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SAFETY DATA SHEET

Safety data sheet according to (EF) no. 1907/2006.

POINT 1: Identification of material/compounds and of the company/factory

1.1. Product identifier:

Treo-Liq 8 %
UFI: 5J10-H0P9-600C-R9F1

1.2. Relevant identifying use of the material or compound and the usage that is contraindicated:

Liquid supplementary feed . Only for commercial use.

1.3. Detailed information about the supplier for the safety data sheet:

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Teglvaerksvej 11
4733 Tappernoeje
Denmark
Tel.: +45 56214070

Responsible for safety data sheet (e-mail): jorenku@jorenku.dk

1.4. Emergency phone:

Contact the poison centre in your own country.

POINT 2: Identification of danger

2.1. Classification of the material or compound:

Corrosive liquid.
CLP (1272/2008): Met. Corr. 1;H290 Skin Corr. 1B;H314 Eye Dam. 1;H318

2.2. Label elements:


DANGER

Contains:	Sodium hydroxyde.
H290:	May be corrosive to metals.
H314:	Causes severe skin burns and eye damage.
P280:	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353+P310:	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Immediately call a POISON CENTER/ doctor.
P305+P351+P338+P310:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P390:	Absorb spillage to prevent material damage.
P406:	Store in corrosive resistant stainless steel container with a resistant inner liner.

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2.3. Other dangers:
PBT/vPvB: The ingredients are not PBT/vPvB according to the criteria of Regulation 2023/707.
Endocrine disrupting properties: The ingredients are not considered endocrine disruptors according to the criteria of Regulation 2023/707.

POINT 3: Compensation of/information about contents

3.1. Compensation of/information about contents
3.2. Compounds:

Substance name	CAS	EF-No.	Index-no.	REACH reg.no.	Substance Classification	Note
Sodium hydroxyde	1310-73-2	215-185-5	011-002-00-6	01-2119457892-27	Met. Corr. 1;H290 Skin Corr. 1A;H314 Eye Dam. 1;H318	1
Propionic acid	79-09-4	201-176-3	607-089-00-0	01-2119486971-24	Flam. Liq. 3;H226 Skin Corr. 1B;H314 Eye Dam. 1;H318 STOT SE 3;H335	2,3

1) SCL (Specific Concentration limits) for classification: Skin Corr. 1A;H314: C ≥ 5%; Skin Corr. 1B;H314: 2% ≤ C < 5%; Skin Irrit. 2;H315/Eye Irrit. 2;H319: 0,5% ≤ C < 2% (C&L list, EU-harmonisation).
2) SCL (Specific Concentration limits) for classification: Skin Corr. 1B;H314: C ≥ 25%; Skin Irrit. 2;H315: 10% ≤ C < 25%; Eye Irrit. 2;H319: 10% ≤ C < 25%; STOT SE 3;H335: C ≥ 10% (C&L list, EU-harmonisation)
3) The substance is an organic solvent.

The wording of the hazard statements - see paragraph 16.

POINT 4: First aid measures

4.1. Description of first aid measures:
Inhalation: Bring the person to fresh air. Keep calm under supervision. In case of discomfort: Seek medical attention.
Skin: Immediately remove contaminated clothing. Rinse skin and wash thoroughly with soap and water. By continued irritation: Seek medical attention.
Eyes: Thoroughly rinse with water or physiological saline for at least 30 minutes. If possibly remove contact lenses and open the eye wide. Rinsing is continued during transport to the doctor/hospital.
Ingestion: Immediately rinse mouth thoroughly and drink water in copious amounts. **Do not induce vomiting.** If vomiting occurs, keep the head low to avoid stomach contents in the lungs. Immediately call an ambulance.

4.2. Most important symptoms and effects, both acute and delayed:
Corrosion of airways with throat pain, cough and breathlessness, which can occur several hours after exposure. Etching of the mucous membranes in the mouth as well as the skin and eyes with severe pain. Etching may cause servere and irreparable tissue damage.

4.3. Indication of whether emergency medical attention and special treatment are needed:
By unconsciousness or discomfort: immediately call a doctor or an ambulance. Show this safety data sheet to doctors or casualty ward.

