SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2020/878

NOVAKLEEN HEAVY DUTY

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

1.1. Product identifier

Product name : NOVAKLEEN HEAVY DUTY
Registration number REACH : Not applicable (mixture)
Product type REACH : Mixture

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

1.2.1 Relevant identified uses

Detergent according to Regulation (EC) No 648/2004

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

Novatio*
Industrielaan 5B
B-2250 Olen
☎ +32 14 25 76 40
🖷 +32 14 22 02 66
info@novatio.be
*NOVATIO is a registered trademark of Novatech International N.V.

Manufacturer of the product

Novatech International N.V.
Industrielaan 5B
B-2250 Olen
☎ +32 14 85 97 37
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info@novatech.be

1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch) :
+32 14 58 45 45 (BIG)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Skin Corr.	category 1	H314: Causes severe skin burns and eye damage.
Eye Dam.	category 1	H318: Causes serious eye damage.

2.2. Label elements

Contains: potassium hydroxide.

Signal word Danger

H-statements

H314 Causes severe skin burns and eye damage.

P-statements

P280 Wear protective gloves, protective clothing and eye protection/face protection.
P260 Do not breathe vapours/mist.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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/doctor.

Supplemental information

EUH208 Contains: reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid. May produce an allergic reaction.

2.3. Other hazards

Caution! Substance is absorbed through the skin

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No List No	Conc. (C)	Classification according to CLP	Note	Remark	M-factors and ATE
tetrasodium ethylene diamine tetraacetate 01-2119486762-27	64-02-8 200-573-9	C≤2%	Acute Tox. 4; H332 Acute Tox. 4; H302 STOT RE 2; H373 Eye Dam. 1; H318	(1)(6)(10)	Constituent	
isotridecanol, ethoxylated	69011-36-5	C≤2%	Acute Tox. 4; H302 Eye Dam. 1; H318	(1)(10)	Constituent	
disodium metasilicate 01-2119449811-37	6834-92-0 229-912-9	C≤2%	Met. Corr. 1; H290 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335	(1)(10)	Constituent	
2-butoxyethanol 01-2119475108-36	111-76-2 203-905-0	C≤2%	Acute Tox. 3; H331 Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319	(1)(2)(10)	Constituent	ATE inhalation (vapour): 3 mg/l ATE oral: 1200 mg/kg
potassium hydroxide 01-2119487136-33	1310-58-3 215-181-3	C≤0.4%	Met. Corr. 1; H290 Acute Tox. 4; H302 Skin Corr. 1A; H314 Eye Dam. 1; H318 Skin Corr. 1A; H314: C≥5%, (CLP Annex VI (ATP 0)) Skin Corr. 1B; H314: 2%≤C<5% , (CLP Annex VI (ATP 0)) Skin Irrit. 2; H315: 0,5% ≤C<2%, (CLP Annex VI (ATP 0)) Eye Irrit. 2; H319: 0,5%≤C<2% , (CLP Annex VI (ATP 0))	(1)(2)(10)	Constituent	
2-(2-heptadec-8-enyl-2-imidazolin-1-yl) ethanol 01-2119777867-13	95-38-5 202-414-9	C≤0.3%	Acute Tox. 4; H302 STOT RE 2; H373 Skin Corr. 1C; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	(1)(10)	Constituent	M: 10 (Acute, ECHA) M: 1 (Chronic, ECHA)
reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid 01-2120750377-50	946-533-0	C≤0.3%	Skin Sens. 1B; H317 Eye Dam. 1; H318 STOT SE 3; H335 Aquatic Chronic 3; H412	(1)(10)	Constituent	

(1) For H- and EUH-statements in full: see section 16
(2) Substance with a Community workplace exposure limit
(6) Enumerated in Annex VI of Regulation (EC) No. 1272/2008 but the classification has been adapted after evaluation of available test data
(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006
Note: numbers 9xx-xxx-x are provisional list numbers assigned by Echa pending an official EC inventory number

SECTION 4: First aid measures

4.1. Description of first aid measures

General:
Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.

After inhalation:
Remove victim into fresh air. Immediately consult a doctor/medical service.

After skin contact:

If possible, wipe up/dry remove chemical. Then rinse/shower immediately for 30 minutes with (lukewarm) water. Cut clothing; never remove burnt clothing from the wound. Do not give any pain medication. Consult a doctor/medical service.

After eye contact:
Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a doctor/medical service.

After ingestion:
Rinse mouth with water. Immediately consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

4.2.1 Acute symptoms

After inhalation:
EXPOSURE TO HIGH CONCENTRATIONS: Corrosion of the upper respiratory tract.

After skin contact:
Caustic burns/corrosion of the skin.

After eye contact:
Corrosion of the eye tissue.

After ingestion:
Burns to the gastric/intestinal mucosa. Possible esophageal perforation.

4.2.2 Delayed symptoms
No effects known.

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

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:
Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.

Major fire: Class B foam (alcohol-resistant), Water spray if puddle cannot expand.

5.1.2 Unsuitable extinguishing media:
Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.

Major fire: Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

Upon combustion: formation of CO, CO2 and small quantities of nitrous vapours.

5.3. Advice for firefighters

5.3.1 Instructions:
Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it. Heat exposure: dilute toxic gas/vapour with water spray. Take account of toxic/corrosive precipitation water.

