

according to UK REACH Regulation

Phosphate Citrate Buffer pH 5.0

Revision date: 14.02.2024

Product code: 14544.xxxxx

Page 1 of 11

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

1.1. Product identifier

Phosphate Citrate Buffer pH 5.0

UFI:

SP89-E1DX-M00W-HDFD

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Use as laboratory reagent. Intended for scientific research and development.

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name:	MORPHISTO GmbH	
Street:	Schumannstr. 144	
Place:	D-63069 Offenbach	
Telephone:	+49 (0) 69 / 400 3019-60	Telefax: +49 (0) 69 / 400 3019-64
E-mail:	info@morphisto.de	
Contact person:	Morphisto GmbH	
E-mail:	gefahrstoffmanagement@morphisto.	de
Internet:	http://www.morphisto.de	
1.4. Emergency telephone	Morphisto GmbH, Tel: +49(0)69 400	3019-60, Mo-Fr.: 09-16 Uhr

number:

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

This mixture is not classified as hazardous in accordance with GB CLP Regulation.

2.2. Label elements

GB CLP Regulation

Special labelling of certain mixtures

EUH210

Safety data sheet available on request.

2.3. Other hazards

No risks worthy of mention. Please observe the information on the safety data sheet at all times. This substance/mixture contains no components considered to be either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain any components that are considered to be hazardous according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in amounts of 0.1 % or more have endocrine disrupting properties. Toxicological information: The substance/mixture does not contain any components that are to be classified according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1 % or more have endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

in aqueous solution



according to UK REACH Regulation

Phosphate Citrate Buffer pH 5.0

Revision date: 14.02.2024

Product code: 14544.xxxx

Page 2 of 11

Relevant ingredients

CAS No	Chemical name				
	EC No	Index No	REACH No		
	Classification (GB CLP Regulation)				
77-92-9	citric acid				
	201-069-1	607-750-00-3	01-2119457026-42		
	Eye Irrit. 2, STOT SE 3; H319 H335				

Full text of H and EUH statements: see section 16.

Specific C	onc. Limits, M-fa	ctors and ATE	
CAS No	EC No	Chemical name	Quantity
	Specific Conc.	Limits, M-factors and ATE	
77-92-9	201-069-1	citric acid	1 - < 5 %
	dermal: LD50	= >2000 mg/kg; oral: LD50 = 5400 mg/kg	

Further Information

This product contains no substances of very high concern (SVHC) (>0,1%) which are included in the Candidate List according to Article 59 of REACH.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Provide fresh air. In case of respiratory tract irritation, consult a physician.

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings. Carbon dioxide (CO2). Dry extinguishing powder. alcohol resistant foam. Atomized water.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-flammable. Vapours can form explosive mixtures with air. In case of fire may be liberated: Carbon



according to UK REACH Regulation

Phosphate Citrate Buffer pH 5.0

Revision date: 14.02.2024

Product code: 14544.xxxxx

Page 3 of 11

monoxide. Carbon dioxide (CO2).

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Co-ordinate fire-fighting measures to the fire surroundings.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Safe handling: see section 7 Personal protection equipment: see section 8 Clear danger zone. Follow emergency plan. Consult an expert. Ventilate affected area.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Safe handling: see section 7 Personal protection equipment: see section 8 Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Wear suitable protective clothing. (See section 8.)

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff. Street clothing should be stored separately from work clothing. Draw up and observe skin protection programme. Always close containers tightly after the removal of product.

Further information on handling

General protection and hygiene measures: See section 8.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.

