

# 2D HPE<sup>™</sup> Double Gel NF 10 - 15% Kit Cat. No. 43303

# Safety Data Sheets of the following Kit Components:

43856	2D HPE™ Double Gel NF 10 - 15%	
43801	SDS Anode buffer (blue)	
43802	SDS Cathode buffer (white)	
43371	Cooling Fluid	
43805	Equilibration Buffer	

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inting date 10.08.2021	Version number 2	Revision: 10.08.202
SECTION 1: Identification	of the substance/mixture and of the com	pany/undertaking
· 1.1 Product identifier		
• Trade name: <u>2D HPETM Dou</u>	ble Gel NF	SERVA serving scientists
No further relevant informatio	f the substance or mixture and uses advised a	
<ul> <li>1.3 Details of the supplier of t</li> <li>Manufacturer/Supplier: SERVA Electrophoresis GmbH Carl-Benz-Str. 7</li> <li>D-69115 Heidelberg Tel.: +49 6221 13840-0</li> <li>FAX: +49 6221 13840-10</li> <li>msds.info@serva.de</li> </ul>		Suno.
• 1.4 Emergency telephone num Medical Emergency Information	on in case of poisoning: ainz - Phone: +49 (0) 6131 19240	-35
SECTION 2: Hazards iden	tification	
<ul> <li>2.2 Label elements</li> <li>Labelling according to Regula</li> <li>Hazard pictograms Void</li> <li>Signal word Void</li> <li>Hazard statements Void</li> <li>2.3 Other hazards</li> <li>Results of PBT and vPvB asso</li> <li>PBT: PBT - assessment not av</li> <li>vPvB: vPvB - assessment not av</li> </ul>	egulation (EC) No 1272/2008 according to the CLP regulation. ation (EC) No 1272/2008 Void essment vailable. available.	
SECTION 3: Composition/	information on ingredients	
Dangerous components: Void     Additional information     2D HPE <sup>™</sup> Double Gel NF -	els are polyacrylamide-gels, bound to a non-fla Gels are articles according to the Article 006). We note that the SVHC substance Act	3, 3. of the REACH Regulation
SECTION 4: First aid mea	sures	
• 4.1 Description of first aid me		
• General information No speci • After inhalation Supply fresh		(Contd. on page 2

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#### Trade name: 2D HPE<sup>TM</sup> Double Gel NF

· 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 Seek medical treatment.
- 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 fire with 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: Carbon monoxide and carbon dioxide Nitrogen oxides (NOx) Ammonia ( $NH_3$ )
- 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.
- 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- 6.3 Methods and material for containment and cleaning up: Dispose contaminated material as waste according to item 13. Pick up mechanically.
- 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
- $\cdot$  Requirements to be met by storerooms and receptacles: Store at +2 to +8 °C
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Store in dry conditions.
- 7.3 Specific end use(s) No further relevant information available.

#### SECTION 8: Exposure controls/personal protection

- · 8.1 Control parameters
- Additional information about design of technical systems: No further data; see item 7.
- · 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: 2D HPE<sup>TM</sup> Double Gel NF

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8.2 Exposure controls	
Personal protective equipment	
General protective and hygienic med	asures
Keep away from foodstuffs, beverage	
Wash hands before breaks and at the	
	iratory protective device recommended.
Protection of hands:	
° .	eable and resistant to the product/ the substance/ the preparation.
the chemical mixture.	tion to the glove material can be given for the product/ the preparation
	n consideration of the penetration times, rates of diffusion and th
degradation	
Material of gloves	
The selection of the suitable gloves	s does not only depend on the material, but also on further marks
quality and varies from manufactures	•
quality and varies from manufact	s does not only depend on the material, but also on further marks turer to manufacturer. As the product is a preparation of sever ove material can not be calculated in advance and has therefore to b
Penetration time of glove material	
	be found out by the manufacturer of the protective gloves and has to b
observed.	
	eaximum of 15 minutes gloves made of the following materials a
suitable:	
Natural rubber, NR	
Nitrile rubber, NBR	
Nitrile rubber, NBR <b>Eye protection:</b> Safety glasses	othing
Nitrile rubber, NBR	othing.
Nitrile rubber, NBR <b>Eye protection:</b> Safety glasses	othing.
Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clo	-
Nitrile rubber, NBR <b>Eye protection:</b> Safety glasses	-
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Nitrile rubber, NBR Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical an General Information Appearance:	ical properties nd chemical properties
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· Relative density	Not determined.	
· Vapour density	Not applicable.	
· Evaporation rate	Not applicable.	
· Solubility in / Miscibility with		
Water:	Insoluble	
· Partition coefficient: n-octanol/water:	Not determined.	
· Viscosity:		
dynamic:	Not applicable.	
kinematic:	Not applicable.	
· Solvent content:		
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: 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.
- · Additional toxicological information:
- · 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:

