SAFETY DATA SHEET

NOVADAN®

Foam 136

NOVADAN®

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	20.06.2018
Revision date	14.08.2020

1.1. Product identifier

Product name	Foam 136
Article no.	12172, 12173, 12412, 12505, 13120, 25051

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

Product group	Alkaline foam cleaning agent with chlorine.
Relevant identified uses	SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites SU4 Manufacture of food products PC35 Washing and cleaning products (including solvent based products) PROC11 Non-industrial spraying ERC8A Wide dispersive indoor use of processing aids in open systems ERC8D Wide dispersive outdoor use of processing aids in open systems
Uses advised against	No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Producer

Company name	Novadan ApS
Postal address	Platinvej 21
Postcode	DK-6000
City	Kolding
Country	Danmark
Telephone number	+ 45 76 34 84 00
Fax	+ 45 75 50 43 70
Email	sds@novadan.dk
Website	www.novadan.dk

1.4. Emergency telephone number

Emergency telephone	Description: UK: NHS: 111 EI: National Poisons Information Centre, 24/7: 01 809 2166

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]	Met. Corr. 1; H290; On basis of test data Skin Corr. 1B; H314; Calculation method Eye Dam. 1; H318; Calculation method Aquatic Acute 1; H400; Calculation method Aquatic Chronic 2; H411; Calculation method
Substance / mixture hazardous properties	For further information, please refer to section 11.
Additional information on classification	The informations stated in this MSDS, applies for the concentrated product. See Sec. 16, for informations regarding recommended user solutions

2.2. Label elements

Hazard pictograms (CLP)

Composition on the label	Sodium hypochlorite, Sodium hydroxide
Signal word	Danger
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	P280 Wear protective gloves / protective clothing / eye protection / face protection. P303+P361+P353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / 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 or doctor / physician. P273 Avoid release to the environment.

2.3. Other hazards

Hazard description, general	Do not mix with acid or acid containing products: toxic chlorine gas may be formed.
Health effect	Corrosive to skin and eyes. May cause permanent damage to the eyes, especially if the product is not washed away IMMEDIATELY. See section 11 for additional information on health hazards.

Environmental effects	Very toxic to aquatic life with long lasting effects. Substantial amounts of the product may lead to a local change in acidity in small water systems which may have adverse effects on aquatic organisms. This product does not contain any PBT or vPvB substances.
Other hazards	Undiluted, the product may be corrosive to metals.

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Substance	Identification	Classification	Contents	Notes
Sodium hypochlorite	CAS No.: 7681-52-9 EC No.: 231-668-3 Index No.: 017-011-00-1 REACH Reg. No.: 01-2119488154-34-xxxx	Met. Corr. 1; H290 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400; M-factor 10 Aquatic Chronic 1; H410; M-factor 1 EUH 031 Additional information on classification: EUH031: C ≥ 5 %	1 - 5 %	
Sodium hydroxide	CAS No.: 1310-73-2 EC No.: 215-185-5 REACH Reg. No.: 01-2119457892-27-xxxx	Skin Corr. 1A; H314 Eye Dam. 1; H318 Met. Corr. 1; H290	1 - 5 %	
2-Phosphonobutan-1,2,4-tricarboxylic acid	CAS No.: 37971-36-1 EC No.: 253-733-5 REACH Reg. No.: 01-2119436643-39-xxxx	Met. Corr. 1; H290 Eye Irrit. 2; H319	1 - 5 %	
Amines, C12-14 (even numbered) - alkyldimethyl, N-oxides	CAS No.: 308062-28-4 EC No.: 931-292-6 REACH Reg. No.: 01-2119490061-47-xxxx	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 2; H411	1 - 5 %	

Substance comments	Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents: <5%: Chlorine-containing bleaching agent. , anionic surfactant , phosphonate . The full text for all hazard statements is displayed in section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General	Remove affected person from source of contamination.
Inhalation	Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and bring these instructions. In case of chlorine poisoning: Move injured person to fresh air and after that to hospital.
Skin contact	Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water. Get medical attention if any discomfort continues.