5.3.2 Special protective equipment for fire-fighters:
Gloves (EN 374). Face shield (EN 166). Corrosion-proof suit (EN 14605). Large spills/in enclosed spaces: self-contained breathing apparatus (EN 136 + EN 137). Large spills/in enclosed spaces: gas-tight suit (EN 943). Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No naked flames. Large spills/in confined spaces: consider evacuation.

6.1.1 Protective equipment for non-emergency personnel
See section 8.2

6.1.2 Protective equipment for emergency responders
Gloves (EN 374). Face shield (EN 166). Corrosion-proof suit (EN 14605). Large spills/in enclosed spaces: self-contained breathing apparatus (EN 136 + EN 137). Large spills/in enclosed spaces: gas-tight suit (EN 943).

Suitable protective clothing
See section 8.2

6.2. Environmental precautions

Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

Take up liquid spill into inert absorbent material. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

See section 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe very strict hygiene - avoid contact. Remove contaminated clothing immediately. Keep container tightly closed. Do not discharge the waste into the drain.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:
Storage temperature: < 50 °C. Meet the legal requirements. Keep container in a well-ventilated place. Provide for a tub to collect spills. Protect against frost. Keep out of direct sunlight. Keep locked up. Unauthorized persons are not admitted.

7.2.2 Keep away from:
Heat sources, (strong) acids.

7.2.3 Suitable packaging material:
No data available

7.2.4 Non suitable packaging material:
No data available

7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

EU

2-Butoxyethanol	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	20 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	98 mg/m³
	Short time value (Indicative occupational exposure limit value)	50 ppm
	Short time value (Indicative occupational exposure limit value)	246 mg/m³

Belgium

2-Butoxyéthanol	Time-weighted average exposure limit 8 h	20 ppm
	Time-weighted average exposure limit 8 h	98 mg/m³
	Short time value	50 ppm
	Short time value	246 mg/m³
Potassium (hydroxyde de)	Short time value	2 mg/m³ (M)

La mention “M” indique que lors d’une exposition supérieure à la valeur limite, des irritations apparaissent ou un danger d’intoxication aiguë existe. Le procédé de travail doit être conçu de telle façon que l’exposition ne dépasse jamais la valeur limite. Lors des mesurages, la période d’échantillonnage doit être aussi courte que possible afin de pouvoir effectuer des mesurages fiables. Le résultat des mesurages est calculé en fonction de la période d’échantillonnage.

The Netherlands

2-Butoxyethanol	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	20.4 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	100 mg/m³
	Short time value (Public occupational exposure limit value)	50 ppm
	Short time value (Public occupational exposure limit value)	246 mg/m³

France

2-Butoxyéthanol	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	10 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	49 mg/m³
	Short time value (VRC: Valeur réglementaire contraignante)	50 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	246 mg/m³
Potassium (hydroxyde de)	Short time value (VL: Valeur non réglementaire indicative)	2 mg/m³

Germany

2-Butoxyethanol	Time-weighted average exposure limit 8 h (TRGS 900)	10 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	49 mg/m³

Austria

2-Butoxyethanol	Tagesmittelwert (MAK)	20 ppm
	Tagesmittelwert (MAK)	98 mg/m³
	Kurzzeitwert 30(Miw) 4x (MAK)	40 ppm
	Kurzzeitwert 30(Miw) 4x (MAK)	200 mg/m³
Kaliumhydroxid	Tagesmittelwert (MAK)	2 mg/m³

UK

2-Butoxyethanol	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	25 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	123 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	50 ppm
	Short time value (Workplace exposure limit (EH40/2005))	246 mg/m³
Potassium hydroxide	Short time value (Workplace exposure limit (EH40/2005))	2 mg/m³

USA (TLV-ACGIH)

2-Butoxyethanol	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	20 ppm
Potassium hydroxide	Momentary value (TLV - Adopted Value)	2 mg/m³

b) National biological limit values

If limit values are applicable and available these will be listed below.

Germany

2-Butoxyethanol (Butoxyessigsäure (nach Hydrolyse))	Urin: expositionsende, bzw. schichtende bei langzeitexposition: nach mehreren vorangegangenen schichten	150 mg/g Kreatinin	

UK

2-Butoxyethanol (butoxyacetic acid)	Urine: post shift	240 mmol/mol creatinine	

USA (BEI-ACGIH)

2-buthoxyethanol (Butoxyacetic acid (BAA))	urine: end of shift	200 mg/g creatinine	With hydrolysis

8.1.2 Sampling methods

Product name	Test	Number
2-Butoxyethanol (Alcohols IV)	NIOSH	1403
2-Butoxyethanol (Butyl Cellosolve solvent)	OSHA	83
2-Butoxyethanol	OSHA	5001
Butoxyacetic acid	NIOSH	8316
Butyl cellosolve (Volatile Organic compounds)	NIOSH	2549
Butyl Cellosolve	OSHA	83
Potassium Hydroxide (Alkaline Dust)	NIOSH	7401
Potassium Hydroxide	NIOSH	7405