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

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Trade name: 2D HPE<sup>TM</sup> Double Gel NF

Water hazard class 1 (German Regulation) (Self-assessment): slightly 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 Disposal must be made according to official regulations.

· Uncleaned packagings:

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

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

#### **SECTION 15: Regulatory information**

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

· Directive 2012/18/EU

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

· National regulations

• 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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#### Trade name: 2D HPE<sup>TM</sup> Double Gel NF

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 bw: body weight ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning 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)	(Contd. of p	pag	g	2	5	5	ļ	(	e
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concernin 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 bw: body weight ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning 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)	Abbreviations and acronyms:								
<ul> <li>PBT: persistent, bioaccumulative, toxic substance (REACH)</li> <li>vPvB: very persistent, very bioaccumulative substance (REACH)</li> <li>REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals</li> <li>CLP: Regulation on classification, labelling and packaging of substances and mixtures</li> <li>bw: body weight</li> <li>ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning International Maritime Code for Dangerous Goods</li> <li>IATA: International Maritime Code for Dangerous Goods</li> <li>IATA: International Air Transport Association</li> <li>GHS: Globally Harmonised System of Classification and Labelling of Chemicals</li> <li>EINECS: European Inventory of Existing Commercial Chemical Substances</li> <li>ELINCS: European List of Notified Chemical Substances</li> <li>CAS: Chemical Abstracts Service (division of the American Chemical Society)</li> </ul>		ing	3	;					
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vPvB: very Persistent and very Bioaccumulative	vPvB: very Persistent and very Bioaccumulative								



# Buffer Kit for 2D HPE<sup>™</sup> Gels Cat. No. 43312

# Safety Data Sheets of the following Kit Components:

43801	SDS Anode buffer (blue)
43802	SDS Cathode buffer (white)
43371	Cooling Fluid
43805	Equilibration Buffer

Printing date 16.10.2020	I	/ersion number 3	Revision: 16	.10.202
SECTION 1: Identij	fication of the subst	ance/mixture and of the company/un	dertaking	
· 1.1 Product identifier			CLDI	7
· Trade name: <u>SDS And</u>	ode buffer (blue)		serving scien	ntists
• Article number: 4380. • 1.2 Relevant identified No further relevant inf • Application of the sub	<b>l uses of the substanc</b> Formation available.	e or mixture and uses advised against Laboratory chemicals	X	
<ul> <li>1.3 Details of the supp</li> <li>Manufacturer/Supplie SERVA Electrophorest Carl-Benz-Str. 7</li> <li>D-69115 Heidelberg Tel.: +49 6221 13840- FAX: +49 6221 13840</li> <li>msds.info@serva.de</li> </ul>	er: is GmbH 0	sheet	sinio.	
• Information departme • 1.4 Emergency teleph Medical Emergency In Poison Information Ce (advisory service in Go	o <b>ne number:</b> formation in case of p nter Mainz - Phone: +	-49 (0) 6131 19240		
SECTION 2: Hazar	ds identification			
• <b>2.1 Classification of th</b> • <b>Classification accordi</b> The product is not clas	ng to Regulation (EC	) No 1272/2008		
<ul> <li>2.2 Label elements</li> <li>Labelling according to</li> <li>Hazard pictograms Void</li> <li>Signal word Void</li> <li>Hazard statements Void</li> <li>2.3 Other hazards</li> <li>Results of PBT and viewers</li> <li>PBT: PBT - assessments</li> <li>vPvB: vPvB - assessments</li> </ul>	vid id <b>PvB assessment</b> it not available.	1272/2008 Void		
$\sim$				
SECTION 3: Compo	osition/information	on ingredients		
	erisation: Mixtures			
· 3.2 Chemical characte	of the substances lister	l below with harmless additions.		
	•	l below with harmless additions.		
· 3.2 Chemical character     · Description: Mixture of     · Dangerous componen	•	STOT RE 2, H373; () Acute Tox	. 4, H302	5-10%

# **SECTION 4: First aid measures**

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- 4.1 Description of first aid measures
- · General information No special measures required.
- · After inhalation Supply fresh air; consult doctor in case of complaints.

