

**grotanol® FF 1 N**    **No Change Service!**

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name : grotanol® FF 1 N

**1.2 Relevant identified uses of the substance or mixture and uses advised against**Use of the Sub-  
stance/Mixture : Cleaning agent**1.3 Details of the supplier of the safety data sheet**Producer/Supplier : Schülke & Mayr GmbH  
Robert-Koch-Str. 2  
22851 Norderstedt  
Germany  
Telephone: +4940521000  
Telefax: +494052100318  
mail@schuelke.com  
www.schuelke.comContact person : SAI/AT +49 40 52100 100 or S&M UK +44 114 254 3500  
sai-at@schuelke.com**1.4 Emergency telephone number**

Emergency telephone number : UK Poisons Emergency number: 0870 600 6266

Emergency telephone number : +49 (0)40 / 52 100 -0

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Skin irritation, Category 2

H315: Causes skin irritation.

Skin sensitisation, Category 1

H317: May cause an allergic skin reaction.

Serious eye damage, Category 1

H318: Causes serious eye damage.

Acute aquatic toxicity, Category 1

H400: Very toxic to aquatic life.

||Chronic aquatic toxicity, Category 2

H411: Toxic to aquatic life with long lasting effects.

**Classification (67/548/EEC, 1999/45/EC)**

Irritant

R38: Irritating to skin.

R41: Risk of serious damage to eyes.

R43: May cause sensitisation by skin contact.

Dangerous for the environment

R50: Very toxic to aquatic organisms.

**2.2 Label elements****Labelling**

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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Hazard pictograms



Signal word : Danger

Hazard statements : H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements : EUH070 Toxic by eye contact.

Precautionary statements : P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
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.

Hazardous components which must be listed on the label:

2634-33-5            1,2-Benzisothiazol-3(2H)-one  
69011-36-5        Tridecylpolyethylenglycolether

Special labelling of certain mixtures : Use biocides safely. Always read the label and product information before use.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical nature : Solution of the following substances with harmless additives.

#### Hazardous components

Chemical Name	Index-Number CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
1,2-Benzisothiazol-3(2H)-one	613-088-00-6 2634-33-5 220-120-9	Xn; R22 Xi; R38 Xi; R41	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318	1,4 - 1,7 %

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		Xi; R43 N; R50	Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H410	
N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9 219-145-8 01- 2119980592- 29-xxxx	Xn; R22 Xn; R48/22 C; R35 N; R50	Acute Tox. 3; H301 Skin Corr. 1B; H314 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	0,7 - 0,9 %
Potassium hydroxide	019-002-00-8 1310-58-3 215-181-3 01- 2119487136- 33-XXXX	Xn; R22 C; R35	Met. Corr. 1; H290 Acute Tox. 4; H302 Skin Corr. 1A; H314	0,5 - 1 %
2-(2-Butoxyethoxy)-ethanol	603-096-00-8 112-34-5 203-961-6 01- 2119475104- 44-XXXX	Xi; R36	Eye Irrit. 2; H319	6 - 9 %
Tridecylpolyethylenglycoether	69011-36-5 Polymer	Xi; R41	Eye Dam. 1; H318 Aquatic Chronic 3; H412	4 - 6 %
Alcohols, C13-15-branched and linear, butoxylated ethoxylated	111905-53-4 Polymer	Xi; R36/38 N; R50	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 3; H412	4 - 6 %
Pyridine-2-thiol-1-oxide, sodium salt	3811-73-2 223-296-5	Xn; R20/21/22 Xi; R36/38 N; R50	Acute Tox. 4; H302 Acute Tox. 4; H312 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 EUH070	0,2 - 0,3 %

For explanation of abbreviations see section 16.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

General advice : Take off all contaminated clothing immediately.  
If inhaled : If symptoms persist, call a physician.

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- In case of skin contact : Wash off immediately with plenty of water. If symptoms persist, call a physician.
- In case of eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.
- If swallowed : Do NOT induce vomiting. Rinse mouth with water. Give small amounts of water to drink. Obtain medical attention.

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

Symptoms : No information available.

Risks : No information available.

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

Treatment : No information available.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media : Water, Dry powder, Foam, Carbon dioxide (CO2)

Unsuitable extinguishing media : No information available.

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during fire-fighting : No information available.

Specific risk from the substance or the product itself, its combustion products or evolved gases : Decomposition products, see chapter 10

**5.3 Advice for firefighters**

Further information : Standard procedure for chemical fires.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment.

