

SAFETY DATA SHEET

Mudin Drain opener

Revision date: 06.06.2017

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Chemical name	Mudin Drain opener
Article-no	85149
Replace MSDS of	24.05.2017
Version number	2.0

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

Uses of the chemical	Drain cleaner.
Uses advised against	This product is not recommended for other uses than those specified above.

1.3 Details of the supplier of the safety data sheet

Supplier	Norenco Norge AS Teglverksveien 99 3057 Solbergelva Norge Phone: +47 66 99 55 33 Fax: +47 66 99 55 32 http://www.norenco.no/ Norenco@norenco.no
E-mail	Norenco@norenco.no
Responsible	Norenco Norge AS
Author	Sensor Chemcontrol AS

1.4 Emergency telephone number

Emergency 112

SECTION 2: HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to 1272/2008EC	STOT SE 3; H335: Specific target organ toxicity - single exposure. Eye Dam 1; H318: Serious eye damage. Acute Tox 4; H302: Acute toxicity. Skin Corr 1A; H314: Skin corrosion/irritation.
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2.2 Label elements

Pictogram



Signal word

Danger

Hazard statement(s)

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements

General	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children.
Prevention	P280 Wear protective gloves/protective clothing/eye protection/face protection.

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Response P301+P330+P331 IF SWALLOWED: Rinse mouth; Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): 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.
P313 Get medical advice/attention.

Ingredients Potassium hydroxide, Monoethanolamine

2.3 Other hazards The chemical does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Ingredients	Identification	Classification	Note	Weight%
Potassium hydroxide	Reach nr: 01-2119487136-33 Ec/Nlp nr: 215-181-3 Cas nr: 1310-58-3 Index nr: 019-002-00-8	Acute Tox 4; H302 Skin Corr 1A; H314	9,Æ,V2	30 - 60
Monoethanolamine	Ec/Nlp nr: 205-483-3 Cas nr: 141-43-5 Index nr: 603-030-00-8	Acute Tox 4; H302+H312+H332 Skin Corr 1B; H314	9,Æ,V2	1 - 5

Explanation Acute Tox 4: Acute toxicity.
Skin Corr 1B: Skin corrosion/irritation.
Skin Corr 1A: Skin corrosion/irritation.
Hazard phrases with full text is found in section 16.

Ingredients comments All concentrations are listed as weight percent.
The classification applies to each substance, not the product.

Note 9: The substance is harmonized and the classification is obtained from ECHA (European Chemicals Agency) C&L Inventory database.

Note Æ: The substance has an exposure limit (OEL).

Note V2: The substance has a specific concentration limit accordance with Regulation (EC) No 1272/2008. (CLP, article 10).

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation If irritation and cough, contact a Poisons Information Centre for advice. Fresh air, warmth and rest, preferably in a comfortable, half-sitting position. If breathing stops, perform artificial respiration. Keep respiratory tract open.

Skin contact Remove/take off contaminated clothing immediately. Rinse immediately with plenty of flowing lukewarm water for 30-60 minutes. If Diphoterine are on site, use this instead of water. Additional flushing may be applicable. Corrosive damage must be treated by a doctor.

Eye contact As soon as possible go visit hospital/doctor. Start rinse immediately, do not delay the start of rinsing to find a specific rinse liquid. Rinse thoroughly also under the eyelids and remove powder residue. Remove any contact lenses. If Diphoterine are on site, use this instead of water. Continuous flushing for 30 minutes, preferably at the scene.

Ingestion Seek medical advice immediately and show container or label. Rinse mouth with water (only if the person is conscious). Drink 1-2 cups of water or milk in small sips. Activated charcoal should not be given.

Medical information Treat chemical burns like burns.
Ingestion of the product shall be treated as chemical burns.

