

Safety Data Sheet

according to UK REACH Regulation

MucoFlutol

Revision date: 14.08.2023

Product code: 12097.xxxxx

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

1.1. Product identifier

MucoFlutol

UFI: QQHC-0MTY-G7CP-YGM9

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 number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Met. Corr. 1; H290
Skin Corr. 1; H314
Eye Dam. 1; H318
Aquatic Acute 1; H400
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

Sodium hydroxide
sodium hypochlorite

Signal word: Danger

Pictograms:



Hazard statements

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe mist/vapours/spray.

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P273	Avoid release to the environment.
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.

Labelling of packages where the contents do not exceed 125 ml
Signal word: Danger

Pictograms:

Hazard statements

H314

Precautionary statements

P260-P280-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 quantities of 0.1 % or more have endocrine disrupting properties.

SECTION 3: Composition/information on ingredients
3.2. Mixtures
Chemical characterization

aqueous solution

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
1310-73-2	Sodium hydroxide			5 - < 10 %
	215-185-5	011-002-00-6	01-2119457892-27	
	Met. Corr. 1, Skin Corr. 1A, Eye Dam. 1; H290 H314 H318			
7681-52-9	sodium hypochlorite			5 - < 10 %
	231-668-3	017-011-00-1	01-2119488154-34	
	Skin Corr. 1B, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H314 H318 H400 H410 EUH031			

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. Limits, M-factors and ATE		
1310-73-2	215-185-5	Sodium hydroxide	5 - < 10 %
	Skin Corr. 1A; H314: >= 5 - 100 Skin Corr. 1B; H314: >= 2 - < 5 Skin Irrit. 2; H315: >= 0,5 - < 2 Eye Dam. 1; H318: >= 2 - 100 Eye Irrit. 2; H319: >= 0,5 - < 2		
7681-52-9	231-668-3	sodium hypochlorite	5 - < 10 %
	dermal: LD50 = 20000 mg/kg; oral: LD50 = 1100 mg/kg Aquatic Acute 1; H400: M=10 Aquatic Chronic 1; H410: M=1 EUH; EUH031: >= 5 - 100		

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

First aider: Pay attention to self-protection! Take off immediately all contaminated clothing. Remove affected person from the danger area and lay down. Provide fresh air. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Immediately call a POISON CENTER/doctor/. To supervise the blood circulation.

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. Remove casualty to fresh air and keep warm and at rest. In case of respiratory tract irritation, consult a physician.

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. If skin irritation occurs: Get medical advice/attention.

After contact with eyes

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

After ingestion

Observe risk of aspiration if vomiting occurs. Adverse human health effects and symptoms: Gastric perforation. Do not allow a neutralisation agent to be drunk. Rinse mouth thoroughly with water. Let water be drunk in little sips (dilution effect). Do NOT induce vomiting. Call a physician immediately.

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

Causes severe skin burns and eye damage. May cause irritation.

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. dry extinguishing powder. Carbon dioxide (CO₂). Water spray.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-flammable. In case of fire may be liberated: Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen chloride (HCl). Chlorine (Cl₂).

5.3. Advice for firefighters

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

Additional information

Suppress gases/vapours/mists with water spray jet. 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**

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. High slip hazard because of leaking or spilled product.

For non-emergency personnel

Provide fresh air. Clear danger zone. Follow emergency plan. Consult an expert.

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.
Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up**For containment**

Cover drains. Collect, embank and pump out. Observe possible material restrictions (section 10).

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. Clear contaminated areas thoroughly.

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. Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation as well as local exhaustion at critical locations. Use extractor hood (laboratory). Avoid contact with skin, eyes and clothes. Wear suitable protective clothing. (See section 8.). Handle and open container with care. Always close containers tightly after the removal of product.

Advice on protection against fire and explosion

Vapours/aerosols must be exhausted directly at the point of origin. Usual measures for fire prevention.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. 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. Take off contaminated clothing and wash it before reuse. Used working clothes should not be worn outside the work area. Street clothing should be stored separately from work clothing. Always close containers tightly after the removal of product. After work, wash hands and face.

