

SAFETY DATA SHEET

TK-17

The safety data sheet is in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

Date issued	25.02.2014
Revision date	31.03.2021

1.1. Product identifier

Product name	TK-17
Article no.	1476105, 1476106, 1476108, 1476109

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

Use of the substance / mixture	Foam cleaner.
Industrial use	Yes
Professional use	Yes
Consumer use	No

1.3. Details of the supplier of the safety data sheet

Company name	Tandur h.f.
Office address	Hestháis 12
Postcode	110
City	Reykjavík
Country	ICELAND
Telephone number	00354 510 1200
Email	tandur@tandur.is
Website	www.tandur.is

1.4. Emergency telephone number

Emergency telephone	Telephone number: (+354)-543-2222 Description: POISON CENTER
	Telephone number: 112 Description: EMERGENCY#

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to
Regulation (EC) No 1272/2008
[CLP / GHS]

Skin Corr. 1A; H314
Aquatic Acute 1; H400

2.2. Label elements

Hazard pictograms (CLP)



Composition on the label	Sodium hydroxide 5 - 15 % wt/wt, Sodium hypochlorite 1 - 5 % wt/wt
Signal word	Danger
Hazard statements	H314 Causes severe skin burns and eye damage. H400 Very toxic to aquatic life. EUH 031 Contact with acids liberates toxic gas.
Precautionary statements	P260 Do not breathe dust / fume / gas / mist / vapours / spray. P264 Wash hands thoroughly after handling. P273 Avoid release to the environment. P280 Wear protective gloves / protective clothing / eye protection / face protection. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower. P363 Wash contaminated clothing before reuse. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310 Immediately call a POISON CENTER or doctor / physician. P321 Specific treatment (see section 4 on this label). P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P391 Collect spillage. P405 Store locked up. P501 Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards

PBT / vPvB	This product does not contain any PBT or vPvB substances.
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SECTION 3: Composition / information on ingredients

3.2. Mixtures

Substance	Identification	Classification	Contents	Notes
Sodium hydroxide	CAS No.: 1310-73-2 EC No.: 215-185-5 Index No.: 011-002-00-6	Skin Corr 1A; H314 Met. Corr. 1; H290	5 - 15 % wt/wt	
Sodium hypochlorite,	CAS No.: 7681-52-9	Skin Corr. 1B; H314	1 - 5 % wt/wt	

solution ...% Cl active	EC No.: 231-668-3 Index No.: 017-011-00-1	Aquatic Acute 1;H400 EUH031 Note : B	
Potassium silicate	CAS No.: 1312-76-1 EC No.: 215-199-1 REACH Reg. No.: 01-2119456888-17	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	1 - 5 % wt/wt
Amines, C12-14-Alkyldimethyl, N-Oxides	CAS No.: 308062-28-4 EC No.: 931-292-6	Eye Dam. 1; H318 Aquatic Acute 1; H400 Skin Irrit. 2; H315	1 - 5 % wt/wt

SECTION 4: First aid measures

4.1. Description of first aid measures

General	Call a POISON CENTER or doctor/physician if you feel unwell. Show this SDS.
Inhalation	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
Skin contact	Flush skin thoroughly with water. Take off contaminated clothing and wash before reuse. Get immediate medical advice/attention.
Eye contact	Promptly wash eyes with plenty of water while lifting the eye lids. Remove contact lenses, if present and easy to do. Continue rinsing. Continue flushing during transport to hospital.
Ingestion	Rinse mouth thoroughly. Drink a few glasses of water or milk. Get immediate medical advice/attention.
Recommended personal protective equipment for first aid responders	Wear protective gloves / protective clothing / eye protection / face protection. See further section 8.2

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

Information for health personnel	CORROSIVE PRODUCT: Contains CAUSTIC SODA and SODIUM HYPOCHLORITE
Acute symptoms and effects	Causes severe skin burns and eye damage See further section 11.1 under "Potential Acute Effects"

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray, foam, dry powder or carbon dioxide.
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5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	Not known.

5.3. Advice for firefighters

Personal protective equipment	Wear respiratory protection. Wear protective gloves / protective clothing / eye
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	protection / face protection.
Fire fighting procedures	Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	Stop leak if safe to do so.
Personal protection measures	Wear protective gloves / protective clothing / eye protection / face protection.
Hazardous combustion products	Not known.
For emergency responders	Wear protective clothing as described in Section 8 of this safety data sheet. Call a POISON CENTER or doctor/physician if you feel unwell.