4.2 Most important symptoms and effects, both acute and delayed Causes severe burns to skin and eyes.
If swallowing corrosive alkalis, it may take time before injury and pain develop. Eventually burns in mouth, throat, esophagus and stomach may occur.
Inhalation of alkalis/bases can provide everything from mild irritation to burns in the respiratory

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tract, and severe impact on the lungs.
Splashes in the eyes may cause pain. Redness, lacrimation, blurred vision may occur. At worst, alkalis in corrosive concentration cause permanent visual impairment or blindness.
If spilled on the skin it will first feel smooth and look strange. Pain, blistering and sores that resemble burns may later develop.

4.3 Indication of any immediate medical attention and special treatment needed

Swallowing of alkalis in corrosive concentrations should be followed up at the hospital as soon as possible.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Water spray, foam, CO₂ or powder.

Use extinguishing agent suitable for the conditions and environments.

Extinguishing media which shall not be used

Avoid using directed water jets during extinguishing work.

5.2 Special hazards arising from the substance or mixture

Note that there is a danger of formation of poisonous gasses.

5.3 Advice for firefighters

Firefighters should use standard protective flame resistant jacket, helmet with face shield, gloves, rubber boots and self-contained breathing apparatus in confined areas.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Do not get in eyes, on skin, or on clothing. Only trained personnel should perform the cleanup of spills. Keep persons and animals away from contaminated area. Wear suitable protective clothing.

6.2 Environmental precautions

Emptying in drains beyond intended use is not recommended.

6.3 Methods and material for containment and cleaning up

Corrosive liquid. Wear appropriate protective equipment.
Absorb with suitable material. Deliver to nearest refuse disposal terminal.

6.4 Reference to other sections

See section 7 for information on safe handling.
See section 8 for information on personal protection equipment.
See section 12 for information on ecology.
See section 13 for waste disposal.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Do not eat or drink while working with this product. Wear suitable protective clothing. Wear eye/face protection. Avoid contact with eyes, skin and clothes.
Use only outdoors or in a well-ventilated area. Wear suitable gloves. Handle in accordance with good hygiene and safety practice. Operating instructions should be followed to ensure safe use and best results. Avoid inhaling vapours.

7.2 Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from food, drink and animal feeds. Keep out of reach of children. Keep container tightly closed. Should be stored standing and in original container.

7.3 Specific end use(s)

Drain cleaner.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Ingredients	Einecs nr	CAS nr	8 hour		Short		Ref.	Note	Year
			mg/m ³	ppm	mg/m ³	ppm			
Potassium hydroxide	215-181-3	1310-58-3	2	-			Norsk	T	2017
Monoethanolamine	205-483-3	141-43-5	2.5	1			Norsk	H,E	2017

OAR remarks

Reference Norsk: Measures and limit values for acceptable pollutants in the working atmosphere. Obtained from the norwegian regulation "Forskrift om tiltaks- og grenseverdier".

Note T: Upper limit, a limit indicating the maximum concentration of a chemical in the breathing zone that should not be exceeded.

Note E: The EU has an indicative threshold for the substance.

Note H: Skin absorbance. The substance can significantly penetrate the skin even if it is undamaged,

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and thus absorbed into the body. The uptake through the skin depends on many factors, such as skin condition (wet, dry, sore, etc.) or the presence of other substances.

8.2 Exposure controls

Exposure controls

Common sense and safety precautions should always be used when handling chemicals. Ensure that all containers are properly labeled to prevent accidental ingestion or improper use. Ensure good working hygiene. Make use of recommended safety equipment. Provide adequate exhaust ventilation, or ventilation in the workplace. Avoid contact with eyes and skin.

Respiration protection

It is recommended the use approved respirator when working in confined spaces or in areas without natural ventilation or local exhaust ventilation:

A respirator with gas and vapor filter against organic gases boiling over 65 ° C class 2/inorganic gases class 2, type A2/B2 with filter color brown/gray, according to the standard (NS-EN-14387), or fresh air overpressure mask according to the standard (EN-137 , EN-270).

Respiratory protection must be used if air contamination exceeds occupational exposure levels. Respiratory equipment with gas filter may only be used combined with good routines for mesh adaptation and filter change.