**6.2 Environmental precautions**

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

**6.3 Methods and material for containment and cleaning up**

Methods for cleaning up : Wipe up with absorbent material (e.g. cloth, fleece). Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

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**6.4 Reference to other sections**

see Section 8 + 13

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

- Advice on safe handling : Use only in well-ventilated areas. Handle and open container with care.
- Advice on protection against fire and explosion : No special protective measures against fire required.
- Hygiene measures : Take off all contaminated clothing immediately.

**7.2 Conditions for safe storage, including any incompatibilities**

- Requirements for storage areas and containers : Store in original container.
- Further information on storage conditions : Keep away from heat. Keep away from direct sunlight. Keep container tightly closed. Limited stability - see label on pack.
- Advice on common storage : Keep away from food and drink.

**7.3 Specific end use(s)**

- Specific use(s) : none

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Pyridine-2-thiol-1-oxide, sodium salt	3811-73-2	Permissible exposure limit	1 mg/m <sup>3</sup>	TRGS 900
Pyridine-2-thiol-1-oxide, sodium salt	3811-73-2	Ceiling Limit Value	2 mg/m <sup>3</sup>	TRGS 900
2-(2-Butoxyethoxy)-ethanol	112-34-5	Short term exposure limit	15 ppm 101,2 mg/m <sup>3</sup>	EC/2000/39
2-(2-Butoxyethoxy)-ethanol	112-34-5	Permissible exposure limit	10 ppm 67,5 mg/m <sup>3</sup>	EC/2000/39

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

- N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine : End Use: Workers, Exposure routes: Inhalation, Potential health effects: Long-term systemic effects, Value: 2,35 mg/m<sup>3</sup>
- 2-(2-Butoxyethoxy)-ethanol : End Use: Workers, Exposure routes: Skin contact, Potential health effects: Long-term systemic effects, Value: 20 mg/kg  
End Use: Workers, Exposure routes: Inhalation, Potential health effects: Acute systemic effects, Long-term systemic effects, Value: 67,5 mg/m<sup>3</sup>, 10 ppm

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

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N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine	: Fresh water, Value: 0,001 mg/l Marine water, Value: 0,0001 mg/l Fresh water sediment, Value: 8,5 mg/l Marine sediment, Value: 0,85 mg/l Soil, Value: 45,34 mg/l
2-(2-Butoxyethoxy)-ethanol	: Fresh water, Value: 1 mg/l Marine water, Value: 0,1 mg/l Fresh water sediment, Value: 4 mg/kg Marine sediment, Value: 0,4 mg/kg Intermittent use/release, Value: 3,9 mg/l Sewage treatment plant, Value: 200 mg/l

**8.2 Exposure controls****Personal protective equipment**

Eye protection	: Tightly fitting safety goggles
Hand protection	: Impervious gloves Splash protection: disposable nitrile rubber gloves e.g. Dermatril (layer thickness: 0,11 mm) made by KCL or gloves from other manufacturers offering the same protection. Prolonged contact: Butyl rubber gloves e.g. Butoject (>480 Min., layer thickness: 0,70 mm) made by KCL or gloves from other manufacturers offering the same protection.
Protective measures	: Avoid contact with skin and eyes.

**Environmental exposure controls**

General advice	: Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.
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**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Appearance	: Liquid
Colour	: light yellow - yellow
Odour	: nearly odourless
Odour Threshold	: not determined
Flash point	: > 100 °C, ISO 2719
Auto-ignition temperature	: Not applicable
Lower explosion limit	: not determined
Upper explosion limit	: not determined
Flammability	: does not ignite
Explosive properties	: Not applicable
Oxidizing properties	: Not applicable
pH	: ca. 9, Concentration: 10,00 g/l, 20 °C
Melting point/freezing point	: < -5 °C
Initial boiling point	: > 100 °C,
Vapour pressure	: No data available,
Relative vapour density	: No data available
Density	: 1,005 - 1,017 g/ml, 20 °C
Water solubility	: completely miscible, 20 °C
Partition coefficient: n-octanol/water	: Not applicable

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Viscosity, dynamic                   : No data available  
Evaporation rate                    : No data available

**9.2 Other information**

Refractive index                    : 1,361 - 1,373

**SECTION 10: Stability and reactivity****10.1 Reactivity**

Stable under recommended storage conditions.

**10.2 Chemical stability**

No decomposition if stored normally.

**10.3 Possibility of hazardous reactions**

None reasonably foreseeable.

**10.4 Conditions to avoid**

No data available

**10.5 Incompatible materials**

Acids

**10.6 Hazardous decomposition products**

None reasonably foreseeable.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity****Components:****1,2-Benzisothiazol-3(2H)-one:**

Acute oral toxicity                   : LD50 Oral: 1193 mg/kg, Rat, Harmful if swallowed.  
Acute inhalation toxicity           : No data available  
Acute dermal toxicity                : LD50 Dermal: 4115 mg/kg, Rat, Based on available data, the classification criteria are not met.

