SAFETY DATA SHEET

TK-940

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	06.02.2014
Revision date	31.03.2021

1.1. Product identifier

Product name	TK-940
Article no.	1476124, 1476126, 1476128, 1476129

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

Use of the substance / mixture	Cleaning agent.
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	Hesthals 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: 112 Description: EMERGENCY# Telephone number: (+354)-543-2222 Description: POISON CENTER

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 Met. Corr. 1; H290

2.2. Label elements

Hazard pictograms (CLP)

Composition on the label	Sodium hydroxide 5 - 15 % wt/wt
Signal word	Danger
Hazard statements	H314 Causes severe skin burns and eye damage. H290 May be corrosive to metals.
Precautionary statements	P260 Do not breathe dust / fume / gas / mist / vapours / spray. P264 Wash hands thoroughly after handling. 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 person to fresh air and keep comfortable for breathing. P310 Immediately call a POISON CENTER or doctor / physician. P321 Specific treatment (see in 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. P405 Store locked up. P406 Store in a corrosion-resistant / container with a resistant inner liner. 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.

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	
Isotridecanolethoxylate	REACH Reg. No.: 02-2119552461-55-0000	Acute tox. 4; H302 Eye Dam. 1; H318	1 -3 % wt/wt	
Sulfonic acids,	CAS No.: 68439-57-6	Skin Irrit. 2; H315	1 -3 % wt/wt	

C14-16-alkane hydroxy and C14-16 alkene, sodium salts	EC No.: 931-534-0	Eye Dam. 1; H318	
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	0 - 1 % 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. Get immediate medical advice/attention. 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
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	Carbon dioxide. Dry powder. Water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

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 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.
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.

6.3. Methods and material for containment and cleaning up

Containment	Store in a closed container.

6.4. Reference to other sections

Other instructions	See section 8 and 13 for further details.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

Protective safety measures

Preventititve 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	Avoid contact with skin and eyes. Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. Keep in original container. Store protected from acids.

Conditions for safe storage

Requirements for storage rooms and vessels	Keep only in original container.

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)**	TWA Year: 2011

	Value: 2 mg/m3
Isotridecanolethoxylate	
Sulfonic acids, C14-16-alkane hydroxy and C14-16 alkene, sodium salts	CAS No.: 68439-57-6
Amines, C12-14-Alkyldimethyl, N-Oxides	CAS No.: 308062-28-4

DNEL / PNEC

Substance	Sodium hydroxide
DNEL	**Group:** Worker **Route of exposure:** Long term (repeated) - Inhalation - Local effect **Value:** 1 mg/m3 **Group:** Consumer **Route of exposure:** Long term (repeated) - Inhalation - Local effect **Value:** 1 mg/m3 **Group:** Consumer **Route of exposure:** Short term (acute) - Dermal - Local effect **Value:** 2% **Group:** Worker **Route of exposure:** Short term (acute) - Dermal - Local effect **Value:** 2%
Substance	Sulfonic acids, C14-16-alkane hydroxy and C14-16 alkene, sodium salts
DNEL	**Group:** Professional **Route of exposure:** Long term (repeated) - Inhalation - Systemic effect **Value:** 152,22 mg/m3 **Group:** Professional **Route of exposure:** Long term (repeated) - Dermal - Systemic effect **Value:** 2158,33 mg/kg bw/dag
PNEC	**Route of exposure:** Water **Value:** 0,0042 mg/l **Reference:** Marine water **Route of exposure:** Sediment **Value:** 0,2025 mg/kg bw **Reference:** Fresh water Marine water **Route of exposure:** Soil **Value:** 0,0061 mg/kg dw **Route of exposure:** Water **Value:** 0,042 mg/l **Reference:** Fresh water **Route of exposure:** Sediment **Value:** 2,025 mg/kg dw **Reference:** Fresh water

	Route of exposure: Sewage treatment plant STP **Value:** 4 mg/l
Substance	Amines, C12-14-Alkyldimethyl, N-Oxides
DNEL	**Group:** Consumer **Route of exposure:** Long term (repeated) - Inhalation - Systemic effect **Value:** 3,8 mg/m3 **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
PNEC	**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

Suitable eye protection	Safety glasses should have side shields.
Additional eye protection measures	Provide easy access to water supply and eye wash facilities.

Hand protection

Skin- / hand protection, short term contact	Nitril rubber: Penetration time: >= 30 min Material thickness: >= 0,4 mm
Skin- / hand protection, long term contact	Butylrubber: Penetration time: >= 480 min Material thickness: >= 0,7 mm
Suitable gloves type	Butyl rubber. Nitrile. Chloroprene rubber. Polyvinyl chloride (PVC). Rubber (natural, latex).
Thickness of glove material	Value: >= 0,4 mm

Respiratory protection

Respiratory protection, general	Personal protection is normally not required. If ventilation is inadequate and exposure to liquid particles cannot be avoided, wear appropriate breathing apparatus using A2B2+P3 filter (fulfilling EN 137/EN 138). Avoid breathing vapours, spray or mists.

Appropriate environmental exposure control

Environmental exposure controls	Avoid discharge into drains, water courses or onto the ground. See further section 13.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Clear liquid.
Colour	Colourless.