Eye protection

Wear approved eye protection. Equipment for eye washing must be available, preferably also a shower. Eye protection shall be in accordance to EN 166 standard.

Hand protection

Protective gloves of natural latex, nitrile, neoprene or PVC category 3 according to standard EN374-3 is recommended.

During continuous contact: Use gloves with penetration time above 480 minutes.

By short-term splash / exposure (up to 30 minutes): Use gloves with penetration time above 60 minutes.

All specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use.

Check and possibly replace worn or damaged gloves. If contact with forearms is likely, wear gauntlet style. CE standards EN420 and EN374 provide general requirements and lists of glove types.

Skin protection

Wear suitable protective clothing.

Additional information

It is good industrial hygiene practices to avoid skin contact as much as possible. Do not wear rings, watches, etc, which are suitable for keeping the product and thereby cause skin reactions. Barrier creams may help to protect exposed skin, but can not substitute for gloves. Remove contaminated clothing to prevent skin contact. After washing the skin apply oily skin cream to replace lost skin oils. Keep good order. Specific Hygiene Measures: Always observe good personal hygiene such as washing after handling product and before eating, drinking and / or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and shoes that can not be washed.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	Liquid.
Colour	Transparent.
Odour	Odorless.
Smell limit	n/a
pH - conc.	14
Melting point	-6 °C
Boiling point	n/a
Flash point	n/a
Relative evaporation rate	n/a
Flammability (solid, gas)	n/a
Explosion limits	n/a
Vapour pressure	n/a
Vapour density	n/a
Relative density	1,6
Solubility	n/a
Solubility water	100% (Easily soluble)
Partition coefficient n-octanol/water	n/a
Auto-ignition temp.	n/a

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Decomposition temperature	n/a
Viscosity	n/a
Explosive properties	n/a
Oxidising properties	n/a
9.2 Other information	n/a

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	n/a
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	Heating will cause strong irritant vapors.
10.4 Conditions to avoid	Keep away from open flames, sparks and all other forms of ignition.
10.5 Incompatible materials	In order to avoid exothermic reaction, keep away from strong oxidizing substances, strong acids and bases.
10.6 Hazardous decomposition products	In case of fire, toxic gasses can develop.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects	
For ingredient	potassium hydroxide
LD50 oral	273 mg/kg (Rat)
Reference	Fundamental and Applied Toxicology. Vol. 8, Pg. 97, 1987.
For ingredient	Monoethanolamine
LD50 oral	1720 mg/kg (Rat)
Reference	Toxicology and Applied Pharmacology. Vol. 42, Pg. 417, 1977.
LD50 dermal	1010 mg/kg (Rabbit)
Reference	Union Carbide Data Sheet. Vol. 1/13/1972,
Acute toxicity	After ingestion of caustic alkali, it may take time before the injury and pain develops. Harmful if swallowed. Ingestion can cause corrosive damage to mouth, throat and digestive system. Corrosive effect on mucous membranes in mouth, gullet and stomach, and may cause severe pain.
Skin corrosion/irritation	Causes severe burns to skin and eyes. Even diluted solutions can cause irritation. If spilled on the skin it will first feel smooth. Pain, blistering and sores that resemble burns later develops. Contains material that can be taken up through the skin.
Serious eye damage/ irritation	Splash of concentrate or dilution in the eyes may cause serious damage. May destroy the cornea. Splashes in the eyes may cause pain, but not always.
Respiratory or skin sensitisation	None of the substances listed in section 3 is classified as allergenic.
Germ cell mutagenicity	None of the substances listed in section 3 is classified as mutagenic.
Carcinogenicity	None of the substances listed in section 3 is classified as carcinogenic.
Reproductive toxicity	None of the substances listed in section 3 is classified as reproduction toxic.
STOT-single exposure	May cause irritation of respiratory tract. Vapours from the concentrate can irritate the respiratory tract.
STOT-repeated exposure	Based on available data, the criteria for classification are not fulfilled.
Aspiration hazard	Under normal use, no health effects are anticipated.
Additional information	Probable route of exposure: Skin contact. Inhalation of vapors. Swallowing.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	Harmful to aquatic organisms due to high pH value. Toxic to fish and plankton.
For ingredient	Monoethanolamine
LC50	329 mg/l (Fish 96 hours)
Reference	Wolverton, B.C., D.D. Harrison, and R.C. Voight 1970. Toxicity of CS-2 Decontamination Products. Tech.Report AFATL-TR-70-68, Air Force Armament Laboratory, Eglin Air Force Base, FL :13 p.(U.S.NTIS AD-879811)
12.2 Persistence and degradability	Expected to be quickly degradable and is "easily biodegradable" according to OECD regulations.
12.3 Bioaccumulative potential	No bio-accumulation is indicated. No harmful long-term effects are expected on aquatic organisms.
12.4 Mobility in soil	Soluble in water.