Eye contact	Important! Immediately rinse with water for at least 15 minutes. May cause permanent damage if eye is not immediately irrigated. Make sure to remove any contact lenses from the eyes before rinsing. Immediately transport to hospital or eye specialist. Continue flushing during transport to hospital.
Ingestion	Immediately rinse mouth and drink plenty of water. Call an ambulance. Bring along these instructions. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Do not give victim anything to drink if he is unconscious.
Recommended personal protective equipment for first aid responders	Wear necessary protective equipment. For personal protection, see section 8.

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

Acute symptoms and effects	Contact with concentrated chemical may very rapidly cause severe eye damage, possibly loss of sight. Strongly corrosive. May cause deep tissue damage.
Delayed symptoms and effects	The etching penetrates deeply into the tissue and is first noticed after a while.

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

Other information	In case of unconsciousness, ingestion or eye contact: Immediately call a doctor / ambulance. Show this safety data sheet.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	This product is not flammable. During fire, gases hazardous to health may be formed. Water used for fire extinguishing, which has been in contact with the product, may be corrosive.
Hazardous combustion products	Toxic gases/vapours/fumes of: Chlorine. Hydrogen chloride (HCl).

5.3. Advice for firefighters

Personal protective equipment	Wear necessary protective equipment. For personal protection, see section 8.
Fire fighting procedures	Reference is made to the company fire procedure. If risk of water pollution occurs, notify appropriate authorities. Avoid breathing fire vapours.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal protection measures	Look out! The product is corrosive. Use protective gloves, goggles and suitable protective clothing. In case of inadequate ventilation use suitable respirator. For personal protection, see section 8.

6.2. Environmental precautions

Environmental precautionary measures	Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment.

6.3. Methods and material for containment and cleaning up

Cleaning method	Dam and absorb spillage with sand, sawdust or other absorbent. Wash contaminated area with water.

6.4. Reference to other sections

Other instructions	See section 8 and section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	Avoid inhalation of vapours and contact with skin and eyes. Use work methods which minimize spreading of vapours, dust, smoke, aerosols, splashes etc. to the extent technically possible. Do not mix with acidic products.

7.2. Conditions for safe storage, including any incompatibilities

Storage	Store in tightly closed original container. Keep away from food, drink and animal feeding stuffs. Store protected from acids. Protect against direct sunlight.

Conditions for safe storage

Storage temperature	Value: -5 - 25 °C.
Storage stability	Durability: 12 months.

7.3. Specific end use(s)

Specific use(s)	The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Substance	Identification	Exposure limits	TWA Year
Chlorine	CAS No.: 7782-50-5		
Sodium hydroxide	CAS No.: 1310-73-2	**Limit value (short term)** Value: 2 mg/m3	TWA Year: 2011

DNEL / PNEC

Substance	Sodium hypochlorite
DNEL	**Group:** Professional **Route of exposure:** Long-term inhalation (local) **Value:** 1,55 mg/m³ **Group:** Professional **Route of exposure:** Long-term dermal (local)

	Value: 0,5 % **Group:** Professional **Route of exposure:** Long-term inhalation (systemic) **Value:** 1,55 mg/m³ **Group:** Professional **Route of exposure:** Acute inhalation (local) **Value:** 3,1 mg/m³ **Group:** Professional **Route of exposure:** Acute inhalation (systemic) **Value:** 3,1 mg/m³ **Group:** Consumer **Route of exposure:** Long-term inhalation (local) **Value:** 1,55 mg/m³ **Group:** Consumer **Route of exposure:** Long-term inhalation (systemic) **Value:** 1,55 mg/m³ **Group:** Consumer **Route of exposure:** Long-term oral (systemic) **Value:** 0,26 mg/kg bw/day **Group:** Consumer **Route of exposure:** Acute inhalation (local) **Value:** 3,1 mg/m³ **Group:** Consumer **Route of exposure:** Acute inhalation (systemic) **Value:** 3,1 mg/m³
PNEC	**Route of exposure:** Freshwater **Value:** 0,21 µg/l **Route of exposure:** Saltwater **Value:** 0,042 µg/l **Route of exposure:** Sewage treatment plant STP **Value:** 0,03 mg/l **Value:** 0,26 µg/l **Reference:** intermittent release
Substance	Sodium hydroxide
DNEL	**Group:** Professional **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:** Consumer **Route of exposure:** Long term (repeated) - Inhalation - Local effect