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

DNEL/DMEL - Workers

tetrasodium ethylene diamine tetraacetate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	1.5 mg/m³	
	Acute systemic effects inhalation	3 mg/m³	
	Long-term local effects inhalation	1.5 mg/m³	
	Acute local effects inhalation	3 mg/m³	

disodium metasilicate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	6.22 mg/m³	
	Long-term systemic effects dermal	1.49 mg/kg bw/day	

2-butoxyethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	98 mg/m³	
	Acute systemic effects inhalation	1091 mg/m³	
	Acute local effects inhalation	246 mg/m³	

potassium hydroxide

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	1 mg/m³	

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	0.46 mg/m³	
	Acute systemic effects inhalation	14 mg/m³	
	Long-term systemic effects dermal	0.06 mg/kg bw/day	
	Acute systemic effects dermal	2 mg/kg bw/day	

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	16.4 mg/m³	
	Long-term systemic effects dermal	4.67 mg/kg bw/day	
	Long-term local effects dermal	153 µg/cm²	

DNEL/DMEL - General population

tetrasodium ethylene diamine tetraacetate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	0.6 mg/m³	
	Acute local effects inhalation	1.2 mg/m³	
	Long-term systemic effects oral	25 mg/kg bw/day	

disodium metasilicate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	1.55 mg/m³	
	Long-term systemic effects dermal	0.74 mg/kg bw/day	
	Long-term systemic effects oral	0.74 mg/kg bw/day	

2-butoxyethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	59 mg/m³	
	Acute systemic effects inhalation	426 mg/m³	
	Acute local effects inhalation	147 mg/m³	
	Long-term systemic effects oral	6.3 mg/kg bw/day	
	Acute systemic effects oral	26.7 mg/kg bw/day	

potassium hydroxide

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	1 mg/m³	

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	2.47 mg/m³	
	Long-term systemic effects dermal	1.67 mg/kg bw/day	
	Long-term systemic effects oral	1.67 mg/kg bw/day	

PNEC

tetrasodium ethylene diamine tetraacetate

Compartments	Value	Remark
Fresh water	2.83 mg/l	
Marine water	0.283 mg/l	
STP	50 mg/l	
Soil	1.1 mg/kg soil dw	

disodium metasilicate

Compartments	Value	Remark
Fresh water	7.5 mg/l	
Marine water	1 mg/l	
Fresh water (intermittent releases)	7.5 mg/l	
STP	1000 mg/l	

2-butoxyethanol

Compartments	Value	Remark
Fresh water	8.8 mg/l	
Marine water	0.88 mg/l	
Fresh water (intermittent releases)	26.4 mg/l	
STP	463 mg/l	
Fresh water sediment	34.6 mg/kg sediment dw	
Marine water sediment	3.46 mg/kg sediment dw	
Soil	2.33 mg/kg soil dw	
Oral	0.02 g/kg food	

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

Compartments	Value	Remark
Fresh water	< 0.01 mg/l	
Marine water	< 0.01 mg/l	
Fresh water (intermittent releases)	< 0.01 mg/l	
STP	0.26 mg/l	
Fresh water sediment	0.376 mg/kg sediment dw	
Marine water sediment	0.038 mg/kg sediment dw	
Soil	0.075 mg/kg soil dw	

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

Compartments	Value	Remark
Fresh water	2.4 µg/l	
Marine water	0.24 µg/l	
Fresh water (intermittent releases)	24 µg/l	
Marine water (intermittent releases)	2.4 µg/l	
STP	8.37 mg/l	
Fresh water sediment	190 µg/kg sediment dw	
Marine water sediment	19 µg/kg sediment dw	
Soil	36.6 µg/kg soil dw	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment

Observe very strict hygiene - avoid contact. Do not eat, drink or smoke during work.

a) Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit.

b) Hand protection:

Protective gloves against chemicals (EN 374).

Materials	Measured breakthrough time	Thickness	Protection index	Remark
nitrile rubber	> 480 minutes	0.35 mm	Class 6	

c) Eye protection:

Face shield (EN 166).

d) Skin protection:

Corrosion-proof clothing (EN 14605).

8.2.3 Environmental exposure controls:

See sections 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Liquid
Odour	Odourless
Odour threshold	No data available in the literature
Colour	No data available on colour
Translucency	Clear
Particle size	Not applicable (liquid)
Explosion limits	1.13 - 10.6 vol %
Flammability	Not classified as flammable
Log Kow	Not applicable (mixture)
Dynamic viscosity	1 mPa.s ; 20 °C
Kinematic viscosity	1 mm^2/s ; 40 °C
Melting point	0 °C
Boiling point	100 °C - 173 °C
Relative vapour density	No data available in the literature
Vapour pressure	23 hPa ; 20 °C
Solubility	Water ; soluble
Relative density	1.05 ; 20 °C
Absolute density	1050 kg/m^3 ; 20 °C
Decomposition temperature	No data available in the literature
Auto-ignition temperature	230 °C
Flash point	No data available in the literature
pH	13.4

9.2. Other information

Evaporation rate	0.3 ; Butyl acetate

SECTION 10: Stability and reactivity

10.1. Reactivity

Heating increases the fire hazard. Basic reaction.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Precautionary measures

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks.

10.5. Incompatible materials

(strong) acids.

10.6. Hazardous decomposition products

Upon combustion: formation of CO, CO2 and small quantities of nitrous vapours.

