture and of the comp	pany/undertaking
· 1.1 Product identifier		CFD1/A
· Trade name: ICPL_6 Reagent		serving scientists
No further relevant information	the substance or mixture and uses advised a available. the mixture L aboratory chemicals	gainst
 1.3 Details of the supplier of the 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 	ne safety data sheet	GMO
• 1.4 Emergency telephone num Medical Emergency Information	n in case of poisoning: nz - Phone: +49 (0) 6131 19240	35
SECTION 2: Hazards identi	ification	
 • 2.1 Classification of the substa • Classification according to Reg The product is not classified according 	gulation (EC) No 1272/2008	
 2.2 Label elements Labelling according to Regulat Hazard pictograms Void Signal word Void Hazard statements Void 2.3 Other hazards Results of PBT and vPvB assess PBT: PBT - assessment not ava vPvB; vPvB - assessment not ava 	s sment tilable.	
SECTION 3: Composition/in	nformation on ingredients	
• 3.2 Chemical characterisation: • Description: Mixture of the sub	Mixtures stances listed below with harmless additions.	
• Dangerous components: Void • Additional information For the	e wording of the listed hazard phrases refer to	o section 16.
SECTION 4: First aid meas	ures	
• After skin contact Immediately wash with water ar	ll measures required. ir; consult doctor in case of complaints. 1d soap and rinse thoroughly.	
Consult doctor In case of compl	iainis.	(Contd. on page 2

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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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Trade name: ICPL_6 Reagent

	(Contd. of page)
	trol parameters
	nents with limit values that require monitoring at the workplace:
	oduct does not contain any relevant quantities of materials with critical values that have to b
	ed at the workplace.
Additio	nal information: The lists that were valid during the creation were used as basis.
	posure controls
	al protective equipment
	l protective and hygienic measures
	vay from foodstuffs, beverages and feed.
Store pr	rotective clothing separately.
Immedi	ately remove all soiled and contaminated clothing
Avoid c	ontact with the eyes and skin.
	ands before breaks and at the end of work.
	ng equipment:
Short te	erm filter device:
Filter P	2.
Protect	ion of hands:
	ive gloves.
The glo	ve 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 chei	nical mixture.
Selectio	on of the glove material on consideration of the penetration times, rates of diffusion and th
degrada	ation
Materia	al of gloves
quality substan checked	ection of the suitable gloves does not only depend on the material, but also on further marks of and varies from manufacturer to manufacturer. As the product is a preparation of severa ces, the resistance of the glove material can not be calculated in advance and has therefore to be l prior to the application.
	ition time of glove material Ict break trough time has to be found out by the manufacturer of the protective gloves and has to b
observe	
	e permanent contact of a maximum of 15 minutes gloves made of the following materials ar
	orene rubber, CR
	rubber, NBR
	tection: Safety glasses
	rotection: Protective work clothing.
SECTI	ON 9: Physical and chemical properties
017 0	
	ormation on basic physical and chemical properties l Information

• Appearance: Form: Colour: • Odour:	Solution Colourless Characteristic	
• Change in condition Melting point/freezing point: Initial boiling point and boiling rang	18 °C	
· Flash point:	87 °C	
· Ignition temperature:	270 °C	
· Self igniting:	Product is not selfigniting.	
		(Contd. on page 4)

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Trade name: ICPL_6 Reagent

	(Contd. of page 3)
· 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.

 $\cdot \ \textbf{12.2 Persistence and degradability} \ No \ further \ relevant \ information \ available.$

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Trade name: ICPL_6 Reagent

• 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, IMDĞ, IATA	Void
14.5 Environmental hazards:	Not applicable.
Marine pollutant:	No
14.6 Special precautions for user	Not applicable.
14.7 Transport in bulk according to Anne	ex II of
Marpol and the IBC Code	Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.
ADR	
Transport category	-
UN ''Model Regulation'':	Void

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Trade name: ICPL_6 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

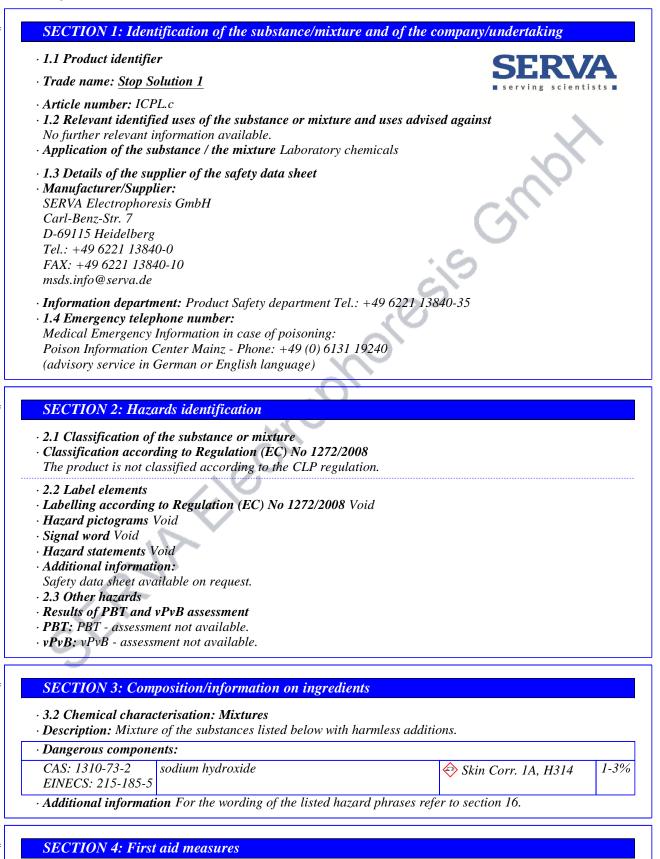
This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · 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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· 4.1 Description of first aid measures

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· General information No special measures required.

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Trade name: Stop Solution 1

- · After inhalation Supply fresh air; consult doctor in case of complaints.
- \cdot 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
- CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing. Ensure adequate ventilation Avoid contact with the eyes and skin.
6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water. Dilute with plenty of water.
6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand_diatomite_acid_binders_universal_binde

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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Revision: 13.04.2016

Trade name: Stop Solution 1

	(Contd. of page 2
8.1 Control parameters	
Components with limit values	that require monitoring at the workplace:
	n any relevant quantities of materials with critical values that have to be
monitored at the workplace.	
Additional information: The li	sts that were valid during the creation were used as basis.
8.2 Exposure controls	
Personal protective equipment	
General protective and hygien	ic measures
Keep away from foodstuffs, bev	
Store protective clothing separ	
Immediately remove all soiled	
Avoid contact with the eyes and	
Wash hands before breaks and	at the end of work.
Breathing equipment:	
Short term filter device:	
Filter P2.	
Protection of hands:	
Protective gloves.	
	npermeable and resistant to the product/ the substance/ the preparation.
ē	nendation to the glove material can be given for the product/ the preparation
the chemical mixture.	
	ial on consideration of the penetration times, rates of diffusion and the
degradation Material of gloves	
quality and varies from man	
	as to be found out by the manufacturer of the protective gloves and has to be
observed.	
For the permanent contact o	f a maximum of 15 minutes gloves made of the following materials are
suitable:	
Natural rubber, NR	
Nitrile rubber, NBR	
Eye protection: Safety glasses	- L - L - U
Body protection: Protective we	nrk cloining.
SECTION 9: Physical and o	chemical properties
9.1 Information on basic physi	ical and chemical properties
General Information	* *
Appearance:	
Form:	Solution
Colour:	Colourless
Odour:	Odourless
pH-value at 20 °C:	8.5
Change in condition	
Molting noint/freezing noint	. undetermined

undetermined

Not applicable

Product is not selfigniting.

Melting point/freezing point: undetermin Initial boiling point and boiling range: ca. 100 °C

· Flash point:

· Self igniting:

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Trade name: Stop Solution 1

	(Contd. of page 3)
· Explosive properties:	Product does not present an explosion hazard.
· Density:	Not determined
• Solubility in / Miscibility with Water:	Fully miscible
 Solvent content: Organic solvents: 9.2 Other information 	0.0 % No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity No further relevant information available.