	Value: 1 mg/m3 **Group:** Professional **Route of exposure:** Short term (acute) - Dermal - Local effect **Value:** 2%
Substance	2-Phosphonobutan-1,2,4-tricarboxylic acid
DNEL	**Group:** Professional **Route of exposure:** Long-term inhalation (systemic) **Value:** 15 mg/m³ **Group:** Professional **Route of exposure:** Acute inhalation (systemic) **Value:** 158 mg/m³ **Group:** Professional **Route of exposure:** Long-term dermal (systemic) **Value:** 4,2 mg/kg bw/day **Group:** Professional **Route of exposure:** Acute dermal (systemic) **Value:** 80 mg/kg bw/day **Group:** Consumer **Route of exposure:** Long-term inhalation (systemic) **Value:** 3,7 mg/m³ **Group:** Consumer **Route of exposure:** Acute inhalation (systemic) **Value:** 79 mg/m³ **Group:** Consumer **Route of exposure:** Long-term dermal (systemic) **Value:** 2,1 mg/kg bw/day **Group:** Consumer **Route of exposure:** Acute dermal (systemic) **Value:** 40 mg/kg bw/day **Group:** Professional **Route of exposure:** Long-term oral (systemic) **Value:** 2,1 mg/kg bw/day **Group:** Professional **Route of exposure:** Acute oral (systemic) **Value:** 65 mg/kg bw/day
PNEC	**Route of exposure:** Freshwater **Value:** 3,33 mg/L **Route of exposure:** Freshwater sediments **Value:** 1.47 mg/kg dw **Route of exposure:** Soil **Value:** 0,491 mg/kg dw **Route of exposure:** Sewage treatment plant STP

	Value: 50.4 mg/L **Route of exposure:** Saltwater **Value:** 0,33 mg/L
Substance	Amines, C12-14 (even numbered)- alkyldimethyl, N-oxides
DNEL	**Group:** Professional **Route of exposure:** Long-term inhalation (systemic) **Value:** 6,2 mg/m³ **Group:** Professional **Route of exposure:** Long-term dermal (systemic) **Value:** 11 mg/kg bw/day **Group:** Consumer **Route of exposure:** Long-term inhalation (systemic) **Value:** 1,53 mg/m³ **Group:** Consumer **Route of exposure:** Long-term dermal (systemic) **Value:** 5,5 mg/kg bw/day **Group:** Consumer **Route of exposure:** Long-term oral (systemic) **Value:** 0,44 mg/kg bw/day
PNEC	**Route of exposure:** Freshwater **Value:** 0,034 mg/l **Route of exposure:** Saltwater **Value:** 0,003 mg/l **Route of exposure:** Freshwater sediments **Value:** 5,24 mg/kg dw **Route of exposure:** Saltwater sediments **Value:** 0,524 mg/kg dw **Route of exposure:** Soil **Value:** 1,02 mg/kg dw **Route of exposure:** Sewage treatment plant STP **Value:** 24 mg/l **Route of exposure:** Food products **Value:** 11,1 mg/kg

8.2. Exposure controls

Safety signs

Precautionary measures to prevent exposure

Technical measures to prevent exposure	Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Provide eyewash, quick drench.

Eye / face protection

Suitable eye protection	Wear approved safety goggles. EN 166.