SECTION 11: Toxicological information

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

11.1.1 Test results

Acute toxicity

NOVAKLEEN HEAVY DUTY

No (test)data on the mixture available

Judgement is based on the relevant ingredients

tetrasodium ethylene diamine tetraacetate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	1913 mg/kg bw		Rat (male)	Experimental value	
Oral	LD50	Equivalent to OECD 401	1780 mg/kg bw		Rat (female)	Experimental value	
Dermal						Data waiving	
Inhalation (aerosol)	LOAEC	OECD 412	30 mg/m³ air	6 h	Rat (male)	Experimental value	
Inhalation (dust)			category 4			Expert judgement	

isotridecanol, ethoxylated

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral			category 4			Literature study	

disodium metasilicate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		1152 mg/kg bw - 1349 mg/kg bw		Rat (male / female)	Experimental value	10 % aqueous solution
Dermal	LD50	EPA OPPTS 870.1200	> 5000 mg/kg bw	24 h	Rat (male / female)	Experimental value	Aqueous solution
Inhalation (vapours)	LC50	EPA OPPTS 870.1300	> 2.06 mg/l	4 h	Rat (male / female)	Experimental value	Aqueous solution

2-butoxyethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	1746 mg/kg bw		Rat (male)	Experimental value	
Oral	LD50	OECD 401	1414 mg/kg bw		Guinea pig (male / female)	Experimental value	
Dermal	LC0	OECD 402	> 2000 mg/kg bw	24 h	Guinea pig (male / female)	Experimental value	
Inhalation (vapours)	ATE		3 mg/l			Annex VI	
Inhalation (saturated vapour)	Dose level	Equivalent to OECD 433	2.25 mg/l	4 h	Guinea pig (male / female)	Experimental value	No effect

potassium hydroxide

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 425	333 mg/kg bw - 388 mg/kg bw		Rat (male)	Experimental value	
Dermal						Data waiving	
Inhalation						Data waiving	

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 401	1265 mg/kg		Rat (male / female)	Experimental value	
Dermal						Data waiving	
Inhalation						Data waiving	

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	EU Method B.1 tris	> 2000 mg/kg bw		Rat (female)	Experimental value	
Dermal	LD50	EU Method B.3	> 2000 mg/kg bw	24 h	Rat (male / female)	Experimental value	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

NOVAKLEEN HEAVY DUTY

No (test)data on the mixture available

Classification is based on the pH

tetrasodium ethylene diamine tetraacetate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage	Equivalent to OECD 405		24; 48; 72 hours	Rabbit	Experimental value	Single treatment without rinsing
Skin	Slightly irritating	OECD 404	4 h	24; 48; 72 hours	Rabbit	Experimental value	

isotridecanol, ethoxylated

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage; category 1						

disodium metasilicate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Not applicable (in vitro test)	Serious eye damage		0.17 minutes	30 minutes; 1; 2; 4 hours; daily (14 days)	Rabbit	Experimental value	
Skin	Corrosive	OECD 404	4 h	1; 24; 48; 72 hours	Rabbit	Experimental value	
Inhalation	Irritating; STOT SE cat.3					Annex VI	

2-butoxyethanol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	OECD 405	24 h	24; 48; 72 hours	Rabbit	Experimental value	Single treatment with rinsing
Skin	Irritating	EU Method B.4	4 h	24; 48; 72 hours	Rabbit	Experimental value	

potassium hydroxide

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage	Equivalent to OECD 405	5 minutes		Rabbit	Experimental value	5% aqueous solution
Not applicable (in vitro test)	Corrosive	Equivalent to OECD 431		1 hour	Reconstructed human epidermis		10 % aqueous solution
Skin	Corrosive	Equivalent to OECD 404	4 h	24; 48 hours	Rabbit	Experimental value	10 % aqueous solution
Inhalation	Irritating	Human observation			Human	Read-across (NaOH)	

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage	Equivalent to OECD 405		24; 72 hours	Rabbit	Experimental value	Single treatment
Skin	Corrosive	OECD 404	4 h	1; 24 hours	Rabbit	Experimental value	

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Not applicable (in vitro test)	Serious eye damage	OECD 438			Isolated chicken eye	Experimental value	
Not applicable (in vitro test)	Not irritating	OECD 439	15 minutes		Reconstructed human epidermis	Experimental value	
Inhalation	Irritating; STOT SE cat.3					Literature study	

Conclusion

Causes severe skin burns and eye damage.
Not classified as irritating to the respiratory system

Respiratory or skin sensitisation

NOVAKLEEN HEAVY DUTY

No (test)data on the mixture available
Judgement is based on the relevant ingredients

tetrasodium ethylene diamine tetraacetate

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406			Guinea pig (female)	Experimental value	

disodium metasilicate

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Dermal (on the ears)	Not sensitizing	OECD 429			Mouse (female)	Experimental value	

2-butoxyethanol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406			Guinea pig (male / female)	Experimental value	

potassium hydroxide

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing				Guinea pig (male)	Experimental value	Aqueous solution

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD 406		24 hours	Guinea pig (male / female)	Experimental value	

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Dermal (on the ears)	Sensitizing	EU Method B.42			Mouse (female)	Experimental value	

Conclusion

Not classified as sensitizing for inhalation
Not classified as sensitizing for skin