· 10.2 Chemical stability

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

- · 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

(Contd. of page 4)

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 Label ADN/R Class:	Void - Void
14.4 Packing group ADR, IMDG, IATA	Void
14.5 Environmental hazards: Marine pollutant:	Not applicable. No
14.6 Special precautions for user	Not applicable.
14.7 Transport in bulk according to Anne Marpol and the IBC Code	ex II of Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.
ADR Transport category	_
UN "Model Regulation":	Void

SECTION 15: Regulatory information

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

· National regulations

· Water hazard class: Water 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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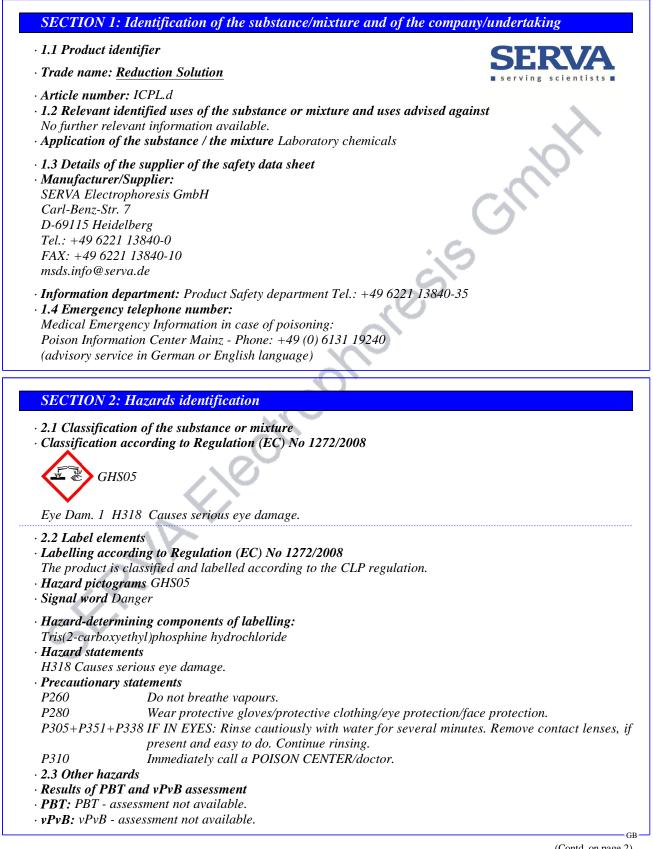
Trade name: Stop Solution 1

	(Contd. of pag
Relev	vant phrases
	Causes severe skin burns and eye damage.
Dona	rtment issuing SDS: Product safety department
-	act: +49 6221 13840-35
Abbr	eviations and acronyms:
RID: K	Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning ational Transport of Dangerous Goods by Rail)
	International Civil Aviation Organisation
	versistent, bioaccumulative, toxic substance (REACH)
vPvB:	very persistent, very bioaccumulative substance (REACH)
REACH	H: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
CLP: F	Regulation on classification, labelling and packaging of substances and mixtures
	Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the Internatio
Carria	ge of Dangerous Goods by Road)
IMDG.	: International Maritime Code for Dangerous Goods
IATA:	International Air Transport Association
GHS: 0	Globally Harmonised System of Classification and Labelling of Chemicals
EINEC	S: European Inventory of Existing Commercial Chemical Substances
ELINC	S: European List of Notified Chemical Substances
CAS: C	Chemical Abstracts Service (division of the American Chemical Society)
PBT: F	Persistent, Bioaccumulative and Toxic
vPvB:	very Persistent and very Bioaccumulative
Skin C	orr. 1A: Skin corrosion/irritation – Category 1A
* Dat	ta compared to the previous version altered.
	• •

Version number 7

Printing date 03.05.2018

Revision: 03.05.2018



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Printing date 03.05.2018

Version number 7

Revision: 03.05.2018

Trade name: Reduction Solution

(Contd. of page 1)

5-15%

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

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

· Dangerous components:

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

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

· Additional information For the wording of the listed 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

· 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.

9.1 Information on basic phys General Information	ical and chemical properties	
Appearance:		
Form:	Solution	
Colour:	Colourless	
Odour:	Odourless	
pH-value at 20 °C:	8.5	

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Trade name: Reduction Solution

		(Contd. of page 3
 Change in condition Melting point/freezing point: Initial boiling point and boiling range: 	undetermined 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: • 9.2 Other information	10 % No further relevant information available.	

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

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

SECTION 12: Ecological information

- · 12.1 Toxicity
- Aquatic toxicity: No further relevant information available.
- · 12.2 Persistence and degradability No further relevant information available.
- 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.

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Trade name: Reduction Solution

- · 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, IMDĞ, IATA	Void
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Anne	ex II of
Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· ADR	
\cdot Excepted quantities (EQ)	Code: -
	Maximum net quantity per inner packaging: -
	Maximum net quantity per outer packaging: -
· IMDG	
\cdot Excepted quantities (EQ)	Code: -
	Maximum net quantity per inner packaging: -
	Maximum net quantity per outer packaging: -

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Trade name: Reduction Solution

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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.

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

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	aeniijication of the substance/mixti	ire and of the company/undertaking
· 1.1 Product iden	ıtifier	CFD\/A
Trade name: <u>Al</u>	kylation Reagent	serving scientists
Article number:	ICPL.e	
CAS Number:		
144-48-9		
EC number:		
205-630-1		
1.2 Relevant ide	ntified uses of the substance or mixtur	e and uses advised against
No further releve	ant information available.	
Application of th	he substance / the mixture Laboratory	chemicals
1 3 Details of th	e supplier of the safety data sheet	
Manufacturer/S		
SERVA Electrop		· Co
Carl-Benz-Str. 7		
		Con
D-69115 Heidell Tel.: +49 6221 1		0.1
		50
FAX: +49 6221		
msds.info@servc	1.ae	()
Information dev	artment: Product Safety department Te	l.: +49 6221 13840-35
	telephone number:	
	ency Information in case of poisoning:	
	ion Center Mainz - Phone: +49 (0) 613.	1 19240
	e in German or English language)	
CT CTION A		
SECTION 2: F	Hazards identification	
2.1 Classificatio	n of the substance or mixture	
	ccording to Regulation (EC) No 1272/2	2008
$\mathbf{\Lambda}$		
GHS0	7	
• 01150		
Skin Irrit. 2 H3	15 Causes skin irritation.	
Eve Irrit 2 H3	19 Causes serious eye irritation.	
	-	
5101 SE 3 H3:	35 May cause respiratory irritation.	
2.2 Label element	nts	
Labelling accord	ding to Regulation (EC) No 1272/2008	
	classified and labelled according to the	
Hazard pictogra	ums GHS07	
Signal word Wa		
•	-	
	ning components of labelling:	
2-iodoacetamide		
Hazard statemen		
H315 Causes ski		
	rious eye irritation.	
	e respiratory irritation.	
Precautionary st		
	Avoid breathing dust.	
P261		• • •
P261 P280	-	othing/eye protection/face protection.
	-	

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Trade name: Alkylation Reagent

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.

 \cdot 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: C₂ H₄ I N O
- · 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
- CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- · 5.2 Special hazards arising from the substance or mixture
- 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

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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Trade name: Alkylation Reagent

 For the permanent contact of a mesuitable: Neoprene gloves Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work closed 	(Contd. of paximum of 15 minutes gloves made of the following material pathing.	
SECTION 9: Physical and chem	ical properties	
• 9.1 Information on basic physical a	nd 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 ra	inge: 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.
- \cdot 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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Trade name: Alkylation Reagent

- · 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.

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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Trade name: Alkylation Reagent

	(Contd. of page -
\cdot 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Anne Marpol and the IBC Code	ex II of Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· ADR · Transport category	-
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

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

· National regulations

• 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. GB

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ming une 05.05.2010	version number 0	<i>Revision</i> . 05.05.20
SECTION 1: Identification	of the substance/mixture and of the c	ompany/undertaking
· 1.1 Product identifier		
• Trade name: Stop solution 2		SERVA
No further relevant information	^s the substance or mixture and uses advis n available. the mixture Laboratory chemicals	ed against
 1.3 Details of the supplier of the supplier: 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 		Suno
• 1.4 Emergency telephone num Medical Emergency Information	on in case of poisoning: inz - Phone: +49 (0) 6131 19240	840-35
	0	
SECTION 2: Hazards ident	tification	
GHS05	of causing cancer.	
Met. Corr.1 H290 May be con	rrosive to metals.	
Skin Irrit. 2 H315 Causes skin	n irritation.	
Eye Irrit. 2 H319 Causes ser	• •, ,•	
	tous eye irritation.	
Skin Sens. 1 H317 May cause	-	
Skin Sens. 1 H317 May cause • 2.2 Label elements • Labelling according to Regula	an allergic skin reaction. ution (EC) No 1272/2008 ubelled according to the CLP regulation.	
Skin Sens. 1 H317 May cause • 2.2 Label elements • Labelling according to Regula The product is classified and la • Hazard pictograms GHS05, GH • Signal word Warning • Hazard-determining component hydroxylammonium chloride • Hazard statements H290 May be corrosive to meta	an allergic skin reaction. Ition (EC) No 1272/2008 abelled according to the CLP regulation. HS07, GHS08 nts of labelling:	
Skin Sens. 1 H317 May cause • 2.2 Label elements • Labelling according to Regula The product is classified and la • Hazard pictograms GHS05, GH • Signal word Warning • Hazard-determining component hydroxylammonium chloride • Hazard statements	an allergic skin reaction. Ition (EC) No 1272/2008 abelled according to the CLP regulation. HS07, GHS08 nts of labelling:	(Contd. on page

