

according to UK REACH Regulation

## Calcium-Hypochlorite ~ 65 - 68 %, gran.

Revision date: 23.05.2023

Product code: 13251.xxxxx

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

## 1.1. Product identifier

Calcium-Hypochlorite ~ 65 - 68 %, gran.

Substance name:	calcium hypochlorite
CAS No:	7778-54-3
Index No:	017-012-00-7
EC No:	231-908-7
UFI:	NPP5-Y1XN-M000-6YYY

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

## Use of the substance/mixture

Use as laboratory reagent. The product is intended for research, analysis and scientific education.

## Uses advised against

Any non-intended use.

#### 1.3. Details of the supplier of the safety data sheet

Company name:	MORPHISTO GmbH			
Street:	Schumannstr. 142/144			
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	Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240			

#### number:

# **SECTION 2: Hazards identification**

## 2.1. Classification of the substance or mixture

## **GB CLP Regulation**

Ox. Sol. 2; H272 Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 (M-Factor = 10)

Full text of hazard statements: see SECTION 16.

## 2.2. Label elements

**Pictograms:** 

**GB CLP Regulation** 

Signal word:

Danger



#### **Hazard statements**

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life.



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#### **Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220	Keep away from clothing and other combustible materials.
P260	Do not breathe dusts or mists.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.

## Special labelling of certain mixtures

EUH031	Contact with acids liberates toxic gas.
EUH071	Corrosive to the respiratory tract.
EUH206	Warning! Do not use together with other products. May release dangerous gases (chlorine).

#### Labelling of packages where the contents do not exceed 125 ml

Signal word:	Danger		
Pictograms:			NV
	<b>&lt; ~ ~ &gt;</b>		₹ ¥ 2

## Hazard statements

H314

#### **Precautionary statements**

P303+P361+P353-P305+P351+P338-P310

#### 2.3. Other hazards

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 guantities of 0.1 % or more have endocrine disrupting properties.

## **SECTION 3: Composition/information on ingredients**

#### 3.1. Substances

#### Hazardous components

CAS No	Chemical name			Quantity		
	EC No	REACH No				
	Classification (GB CLP Regulation)					
7778-54-3	calcium hypochlorite		100 %			
	231-908-7					
	Ox. Sol. 2, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Aquatic Acute 1; H272 H302 H314 H318 H400 EUH031 EUH071		H272 H302 H314 H318			

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

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#### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. I	imits, M-factors and ATE	
7778-54-3	231-908-7	calcium hypochlorite	100 %
		= >2000 mg/kg; oral: LD50 = 850 mg/kg   Skin Corr. 1B; H314: >= 5 - 100   Skin = 1 - < 5   Eye Dam. 1; H318: >= 3 - < 5   Eye Irrit. 2; H319: >= 0,5 - < 3 ; H400: M=10	

#### **Further Information**

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

#### **SECTION 4: First aid measures**

#### 4.1. Description of first aid measures

#### **General information**

Remove affected person from the danger area and lay down. Provide fresh air. First aider: Pay attention to self-protection! Remove contaminated, saturated clothing immediately.

In case of accident or if you feel unwell, seek medical advice immediately (show this label if possible).

#### After inhalation

If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator. Call a physician immediately. Provide fresh air. In case of breathing difficulties administer oxygen. Call a POISON CENTER/doctor/ if you feel unwell. If unconscious but breathing normally, place in recovery position and seek medical advice.

#### After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Call a physician immediately.

#### After contact with eyes

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.Remove contact lenses, if present and easy to do. Continue rinsing.

#### After ingestion

Rinse mouth immediately and drink plenty of water. Adverse human health effects and symptoms: Gastric perforation. Do not allow a neutralisation agent to be drunk. Do NOT induce vomiting. Call a physician immediately.

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

Symptoms of poisoning may develop several hours following exposure. Victim should be under medical observation for at least 48 hours after exposure.

## 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. Atomized water.

#### Unsuitable extinguishing media

Extinguishing powder.

## 5.2. Special hazards arising from the substance or mixture

May intensify fire; oxidiser. In case of fire may be liberated: Oxygen. Chlorine (Cl2). Hydrogen chloride (HCl).

## 5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit



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#### Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Use water spray jet to protect personnel and to cool endangered containers.

#### **SECTION 6: Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

#### **General advice**

Remove all sources of ignition. Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Avoid dust formation. Do not breathe dust. Provide adequate ventilation as well as local exhaustion at critical locations.

#### For non-emergency personnel

Provide fresh air. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### For emergency responders

Move undamaged containers from immediate hazard area if it can be done safely. Stop leak if safe to do so.

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads). Inform competent authorities in case of accidental release. (Larger quantities)

#### 6.3. Methods and material for containment and cleaning up

## For containment

Cover drains.

## For cleaning up

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.

#### Other information

Provide adequate ventilation. Avoid dust formation. Take up mechanically, placing in appropriate containers for disposal. Treat the recovered material as prescribed in the section on waste disposal.

## 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

If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes.

#### Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Contact with combustible material may cause fire. Keep away from heat.

## Advice on general occupational hygiene

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Always close containers tightly after the removal of product. Remove contaminated clothing immediately and dispose off safely. Wash contaminated clothing prior to re-use. Used working clothes should not be worn outside the work area. Street clothing should be stored seperately from work clothing.

## 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide



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adequate ventilation as well as local exhaustion at critical locations. Keep cool. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Suitable material for floor covering: Material, leachate-proof.

#### Hints on joint storage

Do not store together with: Acid. Keep away from clothing and other combustible materials. Be sure to observe regulatory requirements.

#### Further information on storage conditions

Keep container tightly closed in a cool, well-ventilated place. Store in a dry place. Protect from direct sunlight. storage temperature 15-25 °C

#### 7.3. Specific end use(s)

No information available.

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

#### 8.1. Control parameters

#### Additional advice on limit values

To date, no national critical limit values exist.

#### 8.2. Exposure controls





#### Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust. Provide adequate ventilation as well as local exhaustion at critical locations.

## Individual protection measures, such as personal protective equipment

#### Eye/face protection

Suitable eye protection: goggles. Tightly sealed safety glasses. 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 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. Pull-over gloves of rubber. EN ISO 374

Suitable material:

(penetration time (maximum wearing period): >= 8 h):

Butyl rubber. (0,5 mm)

Protective clothing should be selected, depending on concentration and quantity of the hazardous substance. The chemical resistance of the products should be discussed with suppliers.

#### Skin protection

Use of protective clothing. Protective clothing.

## **Respiratory protection**

In case of inadequate ventilation wear respiratory protection. Respiratory protection necessary at: Insufficient ventilation.

Suitable respiratory protective equipment:

Combination filtering device (EN 14387) Filter: B-P2/P3

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

#### Thermal hazards

May cause or intensify fire; oxidiser.



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#### **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

<u>J.</u>	1. Information on basic physical and chei		
	Physical state:	granulate	
	Colour:	whitish	
	Odour:	stinging	
	Melting point/freezing point:		100 °C
	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 applicable
	Auto-ignition temperature:		not determined
	Decomposition temperature:		not determined
	pH-Value (at 20 °C):		10,5-11,5 (10 g/L)
	Viscosity / kinematic:		not determined
	Water solubility:		214 g/L
	(at 25 °C)		
	Solubility in other solvents		
	not determined		
	Partition coefficient n-octanol/water:		not determined
	Vapour pressure:		not determined
	Density (at 20 °C):		2,35 g/cm³
	Relative vapour density:		not determined
<u>9.</u>	2. Other information		
	Information with regard to physical haza	ard classes	
	Explosive properties		
	The product is not: Explosive. none		
	Sustaining combustion:		Sustaining combustion
	Oxidizing properties		

Oxidizing.

# Other safety characteristics

Evaporation rate:

## **Further Information**

No information available.

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

## 10.1. Reactivity

Oxidising. Reaction with: Acid.

## 10.2. Chemical stability

Stable under normal storage and handling conditions.

## 10.3. Possibility of hazardous reactions

Exothermic reaction with: Combustible substance, Alkali metals, Alkaline earth metal, Heavy metals, Metal powder, Acid, Base. In order to avoid thermal decomposition do not overheat.

#### 10.4. Conditions to avoid

Handle with care - avoid bumps, friction and impact. Explosive. Remove all sources of ignition. Keep away

not determined



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from: Heat. Ignition. UV-radiation/sunlight. heat.

## 10.5. Incompatible materials

Keep away from clothing and other combustible materials. Reducing agent Alkaline earth metals. Alkali metals. Acid. Ammonia. amines. Water. Combustible substance. metal oxides.

## 10.6. Hazardous decomposition products

Resulting from the use of the product: Oxygen.Chlorine. Contact with acids liberates toxic gas. Oxygen. Chlorine (Cl2). Hydrochloric gas.

## **Further information**

Contact with acids: release of chlorine. Fire Danger: Avoid contact with combustible materials. On contact with nitrogen compounds: release of NCI3 (explosion hazard)

## **SECTION 11: Toxicological information**

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

#### Acute toxicity

Harmful if swallowed.

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
7778-54-3	calcium hypochlorite					
		LD50 mg/kg	850	Rat	suppliers SDS.	
		LD50 mg/kg	>2000	Rabbit	suppliers SDS.	

#### Irritation and corrosivity

Causes severe skin burns and eye damage. Causes serious eye damage.

#### 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.

#### Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

## **SECTION 12: Ecological information**

#### 12.1. Toxicity

Very toxic to aquatic life.



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CAS No	Chemical name						
	Aquatic toxicity	Dose		[h]   [d]	Species	Source	Method
7778-54-3	calcium hypochlorite	calcium hypochlorite					
	Acute fish toxicity	LC50 mg/l	0,16	96 h	Lepomis macrochirus	suppliers SDS.	
	Acute crustacea toxicity	EC50 mg/l	0,067	48 h	Daphnia magna	suppliers SDS.	