**N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine:**

Acute oral toxicity                   : LD50 Oral: 261 mg/kg, Rat, OECD Test Guideline 401, Toxic if swallowed.  
Acute inhalation toxicity           : No data available  
Acute dermal toxicity                : No data available

**Potassium hydroxide:**

Acute oral toxicity                   : LD50: 365 mg/kg, Rat  
Acute inhalation toxicity           : No data available  
Acute dermal toxicity                : No data available

**2-(2-Butoxyethoxy)-ethanol:**

Acute oral toxicity                   : LD50 Oral: 2410 mg/kg, Mouse  
Acute inhalation toxicity           : No data available  
Acute dermal toxicity                : LD50 Dermal: 2764 mg/kg, Rabbit

**Tridecylpolyethylenglycoether:**

Acute oral toxicity                   : LD50: > 2000 mg/kg, Rat  
Acute inhalation toxicity           : No data available

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Acute dermal toxicity : LD50: > 2000 mg/kg, Rat  
**Alcohols, C13-15-branched and linear, butoxylated ethoxylated:**  
Acute oral toxicity : LD50: > 2000 mg/kg, Rat  
Acute inhalation toxicity : No data available  
Acute dermal toxicity : No data available  
**Pyridine-2-thiol-1-oxide, sodium salt:**  
Acute oral toxicity : LD50 Oral: 1208 mg/kg, Rat  
Acute inhalation toxicity : LC50: 1,08 mg/l, Rat  
Acute dermal toxicity : LD50 Dermal: 1800 mg/kg, Rabbit

**Skin corrosion/irritation****Components:****1,2-Benzisothiazol-3(2H)-one:**

Irritating to skin.

**N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine:**

Corrosive, Rabbit, OECD Test Guideline 404

**Potassium hydroxide:**

Corrosive

**2-(2-Butoxyethoxy)-ethanol:**

No skin irritation

**Tridecylpolyethylenglycolether:**

According to the classification criteria of the European Union, the product is not considered as being a skin irritant., Rabbit, OECD Test Guideline 404

**Alcohols, C13-15-branched and linear, butoxylated ethoxylated:**

irritating, Rabbit, OECD Test Guideline 404

**Pyridine-2-thiol-1-oxide, sodium salt:**

Irritating to skin.

**Serious eye damage/eye irritation****Components:****1,2-Benzisothiazol-3(2H)-one:**

Risk of serious damage to eyes.

**N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine:**

Corrosive

**Potassium hydroxide:**

Corrosive

**2-(2-Butoxyethoxy)-ethanol:**

Irritating to eyes.

**Tridecylpolyethylenglycolether:**

Risk of serious damage to eyes., Rabbit, OECD Test Guideline 405

**Alcohols, C13-15-branched and linear, butoxylated ethoxylated:**

irritating, Rabbit, OECD Test Guideline 405

**Pyridine-2-thiol-1-oxide, sodium salt:**

Irritating to eyes.

**Respiratory or skin sensitisation****Components:****1,2-Benzisothiazol-3(2H)-one:**

May cause sensitisation by skin contact.,

**N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine:**

Did not cause sensitisation on laboratory animals. Buehler Test, Guinea pig, OECD Test Guideline 406

**Potassium hydroxide:**

Did not cause sensitisation on laboratory animals. Guinea pig

**2-(2-Butoxyethoxy)-ethanol:**

Did not cause sensitisation on laboratory animals. Maximisation Test (GPMT), Guinea pig



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**Tridecylpolyethylenglycolether:**

Did not cause sensitisation on laboratory animals. Maximisation Test (GPMT), Guinea pig

**Alcohols, C13-15-branched and linear, butoxylated ethoxylated:**

No data available

**Pyridine-2-thiol-1-oxide, sodium salt:**

Does not cause skin sensitisation.

**Germ cell mutagenicity****Components:****1,2-Benzisothiazol-3(2H)-one:**

Germ cell mutagenicity- Assessment : No data available

**N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine:**

Genotoxicity in vitro : Not mutagenic in Ames Test OECD Test Guideline 471

Germ cell mutagenicity- Assessment : Not mutagenic in Ames Test

**Potassium hydroxide:**

Genotoxicity in vitro : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Germ cell mutagenicity- Assessment : Animal testing did not show any mutagenic effects.