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Trade name: Stop solution 2

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	(Contd. of page 1)
H319 Causes se	erious eye irritation.
H317 May caus	se an allergic skin reaction.
H351 Suspected	l 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+P	338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if
	present and easy to do. Continue rinsing.
\cdot 2.3 Other haza	rds
· Results of PBT	and vPvB assessment
· PBT: PBT - ass	sessment not available.
· vPvB: vPvB - a	ssessment 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
 hydroxylammonium chloride
 5-15%

 EINECS: 226-798-2
 Carc. 2, H351; STOT RE 2, H373; Met. Corr.1, H290; Aquatic Acute
 Aquatic Acute

 I, H400; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye
 Irrit. 2, H319; Skin Sens. 1, H317

• Additional information For the wording of the listed 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.

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

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(Contd. of page 2)

Trade name: Stop solution 2

· 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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Trade name: Stop solution 2

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

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

• Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- · Penetration time of glove material
- The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- \cdot For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:
- Natural rubber, NR Nitrile rubber, NBR
- Eye protection: Tightly sealed goggles.
- · Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

• 9.1 Information on basic physical and ch • General Information	nemical properties
· 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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Trade name: Stop solution 2

· 10.6 Hazardous decomposition products: No further relevant informations available.

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SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- \cdot 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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Trade name: Stop solution 2

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

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

SECTION 15: Regulatory information

• 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture • 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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Trade name: Stop solution 2

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Ca	ontact: +49 6221 13840-35
AŁ	bbreviations and acronyms:
RII	ernational Transport of Dangerous Goods by Rail)
IC	AO: International Civil Aviation Organisation
PB	T: persistent, bioaccumulative, toxic substance (REACH)
vP	vB: very persistent, very bioaccumulative substance (REACH)
RE	ACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
CL	P: Regulation on classification, labelling and packaging of substances and mixtures
	DR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the Internati urriage of Dangerous Goods by Road)
	DG: International Maritime Code for Dangerous Goods
	TA: International Air Transport Association
	HS: Globally Harmonised System of Classification and Labelling of Chemicals
	NECS: European Inventory of Existing Commercial Chemical Substances
	INCS: European List of Notified Chemical Substances
	S: Chemical Abstracts Service (division of the American Chemical Society)
	50: Lethal concentration, 50 percent
	050: Lethal dose, 50 percent
	T: Persistent, Bioaccumulative and Toxic
	vB: very Persistent and very Bioaccumulative
	et. Corr. 1: Corrosive to metals – Category 1
	ute Tox. 4: Acute toxicity – Category 4
	in Irrit. 2: Skin corrosion/irritation – Category 2
	e Irrit. 2: Serious eye damage/eye irritation – Category 2
Ski	in Sens. 1: Skin sensitisation – Category 1
Са	urc. 2: Carcinogenicity – Category 2
ST	OT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aq	uatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
*	Data compared to the previous version altered.

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SHOHON	1: Identification of t	he substance/mixt	ure and of the co	ompany/undert	aking
1.1 Product	identifier			CI	
· Trade name	: Lysis Buffer			servi	ng scientists
No further re	ber: ICPL.g t identified uses of the elevant information ave of the substance / the i	ailable.		d against	X
• Manufactur SERVA Elec Carl-Benz-S D-69115 He Tel.: +49 62	trophoresis GmbH tr. 7 idelberg 21 13840-0 221 13840-10	ıfety data sheet	ċ	SCR	<i>[</i> 0.
• 1.4 Emerger Medical Em Poison Infor	department: Product S acy telephone number: ergency Information in mation Center Mainz - rvice in German or Eng	case of poisoning: Phone: +49 (0) 613	~	40-35	
		C			
	2: Hazards identifica				
	ation of the substance n according to Regula		2008		
Classificatio	n according to Regula HS07 H302 Harmful if swa	tion (EC) No 1272 /2 Ilowed.	2008		
Classificatio	n according to Regula HS07	tion (EC) No 1272 /2 Ilowed.	2008		
Classification G. Acute Tox. 4 Skin Irrit. 2	n according to Regula HS07 H302 Harmful if swa	tion (EC) No 1272/2 Ilowed. ritation.	2008		
Classification Classification Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2 2.2 Label elling and The product Hazard picto	n according to Regula HS07 H302 Harmful if swa H315 Causes skin irr H319 Causes serious ements cording to Regulation is classified and labello ograms GHS07	tion (EC) No 1272/2 cllowed. ritation. s eye irritation. (EC) No 1272/2008	3		
Classification Classification Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2 2.2 Label elli Labelling ac The product Hazard pictor Signal word Hazard-dete guanadine h Hazard state	n according to Regula HS07 H302 Harmful if swa H315 Causes skin irr H319 Causes serious cording to Regulation is classified and labello grams GHS07 Warning rmining components of ydrochloride ments	tion (EC) No 1272/2 cllowed. ritation. s eye irritation. (EC) No 1272/2008 ed according to the	3		
Classification Classification Classification Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2 2.2 Label elling action Classifica	n according to Regula HS07 H302 Harmful if swa H315 Causes skin irr H319 Causes serious cording to Regulation is classified and labell ograms GHS07 Warning rmining components of ydrochloride	tion (EC) No 1272/2 cllowed. ritation. s eye irritation. (EC) No 1272/2008 ed according to the of labelling:	3		
Classification Classification Classification Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2 C.2 Label ellong action Che product Hazard picto Signal word Hazard-dete guanadine h Hazard state H302 Harmj H315 Cause H319 Cause Precautiona P280	n according to Regula HS07 H302 Harmful if swa H315 Causes skin irr H319 Causes serious cording to Regulation is classified and labell ograms GHS07 Warning rmining components of ydrochloride ments ul if swallowed. s skin irritation. s serious eye irritation. ry statements Wear protective	tion (EC) No 1272/2 cllowed. ritation. s eye irritation. (EC) No 1272/2008 ed according to the of labelling:	3 CLP regulation. lothing/eye protec		ion.
Classification Classification Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2 2.2 Label ello Labelling ac The product Hazard picto Signal word Hazard-dete guanadine h Hazard state H315 Cause H319 Cause Precautiona P280 P301+P312 P302+P352	n according to Regula HS07 H302 Harmful if swa H315 Causes skin irr H319 Causes serious cording to Regulation is classified and labell ograms GHS07 Warning rmining components of ydrochloride ments ful if swallowed. s skin irritation. s serious eye irritation. ry statements Wear protective IF SWALLOWE IF ON SKIN: W	tion (EC) No 1272/2 cillowed. ritation. s eye irritation. (EC) No 1272/2008 ed according to the of labelling: s gloves/protective ci D: Call a POISON (ash with plenty of so	S CLP regulation. lothing/eye protec CENTER/doctor if pap and water.	f you feel unwell.	
Classification Classification Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2 C.2 Label elling ac The product Hazard picto Signal word Hazard-dete guanadine h Hazard state H302 Harmj H315 Cause H319 Cause P301+P312 P302+P352 P305+P351	n according to Regula HS07 H302 Harmful if swa H315 Causes skin irr H319 Causes serious cording to Regulation is classified and labell ograms GHS07 Warning rmining components of ydrochloride ments ful if swallowed. s skin irritation. s serious eye irritation. s serious eye irritation. ry statements Wear protective IF SWALLOWE. IF ON SKIN: W +P338 IF IN EYES: Ri present and eas	tion (EC) No 1272/2 illowed. ritation. s eye irritation. (EC) No 1272/2008 ed according to the of labelling: f labelling: p gloves/protective cu D: Call a POISON (ash with plenty of so inse cautiously with y to do. Continue rit	S CLP regulation. lothing/eye protec CENTER/doctor if oap and water. water for several using.	you feel unwell. minutes. Remov	
Classification Classification Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2 2.2 Label ello Labelling ac The product Hazard picto Signal word Hazard-dete guanadine h Hazard state H315 Cause H319 Cause Precautiona P280 P301+P312 P302+P352	n according to Regula HS07 H302 Harmful if swa H315 Causes skin irr H319 Causes serious cording to Regulation is classified and labell ograms GHS07 Warning rmining components of ydrochloride ments iul if swallowed. s skin irritation. s serious eye irritation. s serious eye irritation. ry statements Wear protective IF SWALLOWE IF ON SKIN: W +P338 IF IN EYES: Ri present and eas If skin irritation	tion (EC) No 1272/2 illowed. ritation. s eye irritation. (EC) No 1272/2008 ed according to the of labelling: r gloves/protective cu D: Call a POISON of vash with plenty of so nse cautiously with	S CLP regulation. Iothing/eye protec CENTER/doctor if pap and water. water for several using. ul advice/attention	^r you feel unwell. minutes. Remov	

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Trade name: Lysis Buffer

- · 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 guanadine hydrochloride
- EINECS: 200-002-3 (Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319
- Additional information For the wording of the listed 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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Trade name: Lysis Buffer

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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Trade name: Lysis Buffer

· Body protection: Protective work clothing.