Specific target organ toxicity

NOVAKLEEN HEAVY DUTY

No (test)data on the mixture available
Judgement is based on the relevant ingredients

tetrasodium ethylene diamine tetraacetate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL	Subchronic toxicity test	≥ 500 mg/kg bw/day		No adverse systemic effects	13 weeks (daily)	Rat (male)	Experimental value
Inhalation (dust)	NOAEL local effects	OECD 413	3 mg/m³ air		No effect	13 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value of similar product
Inhalation (dust)	LOAEC	OECD 413	15 mg/m³ air	Respiratory tract	Histopathology	13 weeks (6h / day, 5 days / week)	Rat (female)	Experimental value of similar product

disodium metasilicate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (drinking water)	NOAEL	Equivalent to OECD 408	227 mg/kg bw/day - 237 mg/kg bw/day		No effect	3 month(s)	Rat (male / female)	Experimental value
Dermal								Data waiving
Inhalation								Data waiving

2-butoxyethanol

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (drinking water)	NOAEL	Equivalent to OECD 408	< 69 mg/kg bw/day		No effect	90 days (continuous)	Rat (male)	Experimental value
Oral (drinking water)	NOAEL	Equivalent to OECD 408	< 82 mg/kg bw/day		No effect	90 day(s)	Rat (female)	Experimental value
Dermal	NOAEL	Equivalent to OECD 411	> 150 mg/kg bw/day		No effect	13 weeks (5 days / week)	Rabbit (male / female)	Experimental value
Inhalation (vapours)	NOAEC	Equivalent to OECD 413	< 31 ppm		No effect	14 weeks (6h / day, 5 days / week)	Rat (female)	Experimental value
Inhalation (vapours)	NOAEC	Equivalent to OECD 413	62.5 ppm		No effect	14 weeks (6h / day, 5 days / week)	Rat (male)	Experimental value

potassium hydroxide

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral								Data waiving
Dermal								Data waiving
Inhalation								Data waiving

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	OECD 422	20 mg/kg bw/day		No effect	31 day(s) - 51 day(s)	Rat (male / female)	Experimental value
Oral (stomach tube)	LOAEL	OECD 422	≥ 60 mg/kg bw/day		No effect	31 day(s) - 51 day(s)	Rat (male / female)	Experimental value

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	EU Method B.7	≥ 1000 mg/kg bw/day		No effect	28 day(s)	Rat (male / female)	Experimental value

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

NOVAKLEEN HEAVY DUTY

No (test)data on the mixture available

Judgement is based on the relevant ingredients

tetrasodium ethylene diamine tetraacetate

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S. typhimurium and E. coli)		Experimental value	

disodium metasilicate

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S. typhimurium and E. coli)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 476	Chinese hamster lung fibroblasts (V79)		Experimental value	

2-butoxyethanol

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 476	Chinese hamster ovary (CHO)		Experimental value	

potassium hydroxide

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)		Experimental value	

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 476	Chinese hamster ovary (CHO)		Experimental value	

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	EU Method B.13/14	Bacteria (S. typhimurium and E. coli)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	EU Method B.10	Human lymphocytes		Experimental value	

Mutagenicity (in vivo)

NOVAKLEEN HEAVY DUTY

No (test)data on the mixture available

Judgement is based on the relevant ingredients

tetrasodium ethylene diamine tetraacetate

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (stomach tube))	OECD 474	2 dose(s)/24-hour interval	Mouse (male)	Bone marrow	Experimental value

disodium metasilicate

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (diet))	Equivalent to OECD 475	24 h	Mouse (male)		Experimental value

2-butoxyethanol

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Intraperitoneal)	Equivalent to OECD 474	3 dose(s)/24-hour interval	Mouse (male)		Experimental value

potassium hydroxide

Result	Method	Exposure time	Test substrate	Organ	Value determination
					Data waiving

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

NOVAKLEEN HEAVY DUTY

No (test)data on the mixture available

Judgement is based on the relevant ingredients

tetrasodium ethylene diamine tetraacetate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Oral (diet)	NOAEL	Carcinogenic toxicity study	≥ 495 mg/kg bw/day	103 weeks (daily)	Rat (male / female)	No carcinogenic effect		Experimental value

2-butoxyethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation (vapours)	NOAEC	Equivalent to OECD 451	> 125 ppm	104 weeks (6h / day, 5 days / week)	Rat (male / female)	No carcinogenic effect		Experimental value

potassium hydroxide

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Unknown								Data waiving

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

NOVAKLEEN HEAVY DUTY

No (test)data on the mixture available

Judgement is based on the relevant ingredients

tetrasodium ethylene diamine tetraacetate

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	30 mg/kg bw/day	23 days (gestation, daily)	Rabbit	No effect		Experimental value of similar product
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	< 10 mg/kg bw/day	23 days (gestation, daily)	Rabbit	No effect		Experimental value of similar product
Effects on fertility (Oral (diet))	NOAEL		≥ 250 mg/kg bw/day	2 year(s)	Rat (male / female)	No effect		Experimental value of similar product

disodium metasilicate

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	Developmental toxicity study	> 200 mg/kg bw/day	2 day(s)	Mouse	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	Developmental toxicity study	12.5 mg/kg bw/day	2 day(s)	Mouse	No effect		Experimental value
Effects on fertility (Oral (drinking water))	NOAEL		> 159 mg/kg bw/day		Rat (female)	No effect		Experimental value