6.2. Environmental precautions

Environmental precautionary measures	Avoid release to the environment. Collect and dispose of spillage as indicated in section 13.
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6.3. Methods and material for containment and cleaning up

Containment	Store in a closed container.
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6.4. Reference to other sections

Other instructions	See section 8 and 13 for further details.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	Provide easy access to water supply and eye wash facilities.
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Protective safety measures

Preventitive measures to protect the environment	Prevent the product to reach sewage water or drainage system undiluted or unneutralized. Collect spillage if possible.
Advice on general occupational hygiene	Private clothes and working clothes should be kept separately.

7.2. Conditions for safe storage, including any incompatibilities

Storage	Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. Keep in original container. Store protected from acids.
Conditions to avoid	Store away from acids.

Conditions for safe storage

Technical measures and storage conditions	Alkalies.
Requirements for storage rooms and vessels	Keep only in original container.

Additional information on storage conditions	Store away from acids.
Storage temperature	Value: 0 - 20 °C

7.3. Specific end use(s)

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Substance	Identification	Exposure limits	TWA Year
Sodium hydroxide	CAS No.: 1310-73-2	Limit value (short term) Value: 2 mg/m3	TWA Year: 2011
Sodium hypochlorite, solution ...% Cl active	CAS No.: 7681-52-9		
Potassium silicate	CAS No.: 1312-76-1		
Amines, C12-14-Alkyldimethyl, N-Oxides	CAS No.: 308062-28-4		

DNEL / PNEC

Substance	Sodium hydroxide
DNEL	<p>Group: Worker Route of exposure: Long term (repeated) - Inhalation - Local effect Value: 1 mg/m3</p> <p>Group: Consumer Route of exposure: Long term (repeated) - Inhalation - Local effect Value: 1 mg/m3</p> <p>Group: Consumer Route of exposure: Short term (acute) - Dermal - Local effect Value: 2%</p> <p>Group: Worker Route of exposure: Short term (acute) - Dermal - Local effect Value: 2%</p>
Substance	Sodium hypochlorite, solution ...% Cl active
DNEL	<p>Group: Consumer Route of exposure: Long term (repeated) - Dermal - Local effect Value: 0,5%</p> <p>Group: Worker Route of exposure: Long term (repeated) - Inhalation - Local effect Value: 1,55 mg/m3</p> <p>Group: Worker Route of exposure: Long term (repeated) - Inhalation - Systemic effect Value: 1,55 mg/m3</p> <p>Group: Worker Route of exposure: Short term (acute) - Inhalation - Systemic effect Value: 3,1 mg/m3</p>

PNEC	Group: Worker Route of exposure: Short term (acute) - Inhalation - Local effect Value: 3,1 mg/m ³
	Group: Consumer Route of exposure: Long term (repeated) - Oral - Systemic effect Value: 0,26 mg/kg
	Group: Worker Route of exposure: Long term (repeated) - Dermal - Local effect Value: 0,5%
	Route of exposure: Air Value: 0,00026 mg/m ³
	Route of exposure: Sewage treatment plant STP Value: 0,03 mg/l
	Route of exposure: Water Value: 0,00021 mg/l
Substance	Potassium silicate
DNEL	Group: Consumer Route of exposure: Long term (repeated) - Inhalation - Systemic effect Value: 1,38 mg/m ³
	Group: Consumer Route of exposure: Long term (repeated) - Dermal - Systemic effect Value: 0,74 mg/kg bw/d
	Group: Professional Route of exposure: Long term (repeated) - Inhalation - Systemic effect Value: 5,61 mg/m ³
	Group: Professional Route of exposure: Long term (repeated) - Dermal - Systemic effect Value: 1,49 mg/kg bw/d
	Group: Consumer Route of exposure: Long term (repeated) - Oral - Systemic effect Value: 0,74 mg/kg bw/d
	Route of exposure: Sewage treatment plant STP Value: 348 mg/l
PNEC	Route of exposure: Water Value: 7,5 mg/l Reference: Fresh water
	Route of exposure: Water Value: 1 mg/l Reference: Marine water
Substance	Amines, C12-14-Alkyldimethyl, N-Oxides
DNEL	Group: Consumer Route of exposure: Long term (repeated) - Inhalation - Systemic effect Value: 3,8 mg/m ³