SECTION 9: Physical and chemical	properties
 9.1 Information on basic physical and ch General Information Appearance: 	nemical properties
Form:	Solution
Colour:	Colourless
· Odour:	Odourless
· pH-value at 20 °C:	8.5
• Change in condition Melting point/freezing point: Initial boiling point and boiling range:	undetermined 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: 9.2 Other information 	0.0 % No further relevant information available.

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity

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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Trade name: Lysis Buffer

- · 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.

14.1 UN-Number		
ADR, ADN, IMDG, IATA	Void	
14.2 UN proper shipping name		
ADR, ADN, IMDG, IATA	Void	
14.3 Transport hazard class(es)		
ADR, IMDG, IATA		
- Class	Void	
Label	-	
ADN/R Class:	Void	
14.4 Packing group		
ADR, IMDĞ, IATA	Void	
14.5 Environmental hazards:	Not applicable.	
Marine pollutant:	No	

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Trade name: Lysis Buffer

	(Contd. of page 5)
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex Marpol and the IBC Code	The second secon
· 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

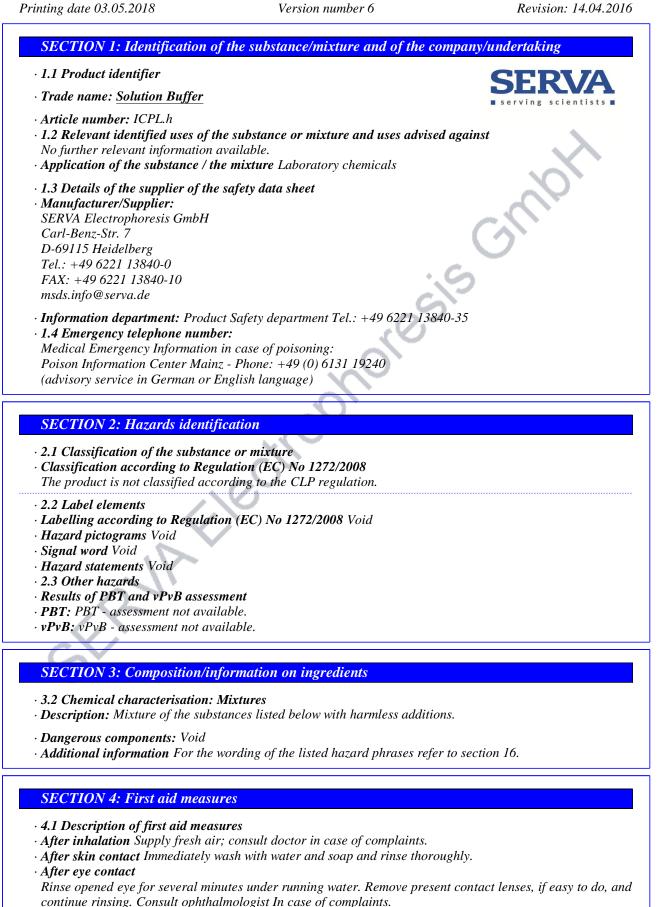
H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation.

· 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.

Revision: 14.04.2016



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

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Printing date 03.05.2018

Version number 6

Revision: 14.04.2016

Trade name: Solution Buffer

- 4.2 Most important symptoms and effects, both acute and delayed
- No further relevant information available.

• **4.3 Indication of any immediate medical attention and special treatment needed** *No further relevant information available.*

SECTION 5: Firefighting measures

5.1 Extinguishing media

- · Suitable extinguishing agents
- CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters

· Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing. Ensure adequate ventilation Avoid contact with the eyes and skin.
 6.2 Environmental precautions:
- Do not allow to enter sewers/ surface or ground water. Dilute with plenty of water.
- 6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.
- 6.4 Reference to other sections See Section 7 for information on safe handling See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

SECTION 7: Handling and storage

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

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- · Components with limit values that require monitoring at the workplace:
- The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Additional information: The lists that were valid during the creation were used as basis.

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Trade name: Solution Buffer

(Contd. of page 2)

- 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 recomposition.
- 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.

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

Natural rubber, NR Nitrile rubber, NBR

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

SECTION 9: Physical and chemical properties

- · 9.1 Information on basic physical and chemical properties
- General Information

Solution
Colourless
Odourless
8.5
undetermined
undetermined
Not applicable
Product is not selfigniting.
Product does not present an explosion hazard.
Not determined
Fully miscible
0.0 %
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Trade name: Solution Buffer

• 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

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

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

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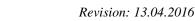
Revision: 14.04.2016

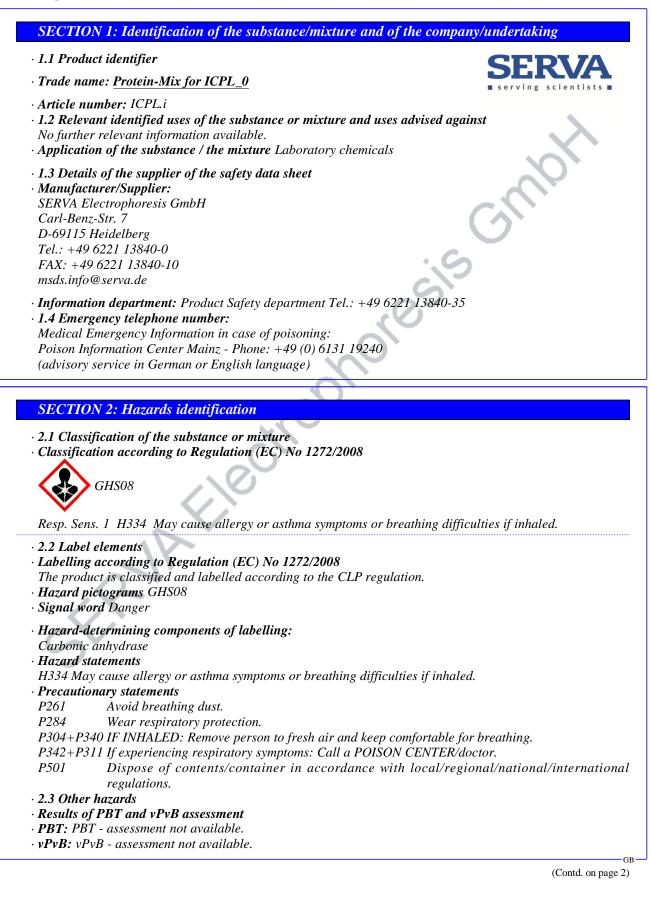
Trade name: Solution Buffer

	(Contd. o
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	
\cdot * Data compared to the previous version altered.	

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Printing date 03.05.2018





Printing date 03.05.2018

Version number 5

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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 Carbonic anhydrase EINECS: 232-576-6

🚸 Resp. Sens. 1, H334

334 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.
- \cdot 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

(Contd. of page 3)

SECTION 9: Physical and chemical p		
9.1 Information on basic physical and ch	nemical properties	
General Information		
Appearance:	h	
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

- · 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 Label	Void -
ADN/R Class:	Void
14.4 Packing group ADR, IMDG, IATA	Void
14.5 Environmental hazards: Marine pollutant:	Not applicable. No
14.6 Special precautions for user	Not applicable.
14.7 Transport in bulk according to Anne Marpol and the IBC Code	x II of 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

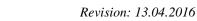
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

- · 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.