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#### Trade name: SDS Anode buffer (blue)

· After skin contact

Immediately wash with water and soap and rinse thoroughly. Consult doctor if you feel unwell. · 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 In case of fire, the following can be formed, but not limited to: Carbon monoxide and carbon dioxide Nitrogen oxides (NOx)
- · 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.
- 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- · 6.3 Methods and material for containment and cleaning up: Dispose contaminated material as waste according to item 13.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

- · 6.4 Reference to other sections See Section 7 for information on safe handling
- See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

#### **SECTION 7: Handling and storage**

- 7.1 Precautions for safe handling No special measures required.
- Information about 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: No special requirements.
- 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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<ul> <li>Components with limit values that require monitoring at the workplace:</li> <li>107-21-1 Ethanediol (5-10%)</li> <li>WEL Short-term value: 104** mg/m<sup>3</sup>, 40** ppm Long-term value: 10 52** mg/m<sup>3</sup>, 20** ppm Sk *particulate **vapour</li> <li>64-19-7 acetic acid 100 % (1-3%)</li> <li>WEL Short-term value: 50 mg/m<sup>3</sup>, 20 ppm Long-term value: 25 mg/m<sup>3</sup>, 10 ppm</li> <li>• Additional information: The lists that were valid during the creation were used as basis.</li> <li>• 8.2 Exposure controls</li> <li>• Personal protective equipment</li> <li>• General protective equipment</li> <li>• General protective and hygienic measures</li> <li>Keep away from foodstuffs, beverages and feed.</li> <li>Store protective clothing separately.</li> <li>Immediately remove all soiled and contaminated clothing</li> <li>Avoid contact with the eyes and skin.</li> <li>Wash hands before breaks and at the end of work.</li> <li>• Breathing equipment:</li> <li>Short term filter device:</li> <li>Filter P2.</li> <li>• Protection of hands:</li> <li>The glove material has to be impermeable and resistant to the product/ the substance/ the product/ the chemical mixture.</li> <li>Selection of the glove material on consideration of the penetration times, rates of d degradation</li> <li>• Material of gloves</li> <li>The selection of the suitable gloves does not only depend on the material, but also on j</li> </ul>	
WEL       Short-term value: 104** mg/m³, 40** ppm         Long-term value: 10* 52** mg/m³, 20** ppm         Sk *particulate **vapour         64-19-7 acetic acid 100 % (1-3%)         WEL       Short-term value: 50 mg/m³, 20 ppm         Long-term value: 25 mg/m³, 10 ppm         Additional information: The lists that were valid during the creation were used as basis.         8.2 Exposure controls         Personal protective equipment         General protective and hygienic measures         Keep away from foodstuffs, beverages and feed.         Store protective clothing separately.         Immediately remove all soiled and contaminated clothing         Avoid contact with the eyes and skin.         Wash hands before breaks and at the end of work.         Breathing equipment:         Short term filter device:         Filter P2.         Protection of hands:         The glove material has to be impermeable and resistant to the product/ the substance/ the pr         Due to missing tests no recommendation to the glove material can be given for the product/ the chemical mixture.         Selection of the glove material on consideration of the penetration times, rates of d degradation         Material of gloves	
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degradation Material of gloves	iffusion and t
Material of gloves	ijjusion ana i
	further marks
quality and varies from manufacturer to manufacturer.	
The selection of the suitable gloves does not only depend on the material, but also on j	further marks
quality and varies from manufacturer to manufacturer. As the product is a prepare	
substances, the resistance of the glove material can not be calculated in advance and ha	
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 glow	ves and has to
observed.	
For the permanent contact of a maximum of 15 minutes gloves made of the following	ng materials a
suitable:	
Natural rubber, NR	
Eye protection: Safety glasses	
<b>Body protection:</b> Protective work clothing.	
SECTION 9: Physical and chemical properties	
9.1 Information on basic physical and chemical properties	
General Information	

 Form:
 Solution

 Colour:
 Blue

 • Odour:
 Recognisable

 • Odour threshold:
 Not determined.