Hints on joint storage

Do not store together with: food and feed. pharmaceuticals. Infectious substances. Radioactive substances. Explosive substances. Oxidizing substances. Oxidizing liquids. Organic peroxides. Self-reactive substances and mixtures. Pyrophoric solids. Substances which in contact with water form flammable gases. Ammonium nitrate and preparations containing ammonium nitrate.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorbtion of humidity. Recommended storage temperature: 15-25 °C



according to UK REACH Regulation

Phosphate Citrate Buffer pH 5.0

Revision date: 14.02.2024

Product code: 14544.xxxx

Page 4 of 11

Protect against: frost. UV-radiation/sunlight. heat. Humidity

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
26628-22-8	Sodium azide (as NaN3)	-	0.1		TWA (8 h)	WEL
		-	0.3		STEL (15 min)	WEL

DNEL/DMEL values

Exposure route	Effect	Value
dermal	systemic	0,0467 mg/kg bw/day
inhalation	systemic	0,164 mg/m³
-		

PNEC values

CAS No	Substance	
Environment	al compartment	Value
77-92-9	citric acid	
Freshwater		0,44 mg/l
Marine water		0,044 mg/l
Freshwater s	ediment	34,6 mg/kg
Marine sediment		3,46 mg/kg
Micro-organisms in sewage treatment plants (STP)		1000 mg/l
Soil		33,1 mg/kg
26628-22-8	sodium azide	
Freshwater		0,00035 mg/l
Freshwater (intermittent releases)	mg/l
Freshwater sediment		0,0167 mg/kg
Marine sediment		0,00072 mg/kg
Micro-organia	sms in sewage treatment plants (STP)	0,03 mg/l

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation. Technical measures and the application of suitable work processes have priority over personal protection equipment. Provide washing facilities at the workplace, provide an eye shower or eyewash bottle and mark them.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection. Wear safety glasses; chemical goggles (if splashing is possible). EN 166

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the



according to UK REACH Regulation

Phosphate Citrate Buffer pH 5.0

Revision date: 14.02.2024

Product code: 14544.xxxxx

Page 5 of 11

specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. In case of prolonged or frequently repeated skin contact: Wear suitable gloves. Suitable material: FKM (fluororubber). - Thickness of glove material: 0,4 mm Breakthrough time >= 8 h Butyl rubber. - Thickness of glove material: 0,5 mm Breakthrough time >= 8 h CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0.5 mm Breakthrough time >= 8 h NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm Breakthrough time >= 8 h PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm Breakthrough time ≥ 8 h The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Before using check leak tightness / impermeability.

Skin protection

Use of protective clothing. Suitable protective clothing: Lab apron. Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

Respiratory protection

In case of inadequate ventilation wear respiratory protection. With correct and proper use, and under normal conditions, breathing protection is not required.

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Colour: Odour:	liquid colourless, clear odourless	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and		not determined
boiling range:		
Flammability:		not determined
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		not determined
Auto-ignition temperature:		not determined
Decomposition temperature:		not determined
pH-Value (at 20 °C):		5-6
Viscosity / kinematic:		not determined
Water solubility: (at 20 °C)		completely miscible
Solubility in other solvents not determined		
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		not determined
Density (at 20 °C):		1,03 g/cm³



according to UK REACH Regulation

Phosphate Citrate Buffer pH 5.0					
Revision date: 14.02.2024	Product code: 14544.xxxxx	Page 6 of 11			
Relative vapour density:	not determined				
Particle characteristics:	not applicable				
9.2. Other information					
Information with regard to physical hazard clas	ses				
Explosive properties					
The product is not: Explosive. none					
Sustaining combustion:	Not sustaining combustion				
Self-ignition temperature					
Gas:	not determined				
Oxidizing properties					
none					
Other safety characteristics					
Evaporation rate:	not determined				
Solvent separation test:	not determined				
Solvent content:	not determined				
Solid content:	not determined				
Sublimation point:	not determined				
Softening point:	not determined				
Pour point:	not determined				
Viscosity / dynamic:	not determined				
Flow time:	not determined				

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

see section 10.5

10.4. Conditions to avoid

Protect against: UV-radiation/sunlight. heat.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong. Substances which in contact with water, emit flammable gases.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide. Carbon dioxide (CO2).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

according to UK REACH Regulation

Phosphate Citrate Buffer pH 5.0

Revision date: 14.02.2024

Product code: 14544.xxxxx

Page 7 of 11

CAS No	Chemical name	Chemical name								
	Exposure route	Dose		Species	Source	Method				
77-92-9	citric acid	citric acid								
	oral	LD50 mg/kg	5400	Mouse	ECHA					
	dermal	LD50 mg/kg	>2000	Rat	ECHA					

Irritation and corrosivity

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

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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.