*

*



SECTION 1: Identification of	f the substance/mixture and of the co	mpany/undertaking
· 1.1 Product identifier		CEDI/V
• Trade name: Protein-Mix for IC	PPL_6	SERVA serving scientists
• Article number: ICPL.j • 1.2 Relevant identified uses of the No further relevant information a • Application of the substance / th		l against
 1.3 Details of the supplier of the 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 	safety data sheet	Saulo
• Information department: Product • 1.4 Emergency telephone number Medical Emergency Information Poison Information Center Mains (advisory service in German or E	in case of poisoning: z - Phone: +49 (0) 6131 19240	0-35
	\sim	
SECTION 2: Hazards identif		
• 2.1 Classification of the substant • Classification according to Regu	ce or mixture	
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 2.1 Classification of the substance Classification according to Regulation Classification according to Regulation GHS08 Resp. Sens. 1 H334 May cause of 2.2 Label elements Labelling according to Regulation The product is classified and labolic Hazard pictograms GHS08 Signal word Danger Hazard-determining components Carbonic anhydrase Hazard statements H334 May cause allergy or asthm Precautionary statements P284 Wear respiratory propagation P304+P340 IF INHALED: Remo P342+P311 If experiencing respiratory P501 Dispose of content regulations. 	ce or mixture blation (EC) No 1272/2008 allergy or asthma symptoms or breathing on (EC) No 1272/2008 elled according to the CLP regulation. s of labelling: na symptoms or breathing difficulties if in t. otection. we person to fresh air and keep comforta. iratory symptoms: Call a POISON CENT ts/container in accordance with local ment	haled. ble for breathing. ER/doctor.

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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 Carbonic anhydrase EINECS: 232-576-6

🚸 Resp. Sens. 1, H334

334 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.
- \cdot 4.3 Indication of any immediate medical attention and special treatment needed
- No further relevant information available.

SECTION 5: Firefighting measures

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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing. Ensure adequate ventilation Do not inhale dusts. Avoid contact with the eyes and skin.
6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water. Dilute with plenty of water.
6.3 Methods and material for containment and cleaning up: Pick up mechanically. Dispose contaminated material as waste according to item 13.
6.4 Reference to other sections See Section 7 for information on safe handling See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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Revision: 13.04.2016

Trade name: Protein-Mix for ICPL_6

(Contd. of page 2)

SECTION 7: Handling and storage

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

SECTION 8: Exposure controls/personal protection

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

- · 8.1 Control parameters
- · Components with limit values that require monitoring at the workplace:

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

- Additional information: The lists that were valid during the creation were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment
- General protective and hygienic measures Keep away from foodstuffs, beverages and feed. Store protective clothing separately. Immediately remove all soiled and contaminated clothing Avoid contact with the eyes and skin. Wash hands before breaks and at the end of work

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

• **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical	properties
· 9.1 Information on basic physical and ch	nemical 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.
- \cdot STOT-single exposure Based on available data, the classification criteria are not met.
- · STOT-repeated exposure Based on available data, the classification criteria are not met.

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· Aspiration hazard Based on available data, the classification criteria are not met.

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SECTION 12: Ecological information

· 12.1 Toxicity

- Aquatic toxicity: No further relevant information available.
- · 12.2 Persistence and degradability No further relevant information available.
- 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

1 / 1 4757 57 1	
· 14.1 UN-Number · ADR, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA · Class	Void
· Label · ADN/R Class:	- Void
 14.4 Packing group ADR, IMDG, IATA 	Void
 14.5 Environmental hazards: Marine pollutant: 	Not applicable. No
· 14.6 Special precautions for user	Not applicable.
• 14.7 Transport in bulk according to Anne Marpol and the IBC Code	x II of Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
	(Contd. on page 6

Safety data sheet

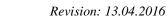
Printing date 03.05.2018	Version number 5	Revision: 13.04.201
Trade name: Protein-Mix for ICPL	_6	
		(Contd. of page
· ADR · Transport category	-	
· UN "Model Regulation":	Void	
SECTION 15: Regulatory in	formation	
	mental regulations/legislation specific for	r the substance or mixture
· National regulations		
-	rd class 1 (Self-assessment): slightly hazar	rdous for water
	t: A Chemical Safety Assessment has not	
SECTION 16. Other inform	tion	
SECTION IN UNPERIMARMA		
SECTION 16: Other informa		not constitute a quarantee for a
This information is based on ou	nton r present knowledge. However, this shall all not establish a legally valid contractua	
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Version number 5

Printing date 03.05.2018

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· 1.1 Product identifier		CLDI W
• Trade name: Protein-Mix for IC	CPL_4	
• Article number: ICPL.k • 1.2 Relevant identified uses of th No further relevant information a • Application of the substance / th		ised against
 1.3 Details of the supplier of the 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 1.4 Emergency telephone number Medical Emergency Information Poison Information Center Main. 	ct Safety department Tel.: +49 6221 13 er: in case of poisoning:	3840-35
(advisory service in German or E SECTION 2: Hazards identif		
Classification according to Regu GHS08 Resp. Sens. 1 H334 May cause	allergy or asthma symptoms or breath	ing difficulties if inhaled.
 2.2 Label elements Labelling according to Regulati. The product is classified and label Hazard pictograms GHS08 Signal word Danger 	on (EC) No 1272/2008 elled according to the CLP regulation.	
Precautionary statementsP261Avoid breathing dusP284Wear respiratory proP304+P340 IF INHALED: RemoP342+P311 If experiencing resp	na symptoms or breathing difficulties i	rtable for breathing. NTER/doctor.
· 2.3 Other hazards		

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Version number 5

Revision: 13.04.2016

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 Carbonic anhydrase EINECS: 232-576-6

🚸 Resp. Sens. 1, H334

334 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.
- \cdot 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents

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

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

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
 Ensure adequate ventilation Do not inhale dusts.
 Avoid contact with the eyes and skin.
 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water. Dilute with plenty of water.
 6.3 Methods and material for containment and cleaning up: Pick up mechanically.
- Dispose contaminated material as waste according to item 13. • 6.4 Reference to other sections
- See Section 7 for information on safe handling See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

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Version number 5

Revision: 13.04.2016

Trade name: Protein-Mix for ICPL_4

(Contd. of page 2)

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

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

· 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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Trade name: Protein-Mix for ICPL_4

· Eye protection: Safety glasses

· Body protection: Protective work clothing.

9.1 Information on basic physical and cl	hemical 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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· Aspiration hazard Based on available data, the classification criteria are not met.

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SECTION 12: Ecological information

· 12.1 Toxicity

- Aquatic toxicity: No further relevant information available.
- · 12.2 Persistence and degradability No further relevant information available.
- 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.

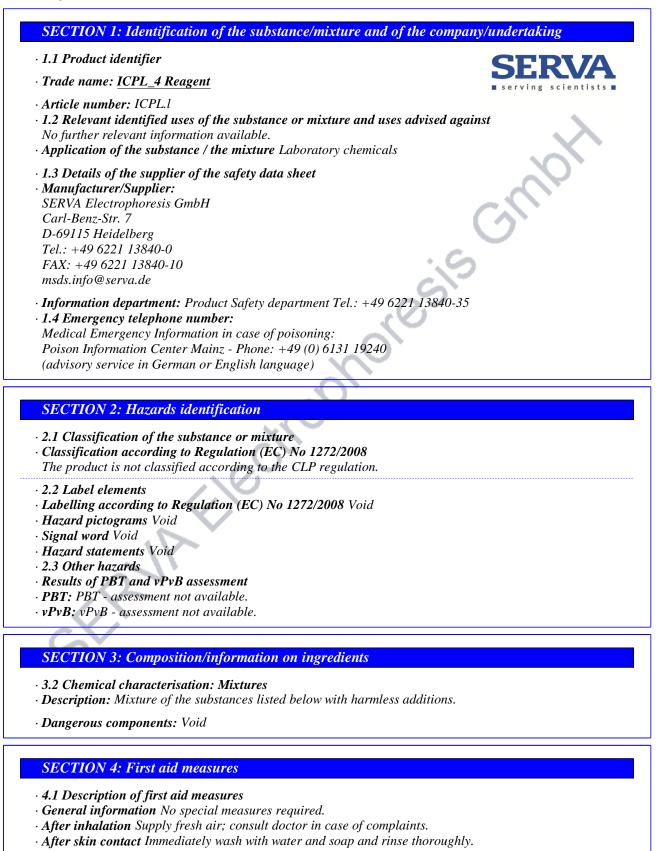
SECTION 14: Transport information

Void Void
Void
Void
- Void
Void
Not applicable. No
Not applicable.
f Not applicable.
Not dangerous according to the above specifications.
,