PNEC

Group: Worker**Route of exposure:** Long term (repeated) - Dermal - Systemic effect**Value:** 11 mg/kg/day**Group:** Worker**Route of exposure:** Long term (repeated) - Inhalation - Systemic effect**Value:** 15,5 mg/m³ 8h**Group:** Consumer**Route of exposure:** Long term (repeated) - Oral - Systemic effect**Value:** 0,44 mg/kg/day**Group:** Consumer**Route of exposure:** Long term (repeated) - Dermal - Systemic effect**Value:** 5,5 mg/kg/day**Route of exposure:** Water**Value:** 0,0335 mg/l**Reference:** Freshwater**Route of exposure:** Sewage treatment plant STP**Value:** 24 mg/kg**Route of exposure:** Water**Value:** 0,00335 mg/l**Reference:** Marine water**Route of exposure:** Sediment**Value:** 5,24 mg/kg**Reference:** Fresh water**Route of exposure:** Sediment**Value:** 0,524 mg/kg**Reference:** Marine water**Route of exposure:** Soil**Value:** 1,02 mg/kg

8.2. Exposure controls

Limitation of exposure on workplace

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Protective gloves and goggles are recommended. An eye wash bottle must be available at the work site.

Safety signs



Precautionary measures to prevent exposure

Instruction on measures to prevent exposure

Secure access of workers to safety information.

Organisational measures to prevent exposure	Avoid direct contact and/or splashes where possible. Train personnel.
Technical measures to prevent exposure	Where possible: use through foam systems and cover open containers. Use safety glasses/goggles and protective clothing.

Eye / face protection

Eye protection	Use approved safety glasses, goggles or face shield. Safety glasses should have side shields.
Suitable eye protection	Safety glasses should have side shields.
Additional eye protection measures	Provide easy access to water supply and eye wash facilities.
Reference to relevant standard	EN 166

Hand protection

Hand protection	Chemical resistant gloves required for prolonged or repeated contact.
Skin- / hand protection, short term contact	Nitril rubber: Penetration time: ≥ 30 min Material thickness: $\geq 0,4$ mm
Skin- / hand protection, long term contact	Butylrubber: Penetration time: ≥ 480 min Material thickness: $\geq 0,7$ mm
Suitable gloves type	Butyl rubber. Nitrile. Chloroprene rubber. Polyvinyl chloride (PVC). Rubber (natural, latex).
Thickness of glove material	Value: $\geq 0,4$ mm
Reference to relevant standard	Chemical-resistant protective gloves (EN 374).

Skin protection

Skin protection (except hands)	Wear suitable protective clothing as protection against splashing or contamination.
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Respiratory protection

Respiratory protection	Under normal conditions of use respiration protection should not be required. In case of inadequate ventilation or risk of inhalation of vapours, use suitable respiratory equipment with combination filter (type A2/P2).
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Appropriate environmental exposure control

Environmental exposure controls	Should not reach sewage or drainage system undiluted or unneutralized.
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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Clear liquid.
Colour	Green yellow.

Odour	Chlorine.
pH	Value: > 12,5 Temperature: ~ 20 °C
Melting point / melting range	Comments: Not determined.
Boiling point / boiling range	Comments: Not determined.
Flash point	Comments: Not relevant.
Evaporation rate	Comments: Not determined.
Vapour pressure	Comments: Not determined.
Vapour density	Comments: Not determined.
Relative density	Value: = 1,14 g/ml Temperature: ~ 20 °C
Solubility in water	Fully miscible.
Decomposition temperature	Comments: Not determined.
Viscosity	Comments: Not determined.

9.2. Other information

Physical hazards

Metal corrosion	Corrosive to aluminium and other light metals.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Reactivity issues of concern are mainly due to sodium hydroxide and sodium hypochlorite which are present in the mixture. Both are corrosive. Sodium hypochlorite will react with acids to release toxic chlorine gas. These effects become less and less significant as the mixture is diluted with water. If the mixture is stored and used as recommended there should be no danger due to its reactivity.
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10.2. Chemical stability

Stability	The mixture is stable under normal storage and use conditions.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No hazardous reactions known under normal storage and use conditions.
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10.4. Conditions to avoid

Conditions to avoid	May attack light-alloy metals and liberate hydrogen gas. The solution is strongly alkaline and reacts with strong acids with heat generation.
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10.5. Incompatible materials