2-butoxyethanol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEC	Equivalent to OECD 414	200 mg/kg bw/day	3 days (gestation, daily)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	Equivalent to OECD 414	30 mg/kg bw/day	3 days (gestation, daily)	Rat	No effect		Experimental value
Effects on fertility (Oral (drinking water))	NOAEL	Fertility Assessment	720 mg/kg bw/day		Mouse (male / female)	No effect		Experimental value

potassium hydroxide

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity								Data waiving
Effects on fertility								Data waiving

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOEC	OECD 422	> 60 mg/kg bw/day		Rat (male / female)	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 422	> 20 mg/kg bw/day	51 day(s)	Rat (male / female)	No effect		Experimental value
Effects on fertility (Oral (stomach tube))	NOAEL (P)	OECD 422	> 20 mg/kg bw/day	31 day(s) - 51 day (s)	Rat (male / female)	No effect		Experimental value
	NOAEL (F1)	OECD 422	> 60 mg/kg bw/day	31 week(s) - 51 week(s)	Rat (male / female)	No effect		Experimental value

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	300 mg/kg bw/day	15 days (gestation, daily)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	300 mg/kg bw/day	15 days (gestation, daily)	Rat	No effect		Experimental value
Effects on fertility (Oral (stomach tube))	NOAEL	OECD 407	≥ 1000 mg/kg bw/day	28 day(s)	Rat (male / female)	No effect		Experimental value

Conclusion

Not classified for reprotoxic or developmental toxicity

Aspiration hazard

Judgement is based on the relevant ingredients
Not classified for aspiration toxicity

Toxicity other effects

NOVAKLEEN HEAVY DUTY

No (test)data on the mixture available

Chronic effects from short and long-term exposure

NOVAKLEEN HEAVY DUTY

Skin rash/inflammation.

11.2. Information on other hazards

No evidence of endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

NOVAKLEEN HEAVY DUTY

No (test)data on the mixture available
Judgement of the mixture is based on the relevant ingredients

tetrasodium ethylene diamine tetraacetate

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	> 100 mg/l	96 h	Oncorhynchus mykiss	Static system	Fresh water	Experimental value; Nominal concentration
Acute toxicity crustacea	EC50	OECD 202	> 114 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	ErC50	OECD 201	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Nominal concentration
	NOEC	OECD 201	79 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOEC	OECD 210	≥ 35 mg/l	35 day(s)	Danio rerio	Flow-through system	Fresh water	Experimental value; Nominal concentration
Long-term toxicity aquatic crustacea	NOEC	Equivalent to OECD 211	25 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Read-across; Nominal concentration
Toxicity aquatic micro-organisms	EC10	OECD 209	> 500 mg/l	30 minutes	Activated sludge	Static system	Fresh water	Read-across; Nominal concentration

disodium metasilicate

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	ISO 7346-1	210 mg/l	96 h	Danio rerio	Semi-static system	Fresh water	Experimental value
Acute toxicity crustacea	EC50	EU Method C.2	1700 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	EbC50	DIN 38412-9	207 mg/l	72 h	Desmodesmus subspicatus		Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	EC0	DIN 38412-27	> 1000 mg/l	0.5 h	Pseudomonas putida		Fresh water	Experimental value
	EC50	OECD 209	> 100 mg/l	3 h	Activated sludge		Fresh water	Experimental value; GLP

2-butoxyethanol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	1474 mg/l	96 h	Oncorhynchus mykiss	Static system	Fresh water	Experimental value; Nominal concentration
Acute toxicity crustacea	EC50	OECD 202	1550 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	ErC50	OECD 201	1840 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Nominal concentration
	NOEC	OECD 201	286 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOEC	Equivalent to OECD 204	> 100 mg/l	21 day(s)	Danio rerio	Semi-static system	Fresh water	Experimental value; Nominal concentration
Long-term toxicity aquatic crustacea	NOEC	OECD 211	100 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Reproduction
Toxicity aquatic micro-organisms	Toxicity threshold	Equivalent to DIN 38412/8	700 mg/l	16 h	Pseudomonas putida	Static system	Fresh water	Experimental value; Nominal concentration

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	0.3 mg/l	96 h	Danio rerio	Static system	Fresh water	Experimental value; Nominal concentration
Acute toxicity crustacea	EC50	OECD 202	0.16 mg/l	48 h	Daphnia magna	Semi-static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	ErC50	OECD 201	0.03 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value; GLP
	NOEC	OECD 201	0.011 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	EC50		26 mg/l		Bacteria			Literature study; Acute
	IC50	OECD 209	26 mg/l	180 minutes	Activated sludge	Static system	Fresh water	Experimental value; Nominal concentration

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	22 mg/l	96 h	Danio rerio	Semi-static system	Fresh water	Experimental value; Nominal concentration
Acute toxicity crustacea	EC50	OECD 202	46 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Nominal concentration
Toxicity algae and other aquatic plants	ErC50	OECD 201	2.4 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; GLP
	EC10	OECD 201	0.5 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate