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POINT 5: Fire suppression

5.1. Suppression methods:
Cannot burn.

5.2. Special dangers in connection with the material or compound:
Not relevant - cannot burn.

5.3. Indication for a fire department:
In case of heavy smoke, use compressed air mask.

POINT 6: Accidental release measures

6.1. Personal precautions, personal protective equipment, and emergency procedures:
Use personal protective equipment - see point 8. Limit spread. Ensure good ventilation.

6.2. Environmental protection indications:
Avoid discharge to drains - see point 12. Inform local environmental authorities in case of spillage to the environment.

6.3. Methods and equipment for containment and cleaning:
Soake up with granulate or similar and handled as chemical waste. Rinse thoroughly with water. Further waste handling - see point 13.

6.4. References to other points:
See above.

POINT 7: Handling and storage

7.1. Measures for safe handling:
AVOID ALL CONTACT also during dilution! Immediately change contaminated clothing. Avoid inhalation of aerosol fog. Provide effective ventilation. After use, wash with plenty of soap and water. There must be access to water and eyewash bottles. Moisturiser prevents excessive dryness of the skin and can with great advantage be used at the end of the work.

7.2. Conditions for safe storage, including any incompatibility:
Store in well-closed original packaging in a cool (frost-free) and well-ventilated place. Suitable materials for container: Stainless steel or carbon steel. Sodium hydroxyde may corrode rubber, painted surfaces and certain types of plastic. Sodium hydroxyde and its solutions must not be stored in galvanized packaging or packaging with light metal bungs, as this leads to the development of explosive hydrogen gas. Safe, inaccessible to unauthorized persons, separated from food, feed, medicines etc.

7.3. Special usage:
See use - point 1.

PUNKT 8: Exposure control/personal protective equipment

8.1. Control parameter:
AT-limit value (reg. 291 of 19.03.2024):

	8-hours limit value	**Short-term limit value**	**Anm.**
Sodium hydroxyde	-	2 mg/m^3	L
Propionic acid	10 ppm = 31 mg/m^3	20 ppm = 62 mg/m^3	E

E = The substance has an EF-limit value
L = threshold limit value-ceiling, wich may not be exceed

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DNEL:	Exposure	Value	Population	Effects
Propionic acid	Long-term, skin Long-term, skin Acute, inhalation Acute, inhalation Long-term, inhalation Long-term, inhalation	0.26 mg/kg 20.9 mg/kg 62 mg/m^3 62 mg/m^3 31 mg/m^3 73 mg/m^3	Workers Workers Workers Workers Workers Workers	Local Systemic Local Systemic Local Systemic
Sodium hydroxyde	Long-term, inhalation Long-term, inhalation	1 mg/m^3 1 mg/m^3	Workers Consumers	Local Local

PNEC:	Medium	Value
Propionic acid	Fresh water Sea water Fresh water sediment Sea water sediment Sewage works (STP) Soil	0.5 mg/l 0.05 mg/l 1.86 mg/kg 0.186 mg/kg 5 mg/l 0.126 mg/kg
Sodium hydroxyde	No data.	

8.2. Exposure control:

Appropriate measures for exposure control: Provide effective ventilation.

Personal protective equipment:

Inhalation: In case of insufficient ventilation or squirting: Use mask approved with particle filter P2 (EN 149). The filters have a limited service life (must be replaced). Read the manufacturer's instructions.

Skin: Wear protective gloves (EN 374) made of nitrile rubber (> 0.4 mm) or butyl rubber. Expected breakthrough time: Up to 3 hours.

Eyes: Tight-fitting goggles (EN ISO 16321-1)) or face shield (EN 175)

Environmental exposure controls: Avoid discharge to the environment/sewer.

POINT 9: Physical and chemical characteristics

9.1. Information about basic physical and chemical characteristics:

Appearance:	Liquid
Colour:	Uncoloured
Odor:	Not decided
Melting point/freezing point (°C):	Not decided
Boiling point or bubble-point and boiling point interval (°C):	Not decided
Ignitability (solid, gaseous):	Not decided
Upper/lower explosion limits (vol-%):	Not decided
Flash point (°C):	Not decided
Auto-ignition temperature (°C):	Not decided
Self-accelerating decomposition temperature (°C):	Not relevant
pH:	Alkaline
Kinematic viscosity (mm^2/s at 40°C):	Not decided
Solubility (mg/l):	Soluble in water
Partition coefficient n-octanol/water Log K_{ow}:	Not decided