Printing date 03.05.2018	Version number 5	Revision: 13.04.20.
Trade name: Protein-Mix for ICPL	_4	
		(Contd. of page
· ADR · Transport category	-	
• UN "Model Regulation":	Void	
SECTION 15: Regulatory in	formation	
	nental regulations/legislation specific for	r the substance or mixture
· National regulations	nenui regulations/registation specific for	The substance of mature
	rd class 1 (Self-assessment): slightly hazar t: A Chemical Safety Assessment has not i	
SECTION 16: Other informa	tion	
	r present knowledge. However, this shall Ill not establish a legally valid contractua	
• Relevant phrases H334 May cause allergy or asthi	na symptoms or breathing difficulties if ir	shaled.
	na symptoms of oreanting afficiaties if in	
• Department issuing SDS: Produ • Contact: +49 6221 13840-35	• • • • • •	
 Contact: +49 6221 13840-35 Abbreviations and acronyms: RID: Règlement international concerna. International Transport of Dangerous Ge ICAO: International Civil Aviation Organ PBT: persistent, bioaccumulative, toxic su 	act safety department nt le transport des marchandises dangereuses par o pods by Rail) nisation ubstance (REACH)	chemin de fer (Regulations Concerning t
 Contact: +49 6221 13840-35 Abbreviations and acronyms: RID: Règlement international concernational Transport of Dangerous Generational Transport of Dangerous Generational Civil Aviation Organ PBT: persistent, bioaccumulative, toxic survey B: very persistent, very bioaccumulative, toxic survey B: very persistent, very bioaccumulatice, the Regulation concerning the Regineration on classification, labelli 	act safety department nt le transport des marchandises dangereuses par o ods by Rail) nisation ubstance (REACH) ive substance (REACH) stration, Evaluation, Authorisation and Restriction oj ing and packaging of substances and mixtures	f Chemicals
 Contact: +49 6221 13840-35 Abbreviations and acronyms: RID: Règlement international concernal International Transport of Dangerous Go ICAO: International Civil Aviation Organ PBT: persistent, bioaccumulative, toxic su vPvB: very persistent, very bioaccumulat REACH: Regulation concerning the Regi CLP: Regulation on classification, labelli ADR: Accord européen sur le transport Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for IATA: International Air Transport Associ 	act safety department int le transport des marchandises dangereuses par d bods by Rail) nisation ubstance (REACH) ive substance (REACH) stration, Evaluation, Authorisation and Restriction of ing and packaging of substances and mixtures des marchandises dangereuses par Route (Europed Dangerous Goods ation	f Chemicals
 Contact: +49 6221 13840-35 Abbreviations and acronyms: RID: Règlement international concerna. International Transport of Dangerous Ge ICAO: International Civil Aviation Organ PBT: persistent, bioaccumulative, toxic su vPvB: very persistent, very bioaccumulati REACH: Regulation concerning the Regi CLP: Regulation on classification, labelli ADR: Accord européen sur le transport Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for IATA: International Air Transport Associ GHS: Globally Harmonised System of CL EINECS: European Inventory of Existing ELINCS: European List of Notified Chem 	act safety department int le transport des marchandises dangereuses par de bods by Rail) nisation ubstance (REACH) ive substance (REACH) stration, Evaluation, Authorisation and Restriction of ing and packaging of substances and mixtures des marchandises dangereuses par Route (Europed Dangerous Goods ation assification and Labelling of Chemicals Commercial Chemical Substances ical Substances	f Chemicals
 Contact: +49 6221 13840-35 Abbreviations and acronyms: RID: Règlement international concernal International Transport of Dangerous Go ICAO: International Civil Aviation Organ PBT: persistent, bioaccumulative, toxic su vPvB: very persistent, very bioaccumulati REACH: Regulation concerning the Regi CLP: Regulation on classification, labelli ADR: Accord européen sur le transport Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for IATA: International Air Transport Associ GHS: Globally Harmonised System of Cli EINECS: European Inventory of Existing 	act safety department int le transport des marchandises dangereuses par d pods by Rail) iisation ubstance (REACH) ive substance (REACH) stration, Evaluation, Authorisation and Restriction oj ng and packaging of substances and mixtures des marchandises dangereuses par Route (Europed Dangerous Goods ation assification and Labelling of Chemicals Commercial Chemical Substances ical Substances n of the American Chemical Society) xic ulative	f Chemicals

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· After eye contact

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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

- 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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	re valid during the creation were used as basis.
8.2 Exposure controls	
Personal protective equipment	
General protective and hygienic measure	28
Keep away from foodstuffs, beverages and	
Store protective clothing separately.	•
Immediately remove all soiled and contan	ninated 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.	
Due to missing tests no recommendation t	e and resistant to the product/ the substance/ the preparation. to the glove material can be given for the product/ the preparation.
the chemical mixture.	sidenation of the penetration times rates of diffusion and the
degradation of the glove material on con	sideration of the penetration times, rates of diffusion and the
Material of gloves	
	s not only depend on the material, but also on further marks o
	to manufacturer. As the product is a preparation of severa
	naterial 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 for	und out by the manufacturer of the protective cloves and has to be
	and out by the manufacturer of the protective gloves and has to be
observed.	and out by the manufacturer of the protective gloves and has to be
observed.	
observed.	
observed. For the permanent contact of a maxim suitable:	
observed. For the permanent contact of a maxim	
observed. For the permanent contact of a maximum suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses	num of 15 minutes gloves made of the following materials are
observed. For the permanent contact of a maximum suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses	num of 15 minutes gloves made of the following materials are
observed. For the permanent contact of a maximum suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses	num of 15 minutes gloves made of the following materials are
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observed. For the permanent contact of a maximus suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and ch	num of 15 minutes gloves made of the following materials are 3. properties
observed. For the permanent contact of a maximus suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and ch General Information	num of 15 minutes gloves made of the following materials are 3. properties
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observed. For the permanent contact of a maximus suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and che General Information Appearance: Form: Colour:	aum of 15 minutes gloves made of the following materials are 3. properties beemical properties Solution Colourless
observed. For the permanent contact of a maximus suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and che General Information Appearance: Form: Colour: Odour:	num of 15 minutes gloves made of the following materials are 3. properties properties Solution
observed. For the permanent contact of a maximus suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and ch General Information Appearance: Form: Colour: Odour: Change in condition	aum of 15 minutes gloves made of the following materials are g. properties temical properties Solution Colourless Characteristic
observed. For the permanent contact of a maximus suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and che General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point:	aum of 15 minutes gloves made of the following materials are g. properties pemical properties Solution Colourless Characteristic undetermined
observed. For the permanent contact of a maximus suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and ch General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling range:	aum of 15 minutes gloves made of the following materials are g. properties pemical properties Solution Colourless Characteristic undetermined 189 °C
observed. For the permanent contact of a maximus suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and che General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling range: Flash point:	aum of 15 minutes gloves made of the following materials are 3. Droperties Demical properties Solution Colourless Characteristic undetermined 189 °C 87 °C
observed. For the permanent contact of a maximusuitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and che General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling range: Flash point: Ignition temperature:	aum of 15 minutes gloves made of the following materials are 3. properties pemical properties Solution Colourless Characteristic undetermined 189 °C 87 °C 270 °C
observed. For the permanent contact of a maximus suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and che General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling range: Flash point: Ignition temperature: Self igniting:	aum of 15 minutes gloves made of the following materials are 3. broperties bemical properties Solution Colourless Characteristic undetermined 189 °C 87 °C 270 °C Product is not selfigniting.
observed. For the permanent contact of a maximusuitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and che General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling range: Flash point: Ignition temperature: Self igniting: Explosive properties:	aum of 15 minutes gloves made of the following materials are 3. properties pemical properties Solution Colourless Characteristic undetermined 189 °C 87 °C 270 °C
observed. For the permanent contact of a maximus suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and che General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling range: Flash point: Ignition temperature: Self igniting: Explosive properties: Explosion limits:	num of 15 minutes gloves made of the following materials are 3. properties perical properties Solution Colourless Characteristic undetermined 189 °C 87 °C 270 °C Product is not selfigniting. Product does not present an explosion hazard.
observed. For the permanent contact of a maximus suitable: Chloroprene rubber, CR Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clothing SECTION 9: Physical and chemical p 9.1 Information on basic physical and ch General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling range: Flash point: Ignition temperature: Self igniting: Explosive properties:	aum of 15 minutes gloves made of the following materials are 3. broperties bemical properties Solution Colourless Characteristic undetermined 189 °C 87 °C 270 °C Product is not selfigniting.