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 adequate ventilation as well as local exhaustion at critical locations. Unsuitable container/equipment material: Metal. Aluminium. Zinc. Suitable material for Container: polyethylene. PVC (Polyvinyl chloride). Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

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Hints on joint storage

Do not store together with: Acid. 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

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

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
1310-73-2	Sodium hydroxide	-	2		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
1310-73-2	Sodium hydroxide			
Worker DNEL, long-term		inhalation	local	1 mg/m ³
Consumer DNEL, long-term		inhalation	local	1 mg/m ³
7681-52-9	sodium hypochlorite			
Worker DNEL, long-term		inhalation	systemic	1,55 mg/m ³
Worker DNEL, acute		inhalation	systemic	3,1 mg/m ³
Worker DNEL, long-term		dermal	local	0,5 %
Consumer DNEL, long-term		inhalation	local	1,55 mg/m ³
Consumer DNEL, acute		inhalation	systemic	3,1 mg/m ³
Consumer DNEL, long-term		oral	systemic	0,26 mg/kg bw/day

PNEC values

CAS No	Substance	Value
7681-52-9	sodium hypochlorite	
Freshwater		0,00021 mg/l
Marine water		0,000042 mg/l
Secondary poisoning		11,1 mg/kg
Micro-organisms in sewage treatment plants (STP)		4,69 mg/l

8.2. Exposure controls



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Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Technical measures and the application of suitable work processes have priority over personal protection equipment. Process within closed systems. Use extractor hood (laboratory). Ensure adequate ventilation. 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**

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 Stunden):

Butyl rubber. (0,5 mm)

FKM (fluororubber). (0,4 mm)

CR (polychloroprenes, Chloroprene rubber). (0,5 mm)

PVC (Polyvinyl chloride). (0,5 mm)

Before using check leak tightness / impermeability.

Skin protection

Use of protective clothing. Lab apron.or Chemical protection clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Respiratory protection necessary at: generation/formation of aerosols

Suitable respiratory protective equipment: Combination filtering device (EN 14387) B-P2. Identification color: grey/ white

Environmental exposure controls

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Discharge into the environment must be avoided. Inform competent authorities in case of accidental release. (Larger quantities)

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid	
Colour:	clear	
Odour:	Chlorine.	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		>100 °C
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):		11,5-12,5
Viscosity / kinematic:		not determined
Water solubility: (at 20 °C)		easily soluble

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Solubility in other solvents

not determined

Partition coefficient n-octanol/water:

not determined

Vapour pressure:

23 hPa

(at 20 °C)

Vapour pressure:

123 hPa

(at 50 °C)

Density (at 20 °C):

1,15 g/cm³

Relative vapour density:

not determined

Particle characteristics:

not applicable

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

The product is not: Explosive.

Sustaining combustion:

No data available

Oxidizing properties

none

Other safety characteristics

Evaporation rate:

not determined

Further Information

No information available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

Corrosive to metals. Possibility of hazardous reactions. Reaction with: Acid. Explosive.

10.2. Chemical stability

Stable under normal storage and handling conditions.

10.3. Possibility of hazardous reactions

Exothermic reaction with: Acid, Peroxides, Oxidizing agent. Amines. Ammonia. organic materials. Reducing agents, strong. Oxidizing agents, strong. Formic acid Ethylene imine (aziridine) acetic Anhydride. urea Methanol. Oxalic acid Ammonium acetate. Acids Benzaldehyde. Phenylacetonitrile. arsenic ethandiol. permanganates, e.g. potassium permanganate nitric acid and nitrous acid hydrochloric acid.

10.4. Conditions to avoid

Light. UV-radiation/sunlight.

10.5. Incompatible materials

Metal. Keep away from: Acid, Oxidizing agent, Peroxides. Light. UV-radiation/sunlight.

Information is given in subsection 10.3.

Materials to avoid: Aluminium. Zinc. Reducing agents.

Handle with care - avoid bumps, friction and impact.

10.6. Hazardous decomposition productsContact with acids liberates toxic gas. In case of fire may be liberated: Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen chloride (HCl). Chlorine (Cl₂).**Further information**

Discharge into the environment must be avoided.

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.

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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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7681-52-9	sodium hypochlorite				
	oral	LD50 1100 mg/kg	Rat	suppliers SDS.	
	dermal	LD50 20000 mg/kg	Rabbit	suppliers SDS.	

Irritation and corrosivity

Causes severe skin burns and eye damage. (On basis of test data)

Causes serious eye damage. (On basis of test data)

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 hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information
12.1. Toxicity

Very toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
1310-73-2	Sodium hydroxide					
	Acute fish toxicity	LC50	196 mg/l	96 h		Adema, D.M.M. 1985., GESTIS.
	Acute crustacea toxicity	EC50 mg/l	40,4	48 h	Ceriodaphnia sp.	Warne and Schifko, 1999; ECHA Dossier.
7681-52-9	sodium hypochlorite					
	Acute fish toxicity	LC50 mg/l	0,06	96 h	Oncorhynchus mykiss (Rainbow trout)	suppliers SDS.
	Acute algae toxicity	ErC50 mg/l	0,036	72 h		suppliers SDS.
	Acute crustacea toxicity	EC50 mg/l	0,141	48 h	Daphnia magna (Big water flea)	suppliers SDS.
	Fish toxicity	NOEC mg/l	0,04	28 d	Menidia peninsulae (tidal silverside)	suppliers SDS.
	Crustacea toxicity	NOEC mg/l	0,007	15 d	American oyster (Crassostrea virginica)	suppliers SDS.
	Acute bacteria toxicity	(EC50	>3 mg/l)	3 h	Activated sludge	suppliers SDS.