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Vapor pressure (hPa, 20°C):	0.399 (for propionic acid)
Density and/or relative density (g/cm^3):	>1
Relative vapor density (air=1):	Not decided
Particulate properties:	Not decided for liquids

9.2. Other information: None known.

POINT 10: Stability and reactivity

10.1. Reactivity:
See point 10.5.

10.2. Chemical stability:
Stable under recommended storage conditions - see point 7.

10.3. Risk of dangerous reactions:
Sodium hydroxyde dissolves fat deposits and corrodes gaskets, certain plastics and rubber materials. Reacts with metals to form hydrogen with the risk of forming explosive hydrogen/air mixtures.

10.4. Conditions that should be avoided:
May not be exposed to heating (e.g. sunlight), as overpressure can develop. Avoid frost.

10.5. Materials that should be avoided:
Avoid contact with light metals such as aluminium, zinc and tin or other non-alkali-resistant surfaces (risk of formation of flammable and explosive hydrogen gas).

10.6. Dangerous decomposition products:
In case of strong heating, very toxic gases are formed.

POINT 11: Toxicological information

11.1. Information about hazard classes as defined in Regulation (EC) No 1272/2008:
Acute toxicity: Based on available data, the classification criteria are not met.
Skin corrosion/irritation: Skin Corr. 1B;H314 Causes severe skin burns and eye damage.
Serious eye damage/eye irritation: Eye Dam. 1;H318 Causes serious eye damage
Respiratory or skin sensitization: Based on available data, the classification criteria are not met.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproduction toxicity: Based on available data, the classification criteria are not met.
Single STOT-exposure: Based on available data, the classification criteria are not met.
Repeated STOT-exposures: Based on available data, the classification criteria are not met.
Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.

Danger class	Data	Test	Data source
Acute toxicity:			
Inhalation	LC_{50} (rat) > 19.7 mg/l/1h (vapor) (Propionic acid)	Not informed	ECHA
Dermal	LD_{50} (rabbit) = 1350 mg/kg – corrosion (Sodium hydroxyde)	Not informed	IUCLID
Oral	LD_{50} (rabbit) = 3235 mg/kg (Propionic acid)	Not informed	ECHA
	LD_{100} (rabbit) = 500 mg/kg – corrosion (Sodium hydroxyde)	Not informed	IUCLID
	LD_{50} (rat) = 2600 mg/kg (Propionic acid)	Not informed	TOXNET

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Danger class	Data	Test	Data source
Corrosivity/ irritation:	Strong corrosion (< 3 min), rabbit (Sodium hydroxyde) Corrosive, rabbit (Propionic acid)	Not informed OECD 404	IUCLID ECHA
Sensitisation:	No skin sensitizing, guinea pig (Sodium hydroxyde) No skin sensitizing, guinea pig (Propionic acid)	Intracutan OECD 406	IUCLID ECHA
CMR:	No genotoxicity by in vitro test (Sodium hydroxyde) No CMR-effects (Propionic acid)	AMES Different	IUCLID ECHA

Usual exposure methods: Skin, lungs and gastrointestinal tract.

Inhalation: May be irritating to the respiratory tract with sore throat and cough.

Skin: Corrosive with redness, sores and severe pain. Also with a degreasing effect.

Eyes: Corrosive with redness, severe pain, loss of vision and swelling.

Ingestion: Strongly corrosive on the mucous membranes in the mouth, throat and gastrointestinal tract with stomach ache, nausea, vomiting, diarrhoea, stomach bleeding, drop in blood pressure, shortness of breath, cramps, restlessness and salivation.

Chronic effects: Inhalation of high concentrations or frequent inhalation of even small amounts of organic solvent can cause damage to e.g., liver, kidneys and central nervous system (including brain damage).