Hand protection

Skin- / hand protection, long term contact	Use protective gloves made of: Butyl rubber. Neoprene. Nitrile. EN 374.
Hand protection, comments	Breakthrough time for nitrile rubber, neoprene and butyl rubber is approx. 3 hours. The recommendation is a qualified estimate based on knowledge of the components. Elastic gloves stretch when used as glove thickness and thus the breakthrough time reduced. The EN 374-3 standard test is performed at 23°C, but the practical temperature of the glove is approx. 35°C. The breakthrough time of the different glove guides, is therefor reduced by a factor 3.

Skin protection

Additional skin protection measures	Wear apron or protective clothing in case of contact. Wear rubber footwear.

Respiratory protection

Respiratory protection necessary at	In case of inadequate ventilation use suitable respirator. Wear respiratory protection with combination filter (dust and gas filter). Type B/P2. EN 143/EN149.

Thermal hazards

Thermal hazards	See section 5.

Appropriate environmental exposure control

Environmental exposure controls	See section 6.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Fluid.
Colour	Yellowish.
Odour	Chlorine.
pH	Status: In delivery state Value: > 13,0 Status: In aqueous solution Value: ~ 12,0

	Comments: 15°dH Concentration: 2 % Status: In aqueous solution Value: ~ 13,0 Comments: 15°dH Concentration: 5 %
Melting point / melting range	Comments: No data recorded.
Boiling point / boiling range	Comments: No data recorded.
Flash point	Comments: Not relevant.
Evaporation rate	Comments: Not relevant.
Flammability (solid, gas)	Not relevant.
Explosion limit	Comments: Not relevant.
Vapour pressure	Comments: Not relevant.
Vapour density	Comments: Not relevant.
Bulk density	Value: ~ 1,10 kg/l.
Solubility	Comments: Completely soluble in water.
Partition coefficient: n-octanol/ water	Comments: Not determined.
Spontaneous combustability	Comments: Not relevant.
Decomposition temperature	Comments: Not relevant.
Viscosity	Value: < 50 mPa s
Explosive properties	Not explosive.
Oxidising properties	Does not meet the criteria for oxidising.

9.2. Other information

Other physical and chemical properties

Comments	No data recorded.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability	Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Generates toxic gas when in contact with acid. Reacts violently with strong acids. Risk of bumping (splashes).

10.4. Conditions to avoid

Conditions to avoid	Extremes of temperatures. Avoid contact with acids.

10.5. Incompatible materials

Materials to avoid	Strong acids. Acids, oxidising. Alkali-sensitive metals such as aluminium, tin, lead and zinc and alloys with these metals.

10.6. Hazardous decomposition products

Hazardous decomposition products	Chlorine gas and hydrogen chloride may be formed in a fire or by heating. In case of fire, toxic gases (CO, CO2, NOx) may be formed.

Other information

Other information	Undiluted, the product may be corrosive to metals.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Substance	Sodium hypochlorite
Acute toxicity	**Effect tested:** LD50 **Route of exposure:** Oral **Method:** OECD Guideline 401 **Value:** 1100 mg/kg **Animal test species:** Rat **Comments:** 15 % **Effect tested:** LC50 **Route of exposure:** Inhalation. **Method:** OECD 403 **Duration:** 1 hour(s) **Value:** > 10,5 mg/l **Animal test species:** Rat **Comments:** 15 % **Effect tested:** LD50 **Route of exposure:** Dermal **Method:** OECD Guideline 402 **Value:** > 20000 mg/kg **Animal test species:** Rabbit **Comments:** 15 %
Substance	2-Phosphonobutan-1,2,4-tricarboxylic acid
Acute toxicity	**Effect tested:** LD50 **Route of exposure:** Oral **Duration:** - **Value:** > 6500 mg/kg **Animal test species:** Rat **Effect tested:** LD50 **Route of exposure:** Dermal

	Duration: - **Value:** > 4000 mg/kg **Animal test species:** Rat **Effect tested:** LC50 **Route of exposure:** Inhalation. **Duration:** 4h **Value:** > 1979 mg/m3 **Animal test species:** Rat
Substance	Amines, C12-14 (even numbered)- alkyldimethyl, N-oxides
Acute toxicity	**Effect tested:** LD50 **Route of exposure:** Oral **Value:** 1064 mg/kg **Animal test species:** Rat
Other toxicological data	Toxicological tests on the product has not been performed.