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· pH-value at 20 •C:	7.9-8.1
· Change in condition	
Melting point/freezing point:	undetermined
Initial boiling point and boiling range	2: undetermined
· Flash point:	no information available
· Flammability (solid, gaseous)	Not applicable.
Decomposition temperature:	Not determined.
· Self igniting:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not determined.
· Density:	Not determined
· Relative density	Not determined.
· Vapour density	Not determined.
• Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible
Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
· Solvent content:	
Organic solvents:	6-13 %
• 9.2 Other information	No further relevant information available.

#### SECTION 10: Stability and reactivity

· 10.1 Reactivity No further relevant informations 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: 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.

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- · 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:
- Do not allow product to reach ground water, water course or sewage system. Water hazard class 2 (German Regulation) (Self-assessment): 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 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 · Label	Void -	
· 14.4 Packing group · ADR, IMDG, IATA	Void	
· 14.5 Environmental hazards: · Marine pollutant:	No	
· 14.6 Special precautions for user	Not applicable.	
· 14.7 Transport in bulk according to Ann Marpol and the IBC Code	<b>ex II of</b> Not applicable.	

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#### **SECTION 15: Regulatory information**

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

· Directive 2012/18/EU

- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · National regulations

· Technical instructions (air):

Class	Share in %
II	1-3
NK	5-10

· Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.

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

#### **SECTION 16: Other information**

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

#### · Relevant phrases

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H373 May cause damage to organs through prolonged or repeated exposure.

· 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* 

bw: body weight

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

ELINECS: European Inventory of Existing Commercial Chemic ELINCS: European List of Notified Chemical Substances

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

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity - oral – Category 4

Skin Corr. 1A: Skin corrosion/irritation - Category 1A

STOT RE 2: Specific target organ toxicity (repeated exposure) - Category 2

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SECTION 1: Identification of	of the substance/mixture and of the c	ompany/undertaking
· 1.1 Product identifier		CFD1/A
· Trade name: <u>SDS Cathode buff</u>	fer (white)	serving scientists
<ul> <li>Article number: 43802</li> <li>1.2 Relevant identified uses of t No further relevant information</li> <li>Application of the substance / the substance /</li></ul>		ed against
<ul> <li>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</li> </ul>	e safety data sheet	Suno.
• Information department: Produ • 1.4 Emergency telephone numb Medical Emergency Information Poison Information Center Main (advisory service in German or 1	n in case of poisoning: nz - Phone: +49 (0) 6131 19240	340-35
SECTION 2: Hazards identig	fication	
• 2.1 Classification of the substant • Classification according to Reg		
The product is not classified, ac	eoranig to the CEL regulation.	
<ul> <li>2.2 Label elements</li> <li>Labelling according to Regulate</li> <li>Hazard pictograms Void</li> <li>Signal word Void</li> <li>Hazard statements Void</li> <li>2.3 Other hazards</li> </ul>	ion (EC) No 1272/2008 Void sment ilable.	
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<ul> <li>2.2 Label elements</li> <li>Labelling according to Regulate</li> <li>Hazard pictograms Void</li> <li>Signal word Void</li> <li>Hazard statements Void</li> <li>2.3 Other hazards</li> <li>Results of PBT and vPvB assess</li> <li>PBT: PBT - assessment not avait</li> <li>vPvB: vPvB - assessment not avait</li> <li>SECTION 3: Composition/in</li> <li>3.2 Chemical characterisation:</li> </ul>	ion (EC) No 1272/2008 Void sment ilable. ailable. formation on ingredients Mixtures stances listed below with harmless additi	
<ul> <li>2.2 Label elements</li> <li>Labelling according to Regulate</li> <li>Hazard pictograms Void</li> <li>Signal word Void</li> <li>Hazard statements Void</li> <li>2.3 Other hazards</li> <li>Results of PBT and vPvB assess</li> <li>PBT: PBT - assessment not avail</li> <li>vPvB: vPvB - assessment not avail</li> <li>SECTION 3: Composition/in</li> <li>3.2 Chemical characterisation:</li> <li>Description: Mixture of the subs</li> <li>Dangerous components:</li> <li>CAS: 107-21-1 EINECS: 203-473-3</li> </ul>	ion (EC) No 1272/2008 Void sment ilable. ailable. formation on ingredients Mixtures stances listed below with harmless additi f STOT RE 2, H373,	
<ul> <li>2.2 Label elements</li> <li>Labelling according to Regulate</li> <li>Hazard pictograms Void</li> <li>Signal word Void</li> <li>Hazard statements Void</li> <li>2.3 Other hazards</li> <li>Results of PBT and vPvB assess</li> <li>PBT: PBT - assessment not avail</li> <li>vPvB: vPvB - assessment not avail</li> <li>SECTION 3: Composition/in</li> <li>3.2 Chemical characterisation:</li> <li>Description: Mixture of the subs</li> <li>Dangerous components:</li> <li>CAS: 107-21-1</li> </ul>	ion (EC) No 1272/2008 Void sment ilable. ailable. formation on ingredients Mixtures stances listed below with harmless addition with the standard sta	