Materials to avoid	Reacts with acids releasing toxic chlorine gas. Will corrode copper, zinc, aluminium and their alloys.
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10.6. Hazardous decomposition products

Hazardous decomposition products

No hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Substance	Sodium hydroxide
Acute toxicity	<p>Type of toxicity: Acute Effect tested: LD50 Route of exposure: Oral Value: = 1350 mg/kg Animal test species: Rat Test reference: Method not given</p> <p>Type of toxicity: Acute Effect tested: LD50 Route of exposure: Dermal Value: = 1350 mg/kg Animal test species: Rabbit Test reference: Method not given</p> <p>Type of toxicity: Acute Effect tested: LC50 Route of exposure: Inhalation. Value: = 4800 mg/l Animal test species: Mouse Test reference: Method not given</p>
Substance	Sodium hypochlorite, solution ...% Cl active
Acute toxicity	<p>Type of toxicity: Acute Effect tested: LD50 Route of exposure: Oral Value: > 1100 mg/kg Animal test species: Rat Test reference: OECD 401</p> <p>Type of toxicity: Acute Effect tested: LD50 Route of exposure: Dermal Value: > 20000 mg/kg Animal test species: Rabbits Test reference: OECD 402</p> <p>Type of toxicity: Acute Effect tested: LC50 Route of exposure: Inhalation. Value: > 10,5 mg/l Animal test species: Rat Test reference: OECD 403</p>
Substance	Potassium silicate
Acute toxicity	Type of toxicity: Acute

	Effect tested: LD50 Route of exposure: Oral Value: > 2000 mg/kg bw Animal test species: Rat
	Type of toxicity: Acute Effect tested: LD50 Route of exposure: Dermal Value: > 5000 mg/kg bw
Substance	Amines, C12-14-Alkyldimethyl, N-Oxides
Acute toxicity	Type of toxicity: Acute Effect tested: LD50 Route of exposure: Oral Value: = 1064 mg/kg Animal test species: Rat

Other information regarding health hazards

Inhalation	May cause bronchospasm in chlorine sensitive individuals. Severe irritant, may cause respiratory tract irritation.
Skin contact	Causes severe burns.
Eye contact	Highly Corrosive. Risk of serious damage to eyes. Immediate first aid is necessary.
Ingestion	Highly Corrosive. May cause burns in mucous membranes, throat, oesophagus and stomach.
Mutagenicity	No information available on mixture. However, studies have not shown any indication of mutagenicity of individual substances in the mixture.
Carcinogenicity, other information	No information or data available on mixture. However, there is no evidence of carcinogenicity on individual substances in the mixture.
Reproductive toxicity	No information or data available on mixture. However, studies have not shown any indication of reproductive toxicity for individual substances in the mixture.

11.2 Other information

Comments	See 4.1
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SECTION 12: Ecological information

12.1. Toxicity

Substance	Sodium hydroxide
Aquatic toxicity, fish	Value: = 196 mg/l Test duration: 96 h Species: Various species
Substance	Sodium hypochlorite, solution ...% Cl active
Aquatic toxicity, fish	Value: = 0,06 mg/l Test duration: 96 h Species: Rainbow trout

Substance	Method: Not given
Aquatic toxicity, fish	Potassium silicate
	Value: > 100 mg/l Species: DIN EN ISO 7346-2
Substance	Amines, C12-14-Alkyldimethyl, N-Oxides
Aquatic toxicity, fish	Value: = 2,67 mg/l Test duration: 96 h
Substance	Sodium hydroxide
Aquatic toxicity, algae	Value: = 22 mg/l Test duration: 0,25 h Species: Photobacterium phsophoreum Method: Method not given
Substance	Sodium hypochlorite, solution ...% Cl active
Aquatic toxicity, algae	Value: = 0,0021 mg/l Test duration: 168 h Species: Not specified Method: Not given
Substance	Potassium silicate
Aquatic toxicity, algae	Value: > 100 mg/l Method: Estimate.
Substance	Amines, C12-14-Alkyldimethyl, N-Oxides
Aquatic toxicity, algae	Value: = 0,143 mg/l Test duration: 72 H
Substance	Sodium hydroxide
Aquatic toxicity, crustacean	Value: = 40,4 mg/l Test duration: 48 h
Substance	Sodium hypochlorite, solution ...% Cl active
Aquatic toxicity, crustacean	Value: = 0,141 mg/l Test duration: 48 h Species: Daphnia magna Method: OECD 202
Substance	Potassium silicate
Aquatic toxicity, crustacean	Value: > 100 mg/l Method: OECD Guideline 202. part 1
Substance	Amines, C12-14-Alkyldimethyl, N-Oxides
Aquatic toxicity, crustacean	Value: = 3,1 mg/l Test duration: 48 H

12.2. Persistence and degradability

Substance	Sodium hypochlorite, solution ...% Cl active
Biodegradability	Comments: Not relevant.