Other information regarding health hazards

Assessment of acute toxicity, classification	No evidence for acute toxicity.
Substance	Sodium hypochlorite
Skin corrosion / irritation test result	**Species:** Rabbit. **Evaluation result:** Corrosive to skin.
Substance	Sodium hypochlorite
Eye damage or irritation, test results	**Species:** Rabbit **Evaluation result:** Result: Corrosive to eyes.
Substance	2-Phosphonobutan-1,2,4-tricarboxylic acid
Eye damage or irritation, test results	**Evaluation result:** Result: Irritation to eye.
Inhalation	Aerosols may be corrosive.
Skin contact	Strongly corrosive. May cause deep tissue damage.
Eye contact	Strongly corrosive. Causes severe burns. Immediate first aid is imperative. May cause permanent damage to the eyes, especially if the product is not washed away IMMEDIATELY.
Ingestion	Strongly corrosive. Even small amounts may be fatal. Symptoms are severe burning pains in mouth, throat and stomach.
Sensitisation	No evidence for respiratory nor skin sensitization.
Assessment of germ cell mutagenicity, classification	No evidence for germ cell mutagenicity.
Assessment of carcinogenicity, classification	No evidence for carcinogenicity.
Assessment of reproductive toxicity, classification	No evidence for reproductive toxicity.
Assessment of specific target organ toxicity - single exposure, classification	No evidence for STOT-single exposure.

Assessment of specific target organ toxicity - repeated exposure, classification	No evidence for STOT-repeated exposure.
Assessment of aspiration hazard, classification	No evidence for aspiration hazard.

Symptoms of exposure

Symptoms of overexposure	No specific symptoms noted.

SECTION 12: Ecological information

12.1. Toxicity

Substance	Sodium hypochlorite
Aquatic toxicity, fish	**Toxicity type:** Acute **Value:** 0,06 mg/l **Exposure time:** 96 hour(s) **Species:** Oncorhynchus mykiss **Method:** LC50 **Comments:** 15 % **Toxicity type:** Acute **Value:** 0,032 mg/l **Exposure time:** 96 hour(s) **Species:** Oncorhynchus mykiss **Method:** LC50 **Comments:** 15 % **Toxicity type:** Chronic **Value:** 0,04 mg/l **Exposure time:** 28 day(s) **Species:** Menidia peninsulae **Method:** NOEC **Comments:** 15 %
Substance	Sodium hydroxide
Aquatic toxicity, fish	**Value:** 125 mg/l **Species:** Gambusia Affinis **Method:** LC50
Substance	2-Phosphonobutan-1,2,4-tricarboxylic acid
Aquatic toxicity, fish	**Toxicity type:** Acute **Value:** > 500 mg/l **Test duration:** 48 hour(s) **Species:** Danio rerio **Method:** OECD TG 204 LC50 **Toxicity type:** Chronic **Value:** > 500 mg/l **Exposure time:** 14 day(s) **Species:** Danio rerio **Method:** OECD TG 204 NOEC