· After skin contact

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Immediately wash with water and soap and rinse thoroughly. Consult doctor if you feel unwell.

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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: Carbon monoxide and carbon dioxide Nitrogen oxides (NOx)
- · 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.
- · 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

• 6.3 Methods and material for containment and cleaning up: Dispose contaminated material as waste according to item 13.

- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- · 6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

#### **SECTION 7: Handling and storage**

- · 7.1 Precautions for safe handling No special measures required.
- Information about 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: No special requirements.
- · 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:

#### 107-21-1 Ethanediol (5-10%)

WEL Short-term value: 104\*\* mg/m<sup>3</sup>, 40\*\* ppm Long-term value: 10\* 52\*\* mg/m<sup>3</sup>, 20\*\* ppm

Sk \*particulate \*\*vapour

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8.2 Exposure controls	
Personal protective equipment	
General protective and hygienic me	easures
Keep away from foodstuffs, beverage	es and feed.
Store protective clothing separately.	
Immediately remove all soiled and c	contaminated clothing
Avoid contact with the eyes and skin	
Wash hands before breaks and at the	e end of work.
Breathing equipment:	
Short term filter device:	
Filter P2.	
Protection of hands:	
	neable and resistant to the product/ the substance/ the preparation.
the chemical mixture.	ation to the glove material can be given for the product/ the preparation
	n consideration of the penetration times, rates of diffusion and t
degradation	n consideration of the penetration times, rates of alffusion and t
Material of gloves	
	es does not only depend on the material, but also on further marks
quality and varies from manufacture	
	es does not only depend on the material, but also on further marks
	turer to manufacturer. As the product is a preparation of seven
	ove material can not be calculated in advance and has therefore to
checked prior to the application.	·
observed. For the permanent contact of a m suitable:	
The exact break trough time has to observed. For the permanent contact of a m	naximum of 15 minutes gloves made of the following materials a
The exact break trough time has to observed. For the permanent contact of a m suitable: Natural rubber, NR Eye protection: Safety glasses	
The exact break trough time has to observed. For the permanent contact of a m suitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work cla SECTION 9: Physical and chem	naximum of 15 minutes gloves made of the following materials a othing. nical properties
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The exact break trough time has to observed. For the permanent contact of a m suitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work cla SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour:	naximum of 15 minutes gloves made of the following materials a othing. nical properties and chemical properties Solution Colourless Odourless
The exact break trough time has to observed. For the permanent contact of a m suitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work cla SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour: Odour threshold: pH-value at 20 °C:	naximum of 15 minutes gloves made of the following materials a othing. nical properties und chemical properties Solution Colourless Odourless Not determined.
The exact break trough time has to observed. For the permanent contact of a m suitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work cla SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour: Odour threshold: pH-value at 20 °C: Change in condition	naximum of 15 minutes gloves made of the following materials a othing. nical properties and chemical properties Solution Colourless Odourless Not determined. 7.4-7.6
The exact break trough time has to observed. For the permanent contact of a m suitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work cla SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour: Odour: Dodour threshold: pH-value at 20 °C: Change in condition Melting point/freezing point:	naximum of 15 minutes gloves made of the following materials a othing. nical properties und chemical properties Solution Colourless Odourless Not determined. 7.4-7.6 undetermined
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The exact break trough time has to observed. For the permanent contact of a m suitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work cla SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour: Odour: Odour threshold: pH-value at 20 °C: Change in condition Melting point/freezing point: Initial boiling point and boiling ra Flash point: Flammability (solid, gaseous)	naximum of 15 minutes gloves made of the following materials a othing. ical properties ind chemical properties Solution Colourless Odourless Not determined. 7.4-7.6 undetermined ange: undetermined no information available Not applicable.
The exact break trough time has to observed. For the permanent contact of a m suitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work cla SECTION 9: Physical and chem 9.1 Information on basic physical a General Information Appearance: Form: Colour: Odour: Odour: Odour threshold: pH-value at 20 °C: Change in condition Melting point/freezing point: Initial boiling point and boiling ra	naximum of 15 minutes gloves made of the following materials a othing. sical properties und chemical properties Solution Colourless Odourless Not determined. 7.4-7.6 undetermined ange: undetermined no information available