Odour	Characteristic.
pH	Value: > 12,5 Temperature: ~ 20 °C
Density	Value: 1,14 g/cm³ Temperature: 20 °C

9.2. Other information

Physical hazards

Metal corrosion	Corrosive to aluminium and other light metals.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Reactivity issues of concern are mainly due to the caustic soda content of the mixture. Caustic soda is a highly reactive substance. It is corrosive on live tissue. It corrodes light metals such as aluminium, releasing hydrogen gas as a byproduct. It may also damage certain types of surface material such as some different floor types. These effects of caustic soda 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.

10.2. Chemical stability

Stability	The mixture is stable under normal storage and use conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No hazardous reactions known under normal storage and use conditions.

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.

10.5. Incompatible materials

Materials to avoid	Acid reactive. Will corrode copper, zinc, aluminium and their alloys.

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	**Type of toxicity:** Acute

	Effect tested: LD50 **Route of exposure:** Oral **Value:** = 1350 mg/kg **Animal test species:** Rat **Test reference:** Method not given **Type of toxicity:** Acute **Effect tested:** LD50 **Route of exposure:** Dermal **Value:** = 1350 mg/kg **Animal test species:** Rabbit **Test reference:** Method not given **Type of toxicity:** Acute **Effect tested:** LC50 **Route of exposure:** Inhalation. **Value:** = 4800 mg/l **Animal test species:** Mouse **Test reference:** Method not given
Substance	Isotridecanolethoxylate
Acute toxicity	**Type of toxicity:** Acute **Effect tested:** LD50 **Route of exposure:** Oral **Value:** ~ 500-2000 mg/kg **Animal test species:** Rat **Test reference:** OECD guideline 423
Substance	Sulfonic acids, C14-16-alkane hydroxy and C14-16 alkene, sodium salts
Acute toxicity	**Type of toxicity:** Acute **Effect tested:** LD50 **Route of exposure:** Oral **Value:** > 2000 mg/kg **Animal test species:** Rat Rabbit Rat **Type of toxicity:** Acute **Effect tested:** LD50 **Route of exposure:** Dermal **Value:** > 2000 mg/kg **Animal test species:** Rabbit **Type of toxicity:** Acute **Effect tested:** LC50 **Route of exposure:** Inhalation. **Duration:** 4 h **Value:** > 52 mg/kg **Animal test species:** Rat
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

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 carciogenicity 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

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	Isotridecanolethoxylate
Aquatic toxicity, fish	**Value:** ~ 1 - 10 mg/l **Species:** Leuciscus idus
Substance	Sulfonic acids, C14-16-alkane hydroxy and C14-16 alkene, sodium salts
Aquatic toxicity, fish	**Value:** ~ 1 - 10 mg/l **Test duration:** 96 h **Species:** Danio rerio **Method:** LC50
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	Isotridecanolethoxylate
Aquatic toxicity, algae	**Value:** ~ 1 - 10 mg/l **Test duration:** 72 h
Substance	Sulfonic acids, C14-16-alkane hydroxy and C14-16 alkene, sodium salts
Aquatic toxicity, algae	**Value:** 1 - 10 mg/l **Test duration:** 72 h **Species:** Skeletonema costatum **Method:** EC50
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	Isotridecanolethoxylate
Aquatic toxicity, crustacean	**Value:** ~ 1 - 10 mg/l **Test duration:** 48 h
Substance	Sulfonic acids, C14-16-alkane hydroxy and C14-16 alkene, sodium salts
Aquatic toxicity, crustacean	**Value:** 1 - 10 mg/l **Test duration:** 48 h **Species:** Daphnia magna **Method:** EC50
Substance	Amines, C12-14-Alkyldimethyl, N-Oxides
Aquatic toxicity, crustacean	**Value:** = 3,1 mg/l **Test duration:** 48 H

12.2. Persistence and degradability

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

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.

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	Isotridecanolethoxylate
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

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	1824
IMDG	1824
ICAO/IATA	1824

14.2. UN proper shipping name

ADR/RID/ADN	SODIUM HYDROXIDE SOLUTION
IMDG	SODIUM HYDROXIDE SOLUTION
ICAO/IATA	SODIUM HYDROXIDE SOLUTION

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

IMDG Marine pollutant	No

14.6. Special precautions for user

14.7. Maritime transport in bulk according to IMO instruments

ADR/RID Other information

Hazard No.	80

IMDG Other information

EmS	F-A, S-B

SECTION 15: Regulatory information

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

Legislation and regulations	This safety datasheet is in compliance with the following EU legislation and its adaptations - as far as applicable: 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. Regulation (EC) No. 1272/2008 on classificatioin, labelling and packaging of substances and mixtures which replaces EU legislations 67/548/EBE og 1999/45/EB and changes regulation No. 1907/2006.

15.2. Chemical safety assessment

Chemical safety assessment performed	No

SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3)	H290 May be corrosive to metals. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H318 Causes serious eye damage. H400 Very toxic to aquatic life.
Abbreviations and acronyms used	CLP: Classification, labelling and packaging GHS: Globally Harmonized System. DNEL: Derived No Effect Limit (afleidd áhrifaleysismörk). PBT: Persistent, Bioaccumulative and Toxic PNEC: Predicted No Effect Concentration vPvB: Very Persistent and very Bioaccumulative REACH: Registration, Evaluation, Authorization and Restriction of Chemicals.
Information added, deleted or revised	Section 2: Hazard statement added along with applicable precautionary statements.
Revision responsible	Alfred Aðalsteinsson (M.Sc. Chemistry); email: alfred@tandur.is
Version	5
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