**2-(2-Butoxyethoxy)-ethanol:**

Germ cell mutagenicity- Assessment : No data available

**Tridecylpolyethylenglycolether:**

Genotoxicity in vitro : Not mutagenic in Ames Test

Germ cell mutagenicity- Assessment : Not mutagenic in Ames Test

**Alcohols, C13-15-branched and linear, butoxylated ethoxylated:**

Germ cell mutagenicity- Assessment : No data available

**Pyridine-2-thiol-1-oxide, sodium salt:**

Germ cell mutagenicity- Assessment : No data available

**Carcinogenicity****Components:****1,2-Benzisothiazol-3(2H)-one:**

Carcinogenicity - Assessment : No data available

**N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine:**

Carcinogenicity - Assessment : No data available

**Potassium hydroxide:**

Carcinogenicity - Assessment : No data available

**2-(2-Butoxyethoxy)-ethanol:**

Carcinogenicity - Assessment : No data available

**Tridecylpolyethylenglycolether:**

Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

**Alcohols, C13-15-branched and linear, butoxylated ethoxylated:**

Carcinogenicity - Assessment : No data available

**Pyridine-2-thiol-1-oxide, sodium salt:**

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Carcinogenicity - Assessment : No data available

**Reproductive toxicity****Components:****1,2-Benzisothiazol-3(2H)-one:**

Reproductive toxicity - Assessment : No data available

Teratogenicity - Assessment : No data available

**N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine:**

Reproductive toxicity - Assessment : No toxicity to reproduction

Teratogenicity - Assessment : Did not show teratogenic effects in animal experiments.

**Potassium hydroxide:**

Reproductive toxicity - Assessment : No data available

Teratogenicity - Assessment : No data available

**2-(2-Butoxyethoxy)-ethanol:**

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.

Teratogenicity - Assessment : Animal testing did not show any effects on foetal development.

**Tridecylpolyethylenglycolether:**

Effects on fertility : Two-generation study, Rat, NOAEL: > 250 mg/kg, F1: > 250 mg/kg, F2: > 250 mg/kg

Effects on foetal development : Rat, Oral, NOAEL: > 50 mg/kg, NOAEL: 50 mg/kg

Rat, Dermal, NOAEL: > 250 mg/kg, NOAEL: 250 mg/kg

Reproductive toxicity - Assessment : Based on available data, the classification criteria are not met.

Teratogenicity - Assessment : Based on available data, the classification criteria are not met.

**Alcohols, C13-15-branched and linear, butoxylated ethoxylated:**

Reproductive toxicity - Assessment : No data available

Teratogenicity - Assessment : No data available

**Pyridine-2-thiol-1-oxide, sodium salt:**

Reproductive toxicity - Assessment : No data available

Teratogenicity - Assessment : No data available

**STOT - single exposure****Components:****Tridecylpolyethylenglycolether:**

The substance or mixture is not classified as specific target organ toxicant, single exposure.

**STOT - repeated exposure****Components:****N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine:**

Kidney, May cause damage to organs through prolonged or repeated exposure.

**Tridecylpolyethylenglycolether:**

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Repeated dose toxicity****Components:****N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine:**

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Rat: NOAEL: 9 mg/kg, Oral, Exposure time: 90

**Aspiration toxicity****Components:****Tridecylpolyethylenglycolether:**

No aspiration toxicity classification

**SECTION 12: Ecological information****12.1 Toxicity****Components:****1,2-Benzisothiazol-3(2H)-one:**

Toxicity to fish : LC50 (Oncorhynchus mykiss): 2,18 mg/l, 96 h, OECD Test Guideline 203  
 Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna): 2,94 mg/l, 48 h, OECD Test Guideline 202  
 Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 0,11 mg/l, 72 h, OECD Test Guideline 201  
 : NOEC (Skeletonema costatum): 0,027 mg/l, 72 h, OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

**N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine:**

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,45 mg/l, 96 h  
 Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna): 0,073 mg/l, 48 h  
 Toxicity to algae : ErC10 (Desmodesmus subspicatus (green algae)): 0,012 mg/l, 72 h, OECD Test Guideline 201  
 : NOEC (Selenastrum capricornutum (green algae)): > 0,001 - 0,01 mg/l, 72 h, OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 10

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0,024 mg/l, 21 d, OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

**Potassium hydroxide:**

Toxicity to fish : LC50 (Gambusia affinis (Mosquito fish)): 80 mg/l, 96 h  
 Toxicity to daphnia and other aquatic invertebrates : No data available  
 Toxicity to algae : No data available

**2-(2-Butoxyethoxy)-ethanol:**

Toxicity to fish : LC50 (Lepomis macrochirus): 1.300 mg/l, 96 h  
 Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l, 48 h  
 Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l, 96 h

**Tridecylpolyethylenglycolether:**

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 1 - 10 mg/l, 96 h, OECD Test Guideline 203  
 Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l, 48 h,



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octanol/water

**Potassium hydroxide:**

Bioaccumulation : Bioaccumulation is unlikely.