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Explosive properties:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not determined.
Density:	Not determined
Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
· Solvent content:	
Organic solvents:	5-10 %
· 9.2 Other information	No further relevant information available.

#### **SECTION 10: Stability and reactivity**

· 10.1 Reactivity No further relevant informations 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: In case of fire: See Section 5

#### **SECTION 11: Toxicological information**

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

#### **SECTION 12: Ecological information**

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

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- 12.3 Bioaccumulative potential No further relevant information available.
- 12.4 Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:

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

Water hazard class 1 (German Regulation) (Self-assessment): slightly 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 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	
<ul> <li>14.5 Environmental hazards:</li> <li>Marine pollutant:</li> </ul>	No	
· 14.6 Special precautions for user	Not applicable.	
· 14.7 Transport in bulk according to Anne Marpol and the IBC Code	e <b>x II of</b> Not applicable.	
· UN "Model Regulation":	Void	

#### **SECTION 15: Regulatory information**

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

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

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<sup>·</sup> Directive 2012/18/EU

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· National regulations

• Technical instructions (air):



• 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. H373 May cause damage to organs through prolonged or repeated exposure.

· 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

bw: body weight 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

Acute Tox. 4: Acute toxicity - oral - Category 4

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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SECTION 1: Identification of	of the substance/mixture and of the compa	iny/undertaking
· 1.1 Product identifier		
• Trade name: <u>Cooling Fluid</u>		SERVA serving scientists
No further relevant information	<b>the substance or mixture and uses advised ago</b> available. <b>the mixture</b> Laboratory chemicals	ainst
<ul> <li>1.3 Details of the supplier of th</li> <li>Manufacturer/Supplier: SERVA Electrophoresis GmbH Carl-Benz-Str. 7</li> <li>D-69115 Heidelberg Tel.: +49 6221 13840-0</li> <li>FAX: +49 6221 13840-10</li> <li>msds.info@serva.de</li> </ul>	ne safety data sheet	Grado
• 1.4 Emergency telephone numl Medical Emergency Information	n in case of poisoning: nz - Phone: +49 (0) 6131 19240	5
SECTION 2: Hazards idention • 2.1 Classification of the substance • Classification according to Reg The product is not classified, acc • 2.2 Label elements • Labelling according to Regulat	nce or mixture gulation (EC) No 1272/2008 ccording to the CLP regulation.	
<ul> <li>Hazard pictograms Void</li> <li>Signal word Void</li> <li>Hazard statements Void</li> <li>2.3 Other hazards</li> <li>Results of PBT and vPvB asses</li> <li>PBT: PBT - assessment not ava</li> <li>vPvB; vPvB - assessment not ava</li> </ul>	ssment tilable.	
SECTION 3: Composition/in	nformation on ingredients	
• 3.2 Chemical characterisation: • Description: aqueous solution	Mixtures	
• <b>Dangerous components:</b> The product contains no ingred	dients classified as hazardous substances acco n individual concentrations which shall be indi Regulation).	
SECTION 4: First aid measure	ures	
• <b>4.1 Description of first aid mea</b> • <b>General information</b> No specia	isures	

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#### Trade name: Cooling Fluid

· 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: 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
  6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
  6.3 Methods and material for containment and cleaning up:
- Dispose contaminated material as waste according to item 13. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- 6.4 Reference to other sections
   See Section 7 for information on safe handling
   See Section 8 for information on personal protection equipment.
   See Section 13 for disposal information.