## 12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

## 12.3. Bioaccumulative potential

No information available.

#### 12.4. Mobility in soil

No information available.

#### 12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of UK REACH.

## 12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

# 12.7. Other adverse effects

No information available.

#### **Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Danger to drinking water is already existing with extremely small quantities leaking into the ground.

#### **SECTION 13: Disposal considerations**

## 13.1. Waste treatment methods

#### **Disposal recommendations**

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. Must not be disposed with household waste. Contents / container can be disposed of in accordance with national regulations. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### **Contaminated packaging**

Non-contaminated packages may 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: UN 2880 14.2. UN proper shipping name: CALCIUM HYPOCHLORITE, HYDRATED MIXTURE 14.3. Transport hazard class(es): 5.1 14.4. Packing group: II Hazard label: 5.1 Classification code: O2 Special Provisions: 314 322



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Ca	cium-Hypochlorite ~ 65 -	68 %, gran.	
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Limited quantity: Excepted quantity: Transport category:	1 kg E2 2		
Hazard No:	50		
Tunnel restriction code:	E		
Other applicable information (land trans Excepted quantity: E2	боп)		
Marine transport (IMDG)	UN 2880		
<u>14.1. UN number or ID number:</u> 14.2. UN proper shipping name:	CALCIUM HYPOCHLORITE,	ΗΥΠΡΑΤΕΠ ΜΙΧΤΙ ΙΡΕ	
14.3. Transport hazard class(es):	5.1		
14.4. Packing group:	II		
Hazard label:	5.1		
	5.1		
Marine pollutant:	P		
Special Provisions:	314 322		
Limited quantity:	1 kg		
Excepted quantity:	E2		
EmS:	F-H, S-Q		
Segregation group: Other applicable information (marine tra Excepted quantity: E2	8 - hypochlorites nsport)		
Air transport (ICAO-TI/IATA-DGR)			
14.1. UN number or ID number:	UN 2880		
14.2. UN proper shipping name:	CALCIUM HYPOCHLORITE,	HYDRATED MIXTURE	
<u>14.3. Transport hazard class(es):</u>	5.1		
14.4. Packing group:	II		
Hazard label:	5.1		
	5.1		
Special Provisions:	A3 A8 A136 A803		
Limited quantity Passenger:	2.5 kg		
Passenger LQ:	Y544		
Excepted quantity:	E2		
IATA-packing instructions - Passenger:	558 5 kg		
IATA-max. quantity - Passenger: IATA-packing instructions - Cargo:	5 kg 562		
IATA-packing instituctions - Cargo:	25 kg		
Other applicable information (air transport Passenger-LQ: Y546	-		
Excepted quantity: E1			
14.5. Environmental hazards			
ENVIRONMENTALLY HAZARDOUS:	Yes	¥2	$\rangle$
Danger releasing substance:	calcium hypochlorite	$\sim$	
14.6. Special precautions for user			
Warning: Oxidising substances. Refer	to section 6-8		



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## 14.7. Maritime transport in bulk according to IMO instruments

not relevant

## **SECTION 15: Regulatory information**

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

## EU regulatory information

Restrictions on use (REACH, annex XVII):	
Entry 75	
Information according to 2012/18/EU (SEVESO III):	P8 OXIDISING LIQUIDS AND SOLIDS
Additional information:	E1
National regulatory information	
Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water hazard class (D):	2 - obviously hazardous to water
15.2. Chemical safety assessment	

## Chemical safety assessments for substances in this mixture were not carried out.

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

#### Changes

This data sheet contains changes from the previous version in section(s): 1,2,3,4,5,7,9,11,12,14,15,16. 27.12.2010 Neuerstellung, Rev. 1,00 09.01.2011 Umstellung auf EU VO 453 Anhang I, Rev. 1,10 14.07.2014 Revision; Rev 1,20 3.02.2020 Revision; Rev. 1,30 Rev. 23,0; 23.05.2023; general adjustment(s) Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) 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 OSHA: Occupational Safety and Health Administration LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent NOEL: No observed effect level NOAEL: No observed adverse effect level LOAEL: Lowest observed adverse effect level NOAEC: No observed adverse effect level LOAEC: Lowest observed adverse effect concentration DNEL: Derived No Effect Level PNEC: predicted no effect concentration **TSCA: Toxic Substances Control Act** 



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IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER NTP: National Toxicology Program SARA: Superfund Amendments and Reauthorization Act GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany) PBT: Persistent bioaccumulative toxic SVHC: substance of very high concern 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 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: very persistent, very 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 Relevant H and EUH statements (number and full text) H272 May intensify fire; oxidiser. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H400 Verv toxic to aquatic life. FUH031 Contact with acids liberates toxic gas. FUH071 Corrosive to the respiratory tract. EUH206 Warning! Do not use together with other products. May release dangerous gases (chlorine). **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. 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

necessarily valid for the new made-up material.

product with other products or in the case of processing, the information on this safety data sheet is not