Substance	Amines, C12-14 (even numbered)- alkyldimethyl, N-oxides
Aquatic toxicity, fish	**Toxicity type:** Acute **Value:** 1,26 mg/l **Exposure time:** 96 hour(s) **Species:** Oncorhynchus mykiss **Method:** LC50, OECD 203 **Toxicity type:** Chronic **Value:** 0,42 mg/l **Species:** Pimephales promelas
Substance	Sodium hypochlorite
Aquatic toxicity, algae	**Toxicity type:** Acute **Value:** 0,04 mg/l **Species:** Pseudokirchneriella subcapitata **Comments:** 15 % **Toxicity type:** Acute **Value:** 0,1 mg/l **Exposure time:** 96 hour(s) **Species:** Myriophyllum spicatum **Comments:** 15 %
Substance	2-Phosphonobutan-1,2,4-tricarboxylic acid
Aquatic toxicity, algae	**Toxicity type:** Acute **Value:** > 500 mg/l **Test duration:** 72 hour(s) **Species:** Desmodesmus subspicatus **Method:** ErC 50 **Toxicity type:** Acute **Value:** > 16,65 < 32,75 mg/l **Species:** Desmodesmus subspicatus **Method:** EC10
Substance	Amines, C12-14 (even numbered)- alkyldimethyl, N-oxides
Aquatic toxicity, algae	**Toxicity type:** Acute **Value:** 0,19 mg/l **Test duration:** 72 hour(s) **Species:** Pseudokirchneriella subcapitata **Method:** ErC 50 **Toxicity type:** Chronic **Value:** 0,067 mg/l **Test duration:** 28 day(s) **Species:** Periphyton **Method:** NOEC
Substance	Sodium hypochlorite
Aquatic toxicity, crustacean	**Toxicity type:** Acute **Value:** 0,141 mg/l **Exposure time:** 48 hour(s) **Species:** Daphnia magna **Method:** EC50 OECD TG 202

	Comments: 15 % **Toxicity type:** Acute **Value:** 0,035 mg/l **Exposure time:** 48 hour(s) **Species:** Ceriodaphnia Dubia **Method:** EC50 OECD TG 202 **Comments:** 15 % **Toxicity type:** Acute **Value:** 0,026 mg/l **Exposure time:** 48 hour(s) **Species:** Crassostrea virginica **Method:** EC50 **Comments:** 15 % **Toxicity type:** Chronic **Value:** 0,007 mg/l **Exposure time:** 15 day(s) **Species:** Crassostrea virginica **Method:** NOEC **Comments:** 15 %
Substance	Sodium hydroxide
Aquatic toxicity, crustacean	**Value:** 40,4 mg/l **Test duration:** 48h **Species:** ceriodaphnia sp. **Method:** EC50
Substance	2-Phosphonobutan-1,2,4-tricarboxylic acid
Aquatic toxicity, crustacean	**Toxicity type:** Acute **Value:** > 535,5 mg/l **Test duration:** 48 hour(s) **Species:** Daphnia magna **Method:** EC50 OECD TG 202 **Toxicity type:** Chronic **Value:** 52 mg/l **Exposure time:** 21 day(s) **Species:** Daphnia magna **Method:** OECD 211 NOEC
Substance	Amines, C12-14 (even numbered)- alkyldimethyl, N-oxides
Aquatic toxicity, crustacean	**Toxicity type:** Acute **Value:** 2,9 mg/l **Exposure time:** 48 hour(s) **Species:** Daphnia magna **Method:** EC50 OECD TG 202 **Toxicity type:** Chronic **Value:** 0,70 mg/l **Exposure time:** 21 day(s) **Species:** Daphnia magna **Method:** OECD 211 NOEC

Substance	Sodium hypochlorite
Toxicity to bacteria	**Toxicity type:** Acute **Value:** > 3 mg/l **Exposure time:** 3 hour(s) **Species:** activated sludge **Comments:** 15 %
Ecotoxicity	Contains a substance (Aquatic Acute 1; H400 or Aquatic Chronic 1; H410) that falls within the scope of the multiplication factor rule. Large amounts of the product may affect the acidity (pH-factor) in water with possible risk of harmful effects to aquatic organisms.

12.2. Persistence and degradability

Persistence and degradability description/evaluation	The product is easily biodegradable.
Substance	2-Phosphonobutan-1,2,4-tricarboxylic acid
Biodegradability	**Value:** 30 - 40 % **Method:** OECD 302A **Test period:** 28 day(s)
Substance	Amines, C12-14 (even numbered)- alkyldimethyl, N-oxides
Biodegradability	**Value:** 80 % **Method:** ISO 14593 **Test period:** 28 day(s)

12.3. Bioaccumulative potential

Bioaccumulation, evaluation	The product is not bioaccumulating.