Persistence and degradability, comments	No information available on mixture. However, individual substances are all classified as readily biodegradable.
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12.3. Bioaccumulative potential

Bioaccumulative potential	The product does not contain any substances that are bioaccumulating. Therefore, the mixture is not expected to be bioaccumulating.
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12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

PBT assessment results	No data available on mixture. Contains no PBT or vPvB substances. See section 2.3
Substance	Sodium hypochlorite, solution ...% Cl active
PBT assessment results	This substance is not classified as PBT or vPvB.
Substance	Potassium silicate
PBT assessment results	Not Classified as PBT/vPvB by current EU criteria.
Substance	Amines, C12-14-Alkyldimethyl, N-Oxides
PBT assessment results	Not Classified as PBT/vPvB by current EU criteria.
vPvB evaluation results	No data available on mixture. Contains no PBT or vPvB substances. See section 2.3

12.6. Endocrine disrupting properties

12.7. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Specify the appropriate methods of disposal	Avoid release to the environment. Dispose of waste and residues in accordance with local authority requirements.
Relevant waste regulation	Regulation no. 737/2003
Hazardous waste product	Avoid release to the environment.
Hazardous waste packing	Avoid release to the environment.
EWC waste code	EWC waste code: 200115 alkalines
National regulations	Regulation 184/2002 Regulation 786/1999
Other information	Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

ADR/RID/ADN	1719
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IMDG	1719
ICAO/IATA	1719

14.2. UN proper shipping name

ADR/RID/ADN	CAUSTIC ALKALI LIQUID, N.O.S.
IMDG	CAUSTIC ALKALI LIQUID, N.O.S.
ICAO/IATA	CAUSTIC ALKALI LIQUID, N.O.S.

14.3. Transport hazard class(es)

ADR/RID/ADN	8
IMDG	8
ICAO/IATA	8

14.4. Packing group

ADR/RID/ADN	II
IMDG	II
ICAO/IATA	II

14.5. Environmental hazards

14.6. Special precautions for user

14.7. Maritime transport in bulk according to IMO instruments

ADR/RID Other information

Hazard No.	80
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IMDG Other information

EmS	F-A, S-B
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SECTION 15: Regulatory information

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

Legislation and regulations	<p>This safety datasheet is in compliance with the following EU legislation and its adaptations - as far as applicable:</p> <p>Regulation 1907/2006 and later 750/2008 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Amendments on Annex II of the REACH regulation with EU regulation 453/2010.</p> <p>Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures which replaces EU legislations 67/548/EEC of 1999/45/EEC and changes regulation No. 1907/2006.</p>
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15.2. Chemical safety assessment

Chemical safety assessment performed	No
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SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3)	<p>H290 May be corrosive to metals.</p> <p>H314 Causes severe skin burns and eye damage.</p> <p>H315 Causes skin irritation.</p> <p>H318 Causes serious eye damage.</p> <p>H319 Causes serious eye irritation.</p> <p>H335 May cause respiratory irritation.</p> <p>H400 Very toxic to aquatic life.</p>
Abbreviations and acronyms used	<p>CLP: Classification, labelling and packaging</p> <p>GHS: Globally Harmonized System.</p> <p>DNEL: Derived No Effect Limit (afleidd áhrifaleysismörk).</p> <p>PBT: Persistent, Bioaccumulative and Toxic</p> <p>PNEC: Predicted No Effect Concentration</p> <p>vPvB: Very Persistent and very Bioaccumulative</p> <p>REACH: Registration, Evaluation, Authorization and Restriction of Chemicals.</p>
Information added, deleted or revised	Section 2: Applicable precautionary statements were added.
Revision responsible	Alfred Aðalsteinsson (M.Sc. Chemistry); email: alfred@tandur.is
Version	4
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