Conclusion

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

12.2. Persistence and degradability

tetrasodium ethylene diamine tetraacetate

Biodegradation water

Method	Value	Duration	Value determination
OECD 301D	2 %; Oxygen consumption	28 day(s)	Experimental value

isotridecanol, ethoxylated

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B	82 %	28 day(s)	Experimental value

2-butoxyethanol

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B	90 %; Carbon dioxide	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.90	5.5 h	1.5E6 /cm³	QSAR

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B	1 %	28 day(s)	Experimental value

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

Biodegradation water

Method	Value	Duration	Value determination
OECD 301F	71 %; GLP	28 day(s)	Experimental value

Conclusion

Water

Contains non readily biodegradable component(s)

The surfactant(s) is/are biodegradable according to Regulation (EC) No 648/2004

12.3. Bioaccumulative potential

NOVAKLEEN HEAVY DUTY

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

tetrasodium ethylene diamine tetraacetate

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	Equivalent to OECD 305	1.1 l/kg - 1.8 l/kg; Fresh weight	4 week(s)	Lepomis macrochirus	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
KOWWIN		-13	25 °C	QSAR

isotridecanol, ethoxylated

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		232.5 l/kg	54 h - 72 h	Pimephales promelas	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 117		6.4	22 °C	Weight of evidence approach

disodium metasilicate

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (inorganic)			

2-butoxyethanol

Log Kow

Method	Remark	Value	Temperature	Value determination
BASF test		0.81	25 °C	Experimental value

potassium hydroxide

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (inorganic)			

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	BCFBAF v3.00	372 l/kg; Fresh weight		Pisces	QSAR

Log Kow

Method	Remark	Value	Temperature	Value determination
		8.4		Calculated

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

BCF other aquatic organisms

Parameter	Method	Value	Duration	Species	Value determination
BCF	BCFBAF v3.01	71 l/kg			QSAR

Log Kow

Method	Remark	Value	Temperature	Value determination
EU Method A.8		3.4	23.7 °C	Experimental value

Conclusion

Does not contain bioaccumulative component(s)

12.4. Mobility in soil

tetrasodium ethylene diamine tetraacetate

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	2.5	QSAR

isotridecanol, ethoxylated

(log) Koc

Parameter	Method	Value	Value determination
log Koc		2.376 - 2.645	QSAR

2-butoxyethanol

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	0.5 - 0.9	Calculated value

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level I	0.31 %	0 %	0.01 %	0.59 %	99.09 %	QSAR

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	5.1	Calculated value

Conclusion

Contains component(s) that adsorb(s) into the soil
Contains component(s) with potential for mobility in the soil

12.5. Results of PBT and vPvB assessment

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties

12.7. Other adverse effects

NOVAKLEEN HEAVY DUTY

Greenhouse gases

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

Water ecotoxicity pH

pH shift

tetrasodium ethylene diamine tetraacetate

Groundwater

Groundwater pollutant

isotridecanol, ethoxylated

Groundwater

Groundwater pollutant

disodium metasilicate

Groundwater

Groundwater pollutant

Water ecotoxicity pH

pH shift

2-butoxyethanol

Groundwater

Groundwater pollutant

potassium hydroxide

Groundwater

Groundwater pollutant

Water ecotoxicity pH

pH shift

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

Groundwater

Groundwater pollutant

Water ecotoxicity pH

pH shift

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

20 01 30 (separately collected fractions (except 15 01): detergents other than those mentioned in 20 01 29). Depending on branch of industry and production process, also other waste codes may be applicable.

13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

13.1.3 Packaging/Container

No data available

SECTION 14: Transport information

Road (ADR)

14.1. UN number

UN number	1719

14.2. UN proper shipping name

Proper shipping name	caustic alkali liquid, n.o.s. (disodium metasilicate; potassium hydroxide)

14.3. Transport hazard class(es)

Hazard identification number	80
Class	8
Classification code	C5

14.4. Packing group

Packing group	II
Labels	8

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	274
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
Specific mention	Classified corrosive on grounds of extreme pH value

Rail (RID)

14.1. UN number

UN number	1719

14.2. UN proper shipping name

Proper shipping name	caustic alkali liquid, n.o.s. (disodium metasilicate; potassium hydroxide)

14.3. Transport hazard class(es)

Hazard identification number	80

Class	8
Classification code	C5

14.4. Packing group

Packing group	II
Labels	8

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	274
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
Specific mention	Classified corrosive on grounds of extreme pH value

Inland waterways (ADN)

14.1. UN number/ID number

UN number/ID number	1719

14.2. UN proper shipping name

Proper shipping name	caustic alkali liquid, n.o.s. (disodium metasilicate; potassium hydroxide)

14.3. Transport hazard class(es)

Class	8
Classification code	C5

14.4. Packing group

Packing group	II
Labels	8

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	274
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
Specific mention	Classified corrosive on grounds of extreme pH value

Sea (IMDG/IMSBC)

14.1. UN number

UN number	1719

14.2. UN proper shipping name

Proper shipping name	caustic alkali liquid, n.o.s. (disodium metasilicate; potassium hydroxide)

14.3. Transport hazard class(es)

Class	8

14.4. Packing group

Packing group	II
Labels	8

14.5. Environmental hazards

Marine pollutant	-
Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	274
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
Specific mention	Classified corrosive on grounds of extreme pH value