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
7681-52-9	sodium hypochlorite	-3,42

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

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Do not allow uncontrolled discharge of product into the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

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. Hazardous waste according to Directive 2008/98/EC (waste framework directive). Observe Waste Directive 2008/98/EC. Product residues must be disposed of in accordance with national and regional regulations. Leave chemicals in original containers. Do not mix with other wastes. Uncleaned containers must be treated according to the product. Find out more about take-back systems for chemicals and packaging at www.Retrologistik.de or use the address to contact us if you have any questions.

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Discharge into the environment must be avoided. The product needs to apply neutralizing agents before draining to wastewater treatment plants. Dispose of waste according to applicable legislation. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Consult the local waste disposal expert about waste disposal. Control report for waste code/waste marking according to (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

060204 WASTES FROM INORGANIC CHEMICAL PROCESSES; wastes from the MFSU of bases; sodium and potassium hydroxide; hazardous waste

List of Wastes Code - used product

060204 WASTES FROM INORGANIC CHEMICAL PROCESSES; wastes from the MFSU of bases; sodium and potassium hydroxide; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

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 1719
14.2. UN proper shipping name:	CAUSTIC ALKALI LIQUID, N.O.S.(Sodium hydroxide, sodium hypochlorite)
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8



Classification code:	C5
Special Provisions:	274
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1719
14.2. UN proper shipping name:	CAUSTIC ALKALI LIQUID, N.O.S.(Sodium hydroxide, sodium hypochlorite)
14.3. Transport hazard class(es):	8
14.4. Packing group:	II
Hazard label:	8



Classification code:	C5
Special Provisions:	274
Limited quantity:	1 L

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Excepted quantity: E2

Marine transport (IMDG)

14.1. UN number or ID number: UN 1719
14.2. UN proper shipping name: CAUSTIC ALKALI LIQUID, N.O.S.(sodium hydroxide, sodium hypochlorite)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
 Hazard label: 8



Special Provisions: 274
 Limited quantity: 1 L
 Excepted quantity: E2
 EmS: F-A, S-B
 Segregation group: 18 - alkalis

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1719
14.2. UN proper shipping name: CAUSTIC ALKALI LIQUID, N.O.S.(sodium hydroxide, sodium hypochlorite)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
 Hazard label: 8



Special Provisions: A3 A803
 Limited quantity Passenger: 0.5 L
 Passenger LQ: Y840
 Excepted quantity: E2
 IATA-packing instructions - Passenger: 851
 IATA-max. quantity - Passenger: 1 L
 IATA-packing instructions - Cargo: 855
 IATA-max. quantity - Cargo: 30 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: Sodium hypochlorite.

14.6. Special precautions for user

Warning: strongly corrosive. Refer to section 6-8

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 3, Entry 75

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Information according to 2012/18/EU
(SEVESO III):

E1 Hazardous to the Aquatic Environment

Additional information

This preparation is hazardous in the sense of regulation (EC) No 1272/2008 [GHS].

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D):

2 - obviously hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

Sodium hydroxide

sodium hypochlorite

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 9,16.

19.08.2010; Rev.1.0 Neuerstellung

09.09.2011; Rev. 1.1 Umstellung auf EU VO 453 Anhang I, Einstufung H302 entfernt. P-Sätze eingeschränkt.

15.07.2014; Rev 1.2 Revision

24.08.2021; Rev. 1.3 Revision Kap- 1-16; Recipe.

Rev. 2,0; 11.08.2023; general adjustment(s)

Rev. 2,1; 14.08.2023; neuer UFI aufgrund Fehler in der PCN-Meldung

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

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

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

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Skin Corr. 1; H314	On basis of test data
Eye Dam. 1; H318	On basis of test data
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH031	Contact with acids liberates toxic gas.

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 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.

Safety Data Sheet

according to UK REACH Regulation

MucoFlutol

Revision date: 14.08.2023

Product code: 12097.xxxxx

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