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Other information

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

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

CAS No	Chemical name									
	Aquatic toxicity	Dose		[h] [d]	Species	Source	Method			
77-92-9	citric acid									
	Acute fish toxicity	LC50	440 mg/l		Leuciscus idus (golden orfe)	ECHA				
	Acute crustacea toxicity	EC50 mg/l	1535		Daphnia magna (Big water flea)	ECHA				

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name				
	Method	Value	d	Source	
	Evaluation				
77-92-9	citric acid				
	Biodegradability	97 %	28		
	Readily biodegradable (according to OECD criteria).				

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

according to UK REACH Regulation

Phosphate Citrate Buffer pH 5.0

Revision date: 14.02.2024

Product code: 14544.xxxxx

Page 8 of 11

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
77-92-9	citric acid	-1,64

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation. Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled.

According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

List of Wastes Code - used product

160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

List of Wastes Code - contaminated packaging

150106 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); mixed packaging

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.
Inland waterways transport (ADN)	
14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.



according to UK REACH Regulation

Revision date: 14.02.2024	Product code: 14544.xxxxx	Page 9 of 1
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.	
14.4. Packing group:	No dangerous good in sense of this transport regulation.	
Marine transport (IMDG)		
<u>14.1. UN number or ID number:</u>	No dangerous good in sense of this transport regulation.	
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.	
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.	
14.4. Packing group:	No dangerous good in sense of this transport regulation.	
Air transport (ICAO-TI/IATA-DGR)		
14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.	
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.	
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.	
14.4. Packing group:	No dangerous good in sense of this transport regulation.	
14.5. Environmental hazards		
ENVIRONMENTALLY HAZARDOUS:	No	
14.6. Special precautions for user		
Refer to section 6-8		
14.7. Maritime transport in bulk according	to IMO instruments	
14.7. Maritime transport in bulk according not relevant	to IMO instruments	
not relevant	to IMO instruments	
	to IMO instruments	
not relevant SECTION 15: Regulatory information		
not relevant SECTION 15: Regulatory information 15.1. Safety, health and environmental reg	to IMO instruments gulations/legislation specific for the substance or mixture	-
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not relevant SECTION 15: Regulatory information 15.1. Safety, health and environmental reg EU regulatory information Restrictions on use (REACH, annex XVII Entry 75 Directive 2010/75/EU on industrial emissions: Directive 2004/42/EC on VOC in paints and varnishes: Information according to Directive 2012/18/EU (SEVESO III): Additional information	aulations/legislation specific for the substance or mixture I): No information available. No information available. Not subject to 2012/18/EU (SEVESO III)	
not relevant SECTION 15: Regulatory information 15.1. Safety, health and environmental reg EU regulatory information Restrictions on use (REACH, annex XVII Entry 75 Directive 2010/75/EU on industrial emissions: Directive 2004/42/EC on VOC in paints and varnishes: Information according to Directive 2012/18/EU (SEVESO III): Additional information The mixture is classified as not haza	aulations/legislation specific for the substance or mixture I): No information available. No information available. Not subject to 2012/18/EU (SEVESO III)	
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not relevant SECTION 15: Regulatory information 15.1. Safety, health and environmental reg EU regulatory information Restrictions on use (REACH, annex XVII Entry 75 Directive 2010/75/EU on industrial emissions: Directive 2004/42/EC on VOC in paints and varnishes: Information according to Directive 2012/18/EU (SEVESO III): Additional information The mixture is classified as not hazar National regulatory information Water hazard class (D): 15.2. Chemical safety assessment	gulations/legislation specific for the substance or mixture I): No information available. No information available. Not subject to 2012/18/EU (SEVESO III) rdous according to regulation (EC) No 1272/2008 [CLP].	