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Trade name: ICPL_4 Reagent

	(Contd. of page 3)
• Vapour pressure at 20 •C:	2.5 hPa
· Density:	Not determined
· Solubility in / Miscibility with Water:	Fully miscible
 Solvent content: Organic solvents: 9.2 Other information 	90.0 % 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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· 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: Marine pollutant: 	Not applicable. No
· 14.6 Special precautions for user	Not applicable.
• 14.7 Transport in bulk according to Anne. Marpol and the IBC Code	x II of Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· 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

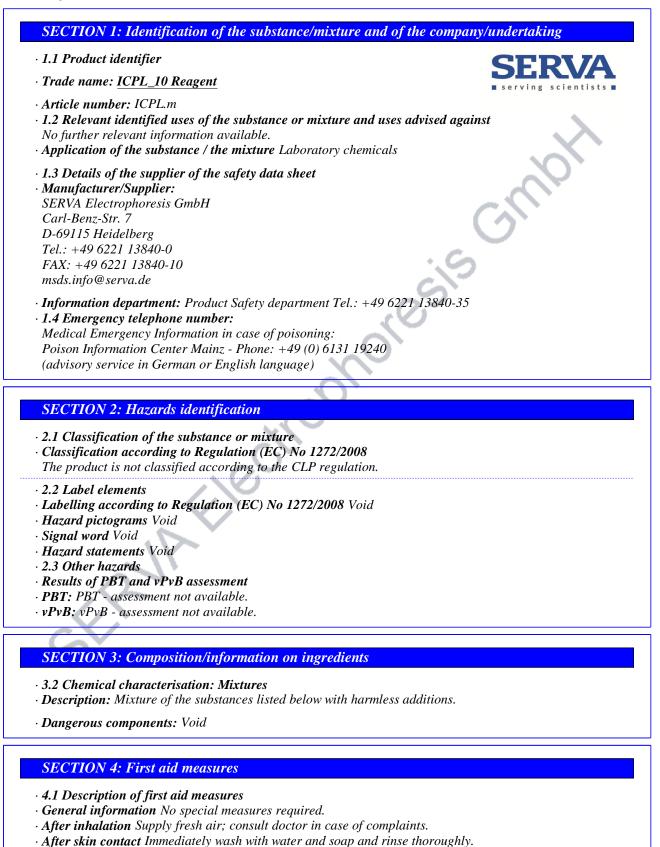
This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · 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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· After eye contact

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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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Version number 5

Revision: 13.04.2016

Trade name: ICPL_10 Reagent

- 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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Version number 5

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Trade name: ICPL_10 Reagent

0 1 Empanya	
8.2 Exposure controls Personal protective equipment	
General protective equipment General protective and hygienic me	0/15117/05
	should be adhered to when handling chemicals.
Breathing equipment:	
Short term filter device:	
Filter P2.	
Protection of hands:	
Protective gloves.	
	neable and resistant to the product/ the substance/ the preparation. ation to the glove material can be given for the product/ the preparation
degradation	n consideration of the penetration times, rates of diffusion and t
Material of gloves	
quality and varies from manufact	es does not only depend on the material, but also on further marks cturer to manufacturer. As the product is a preparation of seven love material can not be calculated in advance and has therefore to
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
observed.	
	naximum of 15 minutes gloves made of the following materials a
suitable:	
Chlowers white CD	
Chloroprene rubber, CR	
Nitrile rubber, NBR	
	lothing.
Nitrile rubber, NBR Eye protection: Safety glasses	lothing.
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl	
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem	nical properties
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a	nical properties
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a General Information	nical properties
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance:	nical properties and chemical properties
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a General Information	nical properties and chemical properties Solution
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form:	nical properties and chemical properties
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour:	nical properties and chemical properties Solution Colourless
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour: Change in condition	nical properties and chemical properties Solution Colourless
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour:	nical properties and chemical properties Solution Colourless Characteristic undetermined
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Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling r	nical properties and chemical properties Solution Colourless Characteristic undetermined range: 189 °C
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling r Flash point:	nical properties and chemical properties Solution Colourless Characteristic undetermined range: 189 °C 87 °C
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling r Flash point: Ignition temperature:	nical properties and chemical properties Solution Colourless Characteristic undetermined range: 189 °C 87 °C 270 °C
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling r Flash point: Ignition temperature: Self igniting:	nical properties and chemical properties Solution Colourless Characteristic undetermined range: 189 °C 87 °C 270 °C Product is not selfigniting. Product does not present an explosion hazard.
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical and General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling r Flash point: Ignition temperature: Self igniting: Explosive properties: Explosion limits: Lower:	nical properties and chemical properties Solution Colourless Characteristic undetermined range: 189 °C 87 °C 270 °C 270 °C Product is not selfigniting. Product does not present an explosion hazard. 1.8 Vol %
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work cl SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour: Change in condition Melting point/freezing point: Initial boiling point and boiling r Flash point: Ignition temperature: Self igniting: Explosive properties: Explosion limits:	nical properties and chemical properties Solution Colourless Characteristic undetermined range: 189 °C 87 °C 270 °C Product is not selfigniting. Product does not present an explosion hazard.
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Trade name: ICPL_10 Reagent		
		(Contd. of page 3)
• Solubility in / Miscibility with Water at 20 °C:	1000 g/l	
· Solvent content: Organic solvents:	> 90.0 %	

Organic solvents: • 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

· 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:

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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.

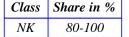
SECTION 14: Transport information	
· 14.1 UN-Number · ADR, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA	
· Class	Void
· Label · ADN/R Class:	- Void
· 14.4 Packing group	, ora
· ADR, IMDG, IATA	Void
· 14.5 Environmental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

SECTION 15: Regulatory information

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

· National regulations

• Technical instructions (air):



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

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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

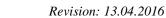
- · Contact: +49 6221 13840-35
- · Abbreviations and acronyms: RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) ICAO: International Civil Aviation Organisation PBT: persistent, 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.

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· 1.1 Product identifier		CFD17A
• Trade name: Protein-Mix for IC	CPL_10_	SERVA serving scientists
 Article number: ICPL.n 1.2 Relevant identified uses of the No further relevant information of the substance / the su		sed against
 1.3 Details of the supplier of the 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: Production Medical Emergency Information Poison Information Center Main (advisory service in German or Electron) 	ct Safety department Tel.: +49 6221 13 er: in case of poisoning: z - Phone: +49 (0) 6131 19240	840-35
SECTION 2: Hazards identif	ication	
• 2.1 Classification of the substan • Classification according to Regi		
Classification according to Regulation GHS08		ng difficulties if inhaled.
Classification according to Regulation GHS08 Resp. Sens. 1 H334 May cause 2.2 Label elements Labelling according to Regulation The product is classified and lab Hazard pictograms GHS08	ulation (EC) No 1272/2008 allergy or asthma symptoms or breathin	ng difficulties if inhaled.
 Classification according to Regulation for the second se	ulation (EC) No 1272/2008 allergy or asthma symptoms or breathin on (EC) No 1272/2008 elled according to the CLP regulation. s of labelling:	
 Classification according to Regulation of the second sec	ulation (EC) No 1272/2008 allergy or asthma symptoms or breathin on (EC) No 1272/2008 elled according to the CLP regulation. s of labelling: na symptoms or breathing difficulties if	^f inhaled. table for breathing. ITER/doctor.

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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 Carbonic anhydrase EINECS: 232-576-6

🚸 Resp. Sens. 1, H334

334 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.
- \cdot 4.2 Most important symptoms and effects, both acute and delayed
- No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed** *No further relevant information available.*

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents

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

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

SECTION 6: Accidental release measures

 \cdot 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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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.

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

Natural rubber, NR

×

Nitrile rubber, NBR

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

	hysical and chemical properties	
General Information		
Appearance:		
Form:	lyophilisate	
Colour:	Whitish	
Odour:	Odourless	

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Trade name: Protein-Mix for ICPL_10

		(Contd. of page 3)
• Change in condition Melting point/freezing point: Initial boiling point and boiling range:	undetermined 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: 9.2 Other information 	0.0 % No further relevant information available.	

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

- · Acute toxicity Based on available data, the classification criteria are not met.
- Primary irritant effect:
- · Skin corrosion/irritation Based on available data, the classification criteria are not met.
- · Serious eye damage/irritation Based on available data, the classification criteria are not met.
- · Respiratory or skin sensitisation

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

· 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 Anne	x 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.