**2-(2-Butoxyethoxy)-ethanol:**

Bioaccumulation : Accumulation in aquatic organisms is unlikely.

Partition coefficient: n- : log Pow: 1

octanol/water

**Tridecylpolyethylenglycoether:**

Bioaccumulation : Bioaccumulation is unlikely.

**Alcohols, C13-15-branched and linear, butoxylated ethoxylated:**

Bioaccumulation : No data available

**Pyridine-2-thiol-1-oxide, sodium salt:**

Partition coefficient: n- : log Pow: -3,8

octanol/water

**12.4 Mobility in soil****Product**

Mobility : No data available

Distribution among environmental compartments : No data available

**12.5 Results of PBT and vPvB assessment****Product**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Other adverse effects****Product**

Adsorbed organic bound halogens (AOX) : Product does not contain any organic halogens.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Product : Dispose of as special waste in compliance with local and national regulations.  
Can be disposed of as a solid waste or burned in a suitable installation subject to local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

Waste key for the unused product(Group) : The waste producer itself must, in consultation with the appropriate authorities and a waste disposal company, obtain a waste code from the EWC (European Waste Catalogue)

**SECTION 14: Transport information****14.1 UN number**

ADR : UN 3082

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**IMDG** : UN 3082**IATA** : UN 3082**14.2 UN proper shipping name****ADR** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(Pyridine-2-thiol-1-oxide, sodium salt)**IMDG** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(Pyridine-2-thiol-1-oxide, sodium salt)**IATA** : Environmentally hazardous substance, liquid, n.o.s.  
(Pyridine-2-thiol-1-oxide, sodium salt)**14.3 Transport hazard class(es)****ADR** : 9**IMDG** : 9**IATA** : 9**14.4 Packing group****ADR**  
Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9 + (N)  
Tunnel restriction code : E**IMDG**  
Packing group : III  
Labels : 9 + (N)  
EmS Code : F-A, S-F**IATA**  
Packing instruction (cargo  
aircraft) : 964  
Packing group : III  
Labels : 9 + (N)**14.5 Environmental hazards****ADR**  
Environmentally hazardous : yes**IMDG**  
Marine pollutant : yes**14.6 Special precautions for user**

For personal protection see section 8.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

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**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Legislation on the control of major-accident hazards involving dangerous substances : Directive 96/82/EC does not apply

Volatile organic compounds : 2 %, Directive 2010/75/EU on the limitation of emissions of volatile organic compounds

**15.2 Chemical Safety Assessment**

Exempt

**SECTION 16: Other information****Full text of R-Phrases**

R20/21/22 : Harmful by inhalation, in contact with skin and if swallowed.  
 R22 : Harmful if swallowed.  
 R35 : Causes severe burns.  
 R36 : Irritating to eyes.  
 R36/38 : Irritating to eyes and skin.  
 R38 : Irritating to skin.  
 R41 : Risk of serious damage to eyes.  
 R43 : May cause sensitisation by skin contact.  
 R48/22 : Harmful: danger of serious damage to health by prolonged exposure if swallowed.  
 R50 : Very toxic to aquatic organisms.

**Full text of H-Statements**

EUH070 : Toxic by eye contact.  
 H290 : May be corrosive to metals.  
 H301 : Toxic if swallowed.  
 H302 : Harmful if swallowed.  
 H312 : Harmful in contact with skin.  
 H314 : Causes severe skin burns and eye damage.  
 H315 : Causes skin irritation.  
 H317 : May cause an allergic skin reaction.  
 H318 : Causes serious eye damage.  
 H319 : Causes serious eye irritation.  
 H332 : Harmful if inhaled.  
 H373 : May cause damage to organs through prolonged or repeated exposure if swallowed.  
 H400 : Very toxic to aquatic life.  
 H410 : Very toxic to aquatic life with long lasting effects.  
 H412 : Harmful to aquatic life with long lasting effects.

**Full text of other abbreviations**

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**schülke** -†

## **grotanol® FF 1 N**     **No Change Service!**

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Met. Corr.	Corrosive to metals
Skin Corr.	Skin corrosion
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitisation
STOT RE	Specific target organ toxicity - repeated exposure

### **Further information**

|| Changes compared with the previous edition!!!

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.