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12.5 Results of PBT and vPvB assessment

This product does not contain a PBT or vPvB.

12.6 Other adverse effects

Bases causing pH increase in the water, which can lead to fish death at the spill site. pH > 9 is harmful to fish.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal group

EWC: *20 01 29 detergents containing dangerous substances.
EWC: *20 01 15 bases.
The EWC code are for illustrative purposes only. Always check the waste codes in view of the current state the product is in. The final waste groups and tags must be determined by the user, based on the actual use of the product.

Packings

EWC: 15 01 02: plastic packaging.
EWC: 15 01 10 Packing which contains remnants or is contaminated with dangerous waste.

Additional information

Emptying in drains beyond intended use is not recommended.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

UN 1814

14.2 UN proper shipping name

Item name

KALIUMHYDROKSIDLØSNING

IMDG proper shipping name

Potassium hydroxide solution

14.3 Transport hazard class(es)

Label

8

ADR/RID class

8

ADR/RID classification code

C5

ADR/RID danger number

80

ADR/RID free quantity

1 L / E2

IMDG class

8

IMDG EmS

F-A, S-B

IATA class

8

14.4 Packing group

II: Intermediate hazardous substances.

14.5 Environmental hazards

n/a

14.6 Special precautions for user

n/a

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

n/a

SECTION 15: REGULATORY INFORMATION

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

COMMISSION REGULATION (EU) 2015/1221 av 24 July 2015 (ATP7).
Norwegian Regulations: "FOR-2012-06-16-622 Forskrift om klassifisering, merking og emballering av stoffer og stoffblandinger (CLP)".
European Parliament and Council Regulation (EC) 1272/2008.
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).
Transport of hazardous goods: ADR, RID, IMDG, IATA (2015).
Regulations regarding OAR values.
FOR 2004-06-01 nr 922: Norwegian regulations on the restriction of use of hazardous chemicals and other products "produktforskriften".
ECHA (European Chemicals Agency) C&L Inventory database.
Norwegian Waste Regulations (miljøverndepartementet): "FOR 2004-06-01 No. 930: Regulations relating to the recycling of waste".
Regulation (EC) no. 648/2004 of 31 March 2004 on detergents.
FOR-2015-05-19-541 Forskrift om deklarerer av kjemikalier til produktregisteret (norwegian regulation for product declaration).
Ex-ECB databasen.

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15.2 Chemical safety assessment

Supplier has not carried out a Chemical Safety Assessment for the substance or mixture.

Additional information

Classification of this product is given on the basis of the available information from the vendor.

SECTION 16: OTHER INFORMATION

Relevant hazard- and risk phrases given in section 3

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H332 Harmful if inhaled.

Key literature references and sources for data

Material safety data sheet from the supplier.

Abbreviations in the document

n/a - No relevant information.
PBT - Persistent, Bioaccumulative and Toxic.
vPvB - very Persistent and very Bioaccumulative (require special attention under REACH).
EWC - European Waste Catalogue codes.

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Additional information

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--- SAFETY DATA SHEET conforming to commission regulation (EC) 1272/2008 and (EU) 2015/830 ---