12.4. Mobility in soil

Mobility	The product is water soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

Additional ecological information	Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate methods of disposal for the chemical	Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point. Dispose of waste and residues in accordance with local authority requirements. -

Appropriate methods of disposal for the contaminated packaging	Dispose of waste and residues in accordance with local authority requirements. -
EWC waste code	EWC waste code: 0706 wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics Classified as hazardous waste: Yes
EWL packing	EWC waste code: 0706 wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics Classified as hazardous waste: Yes
Other information	When handling waste, consideration should be made to the safety precautions applying to handling of the product. Waste code applies to product remnants in pure form. Do not re-use container for any purpose.

SECTION 14: Transport information

Dangerous goods	Yes

14.1. UN number

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

14.2. UN proper shipping name

Proper shipping name English ADR/RID/ADN	CAUSTIC ALKALI LIQUID, N.O.S.
Technical name/Danger releasing substance English ADR/RID/ADN	Sodium hydroxide, Sodium hypochlorite
ADR/RID/ADN	CAUSTIC ALKALI LIQUID, N.O.S.
Technical name/danger releasing substance ADR/RID/ADN	Sodium hydroxide, Sodium hypochlorite
IMDG	CAUSTIC ALKALI LIQUID, N.O.S.
Technical name/danger releasing substance IMDG	Sodium hydroxide, Sodium hypochlorite
ICAO/IATA	CAUSTIC ALKALI LIQUID, N.O.S.
Technical name/danger releasing substance ICAO/IATA	Sodium hydroxide, Sodium hypochlorite

14.3. Transport hazard class(es)

ADR/RID/ADN	8
Classificaton code ADR/RID/ADN	C5
IMDG	8
ICAO/IATA	8

14.4. Packing group

ADR/RID/ADN	III
IMDG	III
ICAO/IATA	III

14.5. Environmental hazards

ADR/RID/ADN	Danger label for "Environmental hazard" should be used if packagings with more than 5 liters or 5 kilos are transported.
IMDG	Danger label for "Environmental hazard" should be used if packagings with more than 5 liters or 5 kilos are transported.
IMDG Marine pollutant	Yes

14.6. Special precautions for user

Special safety precautions for user	Not relevant.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Product name	CAUSTIC ALKALI LIQUID, N.O.S.

Additional information

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

ADR/RID Other information

Tunnel restriction code	E
Transport category	3
Hazard No.	80
Other applicable information ADR/RID	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

Other label information	For professional users only. As a general rule, persons under 18 years of age are not allowed to work with this product. Users must be carefully instructed in the proper work procedure, the dangerous properties of the product and the necessary safety instructions.
Water hazard class (DE)	Water hazard class (WGK): 2: hazard to waters Source: Self-classification (mixture; calculation rule).

Legislation and regulations	The Management of Health and Safety at Work Regulations 1999 (SI 1999 No. 3242), with amendments. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. REGULATION (EC) No 648/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 March 2004 on detergents. The List of Wastes (England) (Amendment) Regulations 2005. (SI 2005 No. 895). EH40/2005, Workplace exposure limits 2005, with amendments.

15.2. Chemical safety assessment

Chemical safety assessment performed	No

SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3)	EUH 031 Contact with acids liberates toxic gas. 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. H319 Causes serious eye irritation. 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.
Training advice	No particular training or education is required but the user must be familiar with this SDS. Users must be carefully instructed in the proper work procedure, the dangerous properties of the product and the necessary safety instructions.
Additional information	READY-TO-USE MIXTURE: H314 Causes severe skin burns and eye damage. When used in the recommended dosages, contact time and temperature, the product is compatible with acid-proof stainless steels.
Information added, deleted or revised	Change to Sections: 1, 2, 16
Version	1
Prepared by	ALM