#### **SECTION 7: Handling and storage**

- 7.1 Precautions for safe handling No special measures required.
- · Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- $\cdot$  Requirements to be met by storerooms and receptacles: Store at +2 to +8 °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:

56-81-5 glycerol (5-15%)

WEL Long-term value: 10 mg/m<sup>3</sup>

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8.2 Exposure controls	
Personal protective equipment	
General protective and hygienic med	
Keep away from foodstuffs, beverage.	is and feed.
Store protective clothing separately.	
Immediately remove all soiled and co	
Avoid contact with the eyes and skin.	
Wash hands before breaks and at the <b>Breathing equipment:</b>	ena oj work.
Short term filter device:	
Filter P2.	
Protection of hands:	
	eable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendat	tion to the glove material can be given for the product/ the preparation
the chemical mixture.	
	n consideration of the penetration times, rates of diffusion and th
degradation	
Material of gloves	
	s does not only depend on the material, but also on further marks o
quality and varies from manufacturer	
	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
checked prior to the application.	ove material can not be calculated in advance and has therefore to b
Penetration time of glove material	
The exact break trough time has to h	be found out by the manufacturer of the protective aloves and has to b
	be found out by the manufacturer of the protective gloves and has to b
observed.	
observed.	
observed. For the permanent contact of a ma	
observed. For the permanent contact of a mass suitable: Natural rubber, NR Eye protection: Safety glasses	aximum of 15 minutes gloves made of the following materials ar
observed. For the permanent contact of a ma suitable: Natural rubber, NR	aximum of 15 minutes gloves made of the following materials ar
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observed. For the permanent contact of a masuitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical and	aximum of 15 minutes gloves made of the following materials ar othing. Scal properties
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observed. For the permanent contact of a masuitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical and General Information Appearance: Form: Colour:	aximum of 15 minutes gloves made of the following materials ar othing. Solution
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observed. For the permanent contact of a masuitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical and General Information Appearance: Form:	aximum of 15 minutes gloves made of the following materials ar othing. Scal properties ad chemical properties Solution Colourless Odourless
observed. For the permanent contact of a masuitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical and General Information Appearance: Form: Colour: Odour: Odour threshold: pH-value at 20 °C:	aximum of 15 minutes gloves made of the following materials are othing. ical properties ind chemical properties Solution Colourless Odourless no information available
observed. For the permanent contact of a masuitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical and General Information Appearance: Form: Colour: Odour: Odour threshold: pH-value at 20 °C: Change in condition	aximum of 15 minutes gloves made of the following materials are othing.
observed. For the permanent contact of a masuitable: Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work clo SECTION 9: Physical and chemi 9.1 Information on basic physical and General Information Appearance: Form: Colour: Odour: Odour threshold: pH-value at 20 °C: Change in condition Melting point/freezing point:	aximum of 15 minutes gloves made of the following materials are othing.
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Trade name: Cooling Fluid

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· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	no information available
Upper:	no information available
· Vapour pressure:	no information available
· Density:	no information available
· Relative density	no information available
· Vapour density	no information available
· Evaporation rate	no information available
· Solubility in / Miscibility with	
Water:	Fully miscible
· Partition coefficient: n-octanol/water:	no information available
· Viscosity:	
dynamic:	no information available
kinematic:	no information available
• 9.2 Other information	No further relevant information available.

### SECTION 10: Stability and reactivity

· 10.1 Reactivity No further relevant informations 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: In case of fire: See Section 5

#### **SECTION 11: Toxicological information**

· 11.1 Information on toxicological effects

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

#### **SECTION 12: Ecological information**

· 12.1 Toxicity

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

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#### Trade name: Cooling Fluid

· Additional ecological information:

· General notes:

Do not allow product to reach ground water, water course or sewage system. Water hazard class 1 (German Regulation) (Self-assessment): slightly 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 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	2	
· 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 · Label	Void -	
· 14.4 Packing group · ADR, IMDG, IATA	Void	
· 14.5 Environmental hazards: · Marine pollutant:	No	
· 14.6 Special precautions for user	Not applicable.	
· 14.7 Transport in bulk according to Ann Marpol and the IBC Code	nex II of Not applicable.	

### SECTION 15: Regulatory information

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

· Directive 2012/18/EU

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

· National regulations

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

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

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#### Trade name: Cooling Fluid

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#### **SECTION 16: Other information**

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

· Department issuing SDS: Product safety department

· 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 bw: body weight 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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<sup>·</sup> Contact: +49 6221 13840-35

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	SERVA serving scientists
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egulation. <b>08</b> Void	
edients	
	ording to Regulation (EC) No cated according to Regulatio
· ·	<sup>°</sup> vou feel unwell.
	case of complaints. roughly. Consult doctor if

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#### Trade name: Equilibration Buffer

· 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: 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.
- · 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- 6.3 Methods and material for containment and cleaning up: Dispose contaminated material as waste according to item 13.
   Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- 6.4 Reference to other sections See Section 7 for information on safe handling See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

#### **SECTION 7: Handling and storage**

· 7.1 Precautions for safe handling No special measures required.