(Contd. on page 6)

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(Contd. of page 4)

Printing date 03.05.2018

Version number 5

Revision: 13.04.2016

Trade name: Protein-Mix for ICPL_10

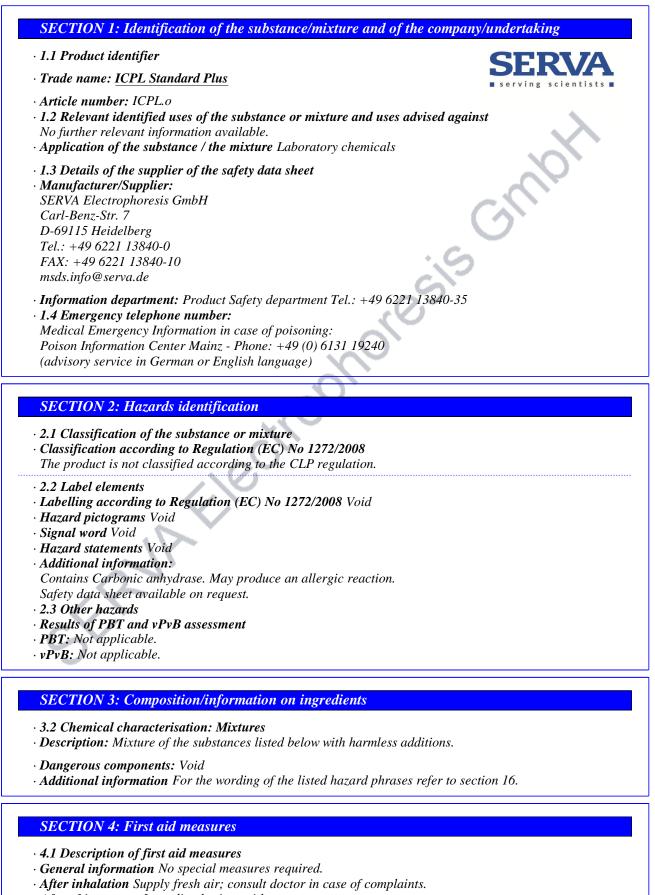
(Contd. of page 5)

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	SECTION 16: Other information	
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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 Air Transport Association GHS: Globally Harmonised System of Classification and Labelling of Chemicals ELINCS: 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	Relevant phrases H334 May cause allergy or asthma symp	toms or breathing difficulties if inhaled.
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 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 	Contact: +49 6221 13840-35	
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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 Resp. Sens. 1: Respiratory sensitisation – Category 1	IATA: International Air Transport Association	
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Resp. Sens. 1: Respiratory sensitisation – Category 1		
		,
* Data compared to the previous version altered.		
	* Data compared to the previous version	altered.

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• After skin contact Immediately rinse with water.

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Version number 1

Revision: 03.05.2018

Trade name: ICPL Standard Plus

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

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 ch	nemical 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 %
· <i>VOC</i> %:	0.00 %
· Solids content:	10.0 %
\cdot 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

· 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.

SECTION 14: Transport information · 14.1 UN-Number · ADR, ADN, IMDG, IATA · 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: Marine pollutant:	Not applicable. No
14.6 Special precautions for user	Not applicable.
14.7 Transport in bulk according to Anne Marpol and the IBC Code	ex II of Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.
ADR Transport category	-
UN "Model Regulation":	Void

SECTION 15: Regulatory information

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

· National regulations

• Water hazard class: Water 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

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

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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

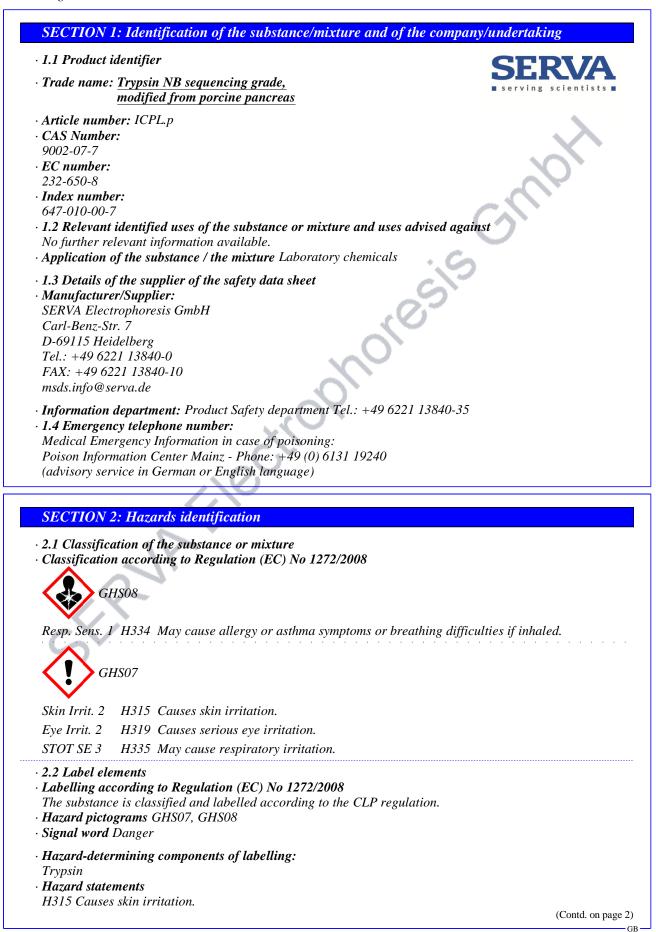
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Revision: 03.05.2018

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

H310 Causes serious eve irritation

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noi9 Causes se	crious eye irritation.
H334 May caus	e allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May caus	e 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.
<i>P305+P351+P</i> .	338 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 hazar	rds
Results of PBT	and vPvB assessment
PBT: Not appli	cable.

• **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.
- \cdot 4.2 Most important symptoms and effects, both acute and delayed
- No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents
- CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: 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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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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Trade name: Trypsin NB sequencing grade, modified from porcine pancreas

• Eye protection: Safety glasses

• **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

• 9.1 Information on basic physical and ch	nemical properties
• General Information • Appearance:	
Form:	Crystalline powder
Colour:	White
· Odour:	Odourless
• <i>pH-value</i> (10 g/l) at 20 • <i>C</i> :	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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Trade name: Trypsin NB sequencing grade, modified from porcine pancreas

(Contd. of page 4)

- 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.
- \cdot Carcinogenicity Based on available data, the classification criteria are not met.
- $\cdot \textit{Reproductive toxicity Based on available data, the classification criteria are not met.}$
- STOT-single exposure
- May cause respiratory irritation.
- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- 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	n	
· 14.1 UN-Number · ADR, ADN, IMDG, IATA	Void	
· 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA	Void	
· 14.3 Transport hazard class(es)		
· ADR, ADN, IMDG, IATA		
· Class	Void	
		(Contd. on page 6

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

	(Contd. of page
· 14.4 Packing group · ADR, IMDG, IATA	Void
 14.5 Environmental hazards: Marine pollutant: 	Not applicable. No
· 14.6 Special precautions for user	Not applicable.
• 14.7 Transport in bulk according to Anne Marpol and the IBC Code	ex II of Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
• ADR • Transport category	-
· UN ''Model Regulation'':	Void

SECTION 15: Regulatory information

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

· National regulations

· 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 com	npany/undertaking
· 1.1 Product identifier		
• Trade name: Endoproteinase MS approved fro	<u>Glu-C (V8 proteinase),</u> m Staphylococcus aureus	serving scientists
 Article number: ICPL.r CAS Number: 66676-43-5 1.2 Relevant identified uses of No further relevant information Application of the substance / 1.3 Details of the supplier of ta 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: Prod. 1.4 Emergency telephone number 	<i>The substance or mixture and uses advised</i> <i>n available.</i> <i>the mixture</i> Laboratory chemicals <i>he safety data sheet</i> <i>he safety department Tel.:</i> +49 6221 13840 <i>ther:</i>	SUUS
Medical Emergency Information	on in case of poisoning: inz - Phone: +49 (0) 6131 19240	
SECTION 2: Hazards ident	ification	
• 2.1 Classification of the substa • Classification according to Re The substance is not classified		
 2.2 Label elements Labelling according to Regula Hazard pictograms Void Signal word Void Hazard statements Void 2.3 Other hazards Results of PBT and vPvB asset PBT: Not applicable. vPvB: Not applicable. 		
SECTION 3: Composition/	information on ingredients	
 3.1 Chemical characterisation CAS No. Description: 66676-43-5 Endoproteinase Galaction Identification number(s): - 	: Substances lu-C from staphylococcus aureus	
SECTION 4: First aid meas	sures	
• 4.1 Description of first aid me • General information No specie • After inhalation Supply fresh o • After skin contact Immediately	al measures required. uir; consult doctor in case of complaints.	
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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
- CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: 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.*
- \cdot For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:

Natural rubber, NR Nitrile rubber, NBR

• Eye protection: Safety glasses

• **Body protection:** Protective work clothing.

SECTION 9: Physical	l and chemical propertie	S
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• 9.1 Information on basic physical and ch	nemical 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.

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
\cdot 14.6 Special precautions for user	Not applicable.
• 14.7 Transport in bulk according to Anne Marpol and the IBC Code	e x II of Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· ADR · Transport category	-
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

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

· National regulations

• Water hazard class: Water hazard class 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

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