SECTION 16: Other information

Changes

Rev. 2,0; 14.02.2024; Recreation from collect_SDB 10384_collect



according to UK REACH Regulation

Phosphate Citrate Buffer pH 5.0

Revision date: 14.02.2024

Product code: 14544.xxxxx

Page 10 of 11

Abbreviations and acronyms

Acute Tox: Acute toxicity Eye Irrit: Eye irritation STOT SE: Specific target organ toxicity - single exposure STOT RE: Specific target organ toxicity - repeated exposure Aquatic Acute: Acute aquatic hazard Aquatic Chronic: Chronic aquatic hazard ADR: Accord européen sur le transport des marchandises dangereuses par Route AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen AGW: Arbeitsplatzgrenzwert AVV: Abfallverzeichnisverordnung CAS Chemical Abstracts Service CLP: Classification, Labelling and Packaging of substances and mixtures DNEL: Derived No Effect Level d: dav(s) EAKV: Europäisches Abfallverzeichnis gemäß Entwurf Abfallverzeichnisverordnung EINECS: European INventory of Existing Commercial chemical Substances ELINCS: European LIst of Notified Chemical Substances ECHA: European Chemicals Agency EWC: European Waste Catalogue IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO: International Civil Aviation Organization ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO) GHS: Globally Harmonized System of Classification and Labelling of Chemicals GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany) h: hour LOAEL: Lowest observed adverse effect level LOAEC: Lowest observed adverse effect concentration LC50: Lethal concentration. 50 percent LD50: Lethal dose, 50 percent NOAEL: No observed adverse effect level NOAEC: No observed adverse effect level NLP: No-Longer Polymers N/A: not applicable OECD: Organisation for Economic Co-operation and Development PNEC: predicted no effect concentration PBT: Persistent bioaccumulative toxic RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) REACH: Registration, Evaluation, Authorisation of Chemicals SVHC: substance of very high concern TRGS Technische Regeln fuer Gefahrstoffe UN: United Nations VOC: Volatile Organic Compounds VwVwS: Verwaltungsvorschrift wassergefaehrdender Stoffe WGK: Wassergefaehrdungsklasse CLP: Classification, labelling and Packaging REACH: Registration, Evaluation and Authorization of Chemicals GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals UN: United Nations CAS: Chemical Abstracts Service DNEL: Derived No Effect Level DMEL: Derived Minimal Effect Level



according to UK REACH Regulation

Phosphate Citrate Buffer pH 5.0

Revision date: 14.02.2024

Product code: 14544.xxxxx

Page 11 of 11

PNEC: Predicted No Effect Concentration ATE: Acute toxicity estimate LL50: Lethal loading, 50% EL50: Effect loading, 50% EC50: Effective Concentration 50% ErC50: Effective Concentration 50%, growth rate NOEC: No Observed Effect Concentration BCF: Bio-concentration factor PBT: persistent, bioaccumulative, toxic vPvB: verv persistent, verv bioaccumulative ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) RID: Regulations concerning the international carriage of dangerous goods by rail ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures) EmS: Emergency Schedules MFAG: Medical First Aid Guide MARPOL: International Convention for the Prevention of Marine Pollution from Ships IBC: Intermediate Bulk Container For abbreviations and acronyms, see table at http://abbrev.esdscom.eu EC/EEC: European Community/European Economic Community EU: European Union M-factor: Multiplying factor IATA: International Air Transport Association DGR: Dangerous Goods Regulations ICAO: International Civil Aviation Organization **TI: Technical Instructions** VOC: volatile organic compound

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

Relevant H and EUH statements (number and full text)

H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
EUH210	Safety data sheet available on request.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. Classification according to Regulation (EC) No 1272/2008 [CLP] - Classification procedure:

Health hazards: Calculation method.

Environmental hazards: Calculation method.

Physical hazards: On basis of test data and / or calculated and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)