- · Information about 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: No special requirements.
- 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:

56-81-5 glycerol (20-40%)

WEL Long-term value: 10 mg/m<sup>3</sup>

• Additional information: The lists that were valid during the creation were used as basis.

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#### Trade name: Equilibration Buffer

8.2 Exposure controls	(Contd. of page 2
Personal protective equipment	
General protective and hygienic me	asures
Keep away from foodstuffs, beverage	es and feed.
Store protective clothing separately.	
Immediately remove all soiled and co	
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:	
	eable and resistant to the product/ the substance/ the preparation.
	tion to the glove material can be given for the product/ the preparation
the chemical mixture.	
	n consideration of the penetration times, rates of diffusion and th
degradation Material of gloves	
Material of gloves	s does not only depend on the material, but also on further marks o
quality and varies from manufacture	
	s does not only depend on the material, but also on further marks o
	turer to manufacturer. As the product is a preparation of sever
	ove material can not be calculated in advance and has therefore to b
checked prior to the application.	we material can not be calculated in advance and has interejore to b
Penetration time of glove material	
	be found out by the manufacturer of the protective gloves and has to b
observed.	se journe our of the manufacturer of the protective Stoves and has to o
	aximum of 15 minutes gloves made of the following materials ar
suitable:	
Natural rubber, NR	
Natural rubber, NR	othing.
Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work clo	
Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work cla SECTION 9: Physical and chema	ical properties
Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work clo	ical properties
Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work cla SECTION 9: Physical and chemi 9.1 Information on basic physical and	ical properties
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Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work classic SECTION 9: Physical and chemic 9.1 Information on basic physical and General Information Appearance: Form: Colour: Odour:	ical properties nd chemical properties Solution Violet
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Natural rubber, NR Eye protection: Safety glasses Body protection: Protective work classes SECTION 9: Physical and cheme 9.1 Information on basic physical and General Information Appearance: Form: Colour: Odour: Odour threshold: pH-value at 20 °C: Change in condition Melting point/freezing point: Initial boiling point and boiling rat Flash point: Flammability (solid, gaseous) Decomposition temperature:	ical properties ind chemical properties Solution Violet Odourless Not determined. 8.9-9.3 undetermined inge: undetermined no information available Not applicable. no information available

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Trade name: Equilibration Buffer

	(Contd. of page 3
· Explosion limits:	
Lower:	no information available
Upper:	no information available
· Vapour pressure:	no information available
· Density:	no information available
· Relative density	Not determined.
· Vapour density	Not determined.
• Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible
· Partition coefficient: n-octanol/water:	no information available
· Viscosity:	
dynamic:	no information available
kinematic:	no information available
• 9.2 Other information	No further relevant information available.

#### **SECTION 10: Stability and reactivity**

· 10.1 Reactivity No further relevant informations 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: In case of fire: See Section 5

### **SECTION 11: Toxicological information**

· 11.1 Information on toxicological effects

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

#### SECTION 12: Ecological information

- · 12.1 Toxicity
- Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- $\cdot$  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: Equilibration Buffer

· Additional ecological information:

· General notes:

Do not allow product to reach ground water, water course or sewage system. Water hazard class 1 (German Regulation) (Self-assessment): slightly 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 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 · Label	Void -	
<ul> <li>14.4 Packing group</li> <li>ADR, IMDG, IATA</li> </ul>	Void	
<ul> <li>14.5 Environmental hazards:</li> <li>Marine pollutant:</li> </ul>	No	
· 14.6 Special precautions for user	Not applicable.	
· 14.7 Transport in bulk according to Anne. Marpol and the IBC Code	<b>ex II of</b> Not applicable.	

#### **SECTION 15: Regulatory information**

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

· Directive 2012/18/EU

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

· National regulations

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

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

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#### Trade name: Equilibration Buffer

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#### **SECTION 16: Other information**

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

· Department issuing SDS: Product safety department

· 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 bw: body weight 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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