11.2. Information about other hazards: None known.

POINT 12: Environmental information

12.1. Toxicity:

Aquatic	Data	Test (Media)	Data source
Fish	LC_{50} (Gambusia affinis, 96h) = 125 mg/l (Sodium hydroxyde)	Statisk (FW)	IUCLID
	LC_{50} (Oncorhynchus mykiss, 96h) = 45 mg/l (Sodium hydroxyde)	Not informed (FW)	Supplier ECHA
	LC_{50} (Leuciscus idus, 96h) > 10,000 mg/l (Propionic acid)	DIN 38412 (FW)	Supplier
	NOEC (Leuciscus idus, 96h) > 5,000 mg/l (Propionic acid)	DIN 38412 (FW)	
Crustacean	EC_{50} (Ceriodaphnia dubia, 48h) = 40.4 mg/l (Sodium hydroxyde)	Not informed (FW)	EPA Ecotox
	EC_{50} (Daphnia magna, 48h) = 30 mg/l (Sodium hydroxyde)	Not informed (FW)	Supplier
	EC_{50} (Daphnia magna, 48h) > 500 mg/l (Propionic acid)	Not informed (FW)	ECHA
	NOEC (Daphnia magna, 48h) = 250 mg/l (Propionic acid)	Not informed (FW)	Supplier
Alga	EC_{50} (Scenedesmus subspicatus, 72h) > 500 mg/l (Propionic acid)	OECD 201 (FW)	Supplier

12.2. Persistence and degradability:

Sodium hydroxyde is inorganic. Methods for determining the biodegradability do not apply to inorganic substances.

Propionic acid is rapidly biodegradable, 95 % in 10 days (OECD 302B).

12.3. Bioaccumulative potential:

Sodium hydroxyde: Log K_{ow} < 0 (no significant bioaccumulation).

Propionic acid: Log K_{ow} = 0.3 (OECD 107) (no bioaccumulation).

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12.4. Mobility in soil:
Sodium hydroxyde is dissolvable in water and will upon dissolution split into sodium and hydroxyde ions, for which high mobility in land treatment is expected.

12.5. Results of PBT and vPvB assessment:
The ingredients are not PBT/vPvB according to the criteria of Regulation 2023/707.

12.6. Endocrine-disrupting capacities:
None known.

12.7. Other adverse effects:
Emissions of larger amounts can change the pH value in the aquatic environment and shift the balance of the ecosystems.

POINT 13: Removal

13.1. Methods for waste handling:
The chemical must be considered as hazardous waste. Use the local authority's collection scheme.

Chemical waste group:	**EAK-code:**
H	02 01 08

POINT 14: Transport information

14.1. UN-number or ID-number: 1760
14.2. UN-shipment designation (UN proper shipping name): CORROSIVE LIQUID, N.O.S. (sodium hydroxyde)
14.3. Transport danger class(es): 8
14.4. Packaging group: II
14.5. Environmental dangers: No.
14.6. Special regulations for the user: None.
14.7. Bulk transport by sea according to IMO instruments: Not relevant.

POINT 15: Information about regulations

15.1. Special determinations/special rules for the material or compound with respect to safety, health and environment:
The product must not be used commercially by young people under 18 years of age. (cf. the working environment authority's report on the performance of work).
In a workplace assessment, it must be ensured that employees are not exposed to effects that may involve a risk during pregnancy or breastfeeding (cf. the working environment authority's report on the performance of work).

Feed additives are covered by EU regulation no. 1831/2003 on feed additives.

PR-no.: 4457404.

15.2. Chemical safety evaluation:
No CSR.

POINT 16: Other information

Hazard statements given under point 3:
H226: Flammable liquid and vapour.
H314: Causes severe skin burns and eye damage.

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H318: Causes serious eye damage.
H335: May cause respiratory irritation.

Abbreviations:
AT = Working environment authority
CMR = carcinogenic, mutagenic, or toxic to reproduction
CSR = Chemical Safety Report
EC_{50} = Effect Concentration 50 %
DNEL = Derived No-Effect Level
FW = Fresh Water
LC_{50} = Lethal Concentration 50 %
LD_{50} = Lethal dosage 50 %
PBT = Persistent, Bioaccumulative, Toxic
PNEC = Predicted No-Effect Concentration
vPvB = very Persistent, very Bioaccumulative

Literature:
ECHA = REACH Registration dossier from ECHA's website
EPA Ecotox = Environmental Protection Agency
IUCLID = International Uniform ChemicaL Database Information
The supplier's safety data sheet
TOXNET = Toxicology Data Network via Toxline database

Advice on training / instruction:
The product may only be used by persons who are carefully instructed in the execution of the work and who have knowledge of the contents of this safety data sheet.

Changes since previous version:
2, 3, 8 & 12

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