14.7. Maritime transport in bulk according to IMO instruments

Annex II of MARPOL 73/78	Not applicable, based on available data

Air (ICAO-TI/IATA-DGR)

14.1. UN number/ID number

UN number/ID number	1719

14.2. UN proper shipping name

Proper shipping name	caustic alkali liquid, n.o.s. (disodium metasilicate; potassium hydroxide)

14.3. Transport hazard class(es)

Class	8

14.4. Packing group

Packing group	II
Labels	8

14.5. Environmental hazards

Environmentally hazardous substance mark	no

14.6. Special precautions for user

Special provisions	A3
Special provisions	A803
Specific mention	Classified corrosive on grounds of extreme pH value

Passenger and cargo transport

Limited quantities: maximum net quantity per packaging	0.5 L

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
1.4 %	
15 g/l	

2-butoxyethanol

Product name	Skin resorption
2-Butoxyethanol	Skin

Directive 2012/18/EU (Seveso III)

Not subject to registration according to Directive 2012/18/EU (Seveso III)

Ingredients according to Regulation (EC) No 648/2004 and amendments

<5% non-ionic surfactants, <5% EDTA and salts thereof, <5% amphoteric surfactants, <5% cationic surfactants, perfumes

European drinking water standards (98/83/EC and 2020/2184)

NOVAKLEEN HEAVY DUTY

Parameter	Parametric value	Note	Reference
Sodium	200 mg/l		Listed in Annex I, Part C, of Directive (EU) 2020/2184 on the quality of water intended for human consumption.

REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
· isotridecanol, ethoxylated · 2-butoxyethanol · 2-(2-heptadec-8-enyl-2-imidazolin-1-yl) ethanol · reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid	Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F; (b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10; (c) hazard class 4.1; (d) hazard class 5.1.	1. Shall not be used in: — ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, — tricks and jokes, — games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market. 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they: — can be used as fuel in decorative oil lamps for supply to the general public, and, — present an aspiration hazard and are labelled with H304, 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN). 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met: a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: “Keep lamps filled with this liquid out of the reach of children”; and, by 1 December 2010, “Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life- threatening lung damage”; b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: “Just a sip of grill lighter may lead to life threatening lung damage”; c) lamp oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
· tetrasodium ethylene diamine tetraacetate · disodium metasilicate · 2-butoxyethanol · potassium hydroxide	Substances falling within one or more of the following points: (a) substances classified as any of the following in Part 3 of Annex VI to Regulation (EC) No 1272/2008: — carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, but excluding any such substances classified due to effects only following exposure by inhalation — reproductive toxicant category 1A, 1B or 2 but excluding any such substances classified due to effects only following exposure by inhalation — skin sensitiser category 1, 1A or 1B — skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2 — serious eye damage category 1 or eye irritant category 2	Mixtures for tattooing purposes are subject to the restrictions of Regulation (EU) 2020/2081

	(b) substances listed in Annex II to Regulation (EC) No 1223/2009 of the European Parliament and of the Council (c) substances listed in Annex IV to Regulation (EC) No 1223/2009 for which a condition is specified in at least one of the columns g, h and i of the table in that Annex (d) substances listed in Appendix 13 to this Annex. The ancillary requirements in paragraphs 7 and 8 of column 2 of this entry apply to all mixtures for use for tattooing purposes, whether or not they contain a substance falling within points (a) to (d) of this column of this entry.	

National legislation Belgium

NOVAKLEEN HEAVY DUTY

No data available

2-butoxyethanol

Résorption peau	2-Butoxyéthanol; D; La mention “D” signifie que la résorption de l’agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l’exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l’agent dans l’air.

National legislation The Netherlands

NOVAKLEEN HEAVY DUTY

Waterbezwaarlijkheid	A (2); Algemene Beoordelingsmethodiek (ABM)

2-butoxyethanol

Huidopname (wettelijk)	2-Butoxyethanol; H

National legislation France

NOVAKLEEN HEAVY DUTY

No data available

2-butoxyethanol

Risque de pénétration percutanée	2-Butoxyéthanol; Risque de pénétration percutanée

National legislation Germany

NOVAKLEEN HEAVY DUTY

Lagerklasse (TRGS510)	8 A: Brennbare ätzende Gefahrstoffe
WGK	2; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017

tetrasodium ethylene diamine tetraacetate

TA-Luft	5.2.1

isotridecanol, ethoxylated

TA-Luft	5.2.5/I

disodium metasilicate

TA-Luft	5.2.1

2-butoxyethanol

TA-Luft	5.2.5
TRGS900 - Risiko der Fruchtschädigung	2-Butoxyethanol; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden
Hautresorptive Stoffe	2-Butoxyethanol; H; Hautresorptiv

potassium hydroxide

TA-Luft	5.2.1

2-(2-heptadec-8-enyl-2-imidazolin-1-yl)ethanol

TA-Luft	5.2.5

reaction products of 1H-imidazole-1-ethanol, 4,5-dihydro-, 2-(C11-17 and C17 unsatd. alkyl) derivs. and sodium hydroxide and 2-propenoic acid

TA-Luft	5.2.5

National legislation Austria

NOVAKLEEN HEAVY DUTY

No data available

2-butoxyethanol

besondere Gefahr der Hautresorption	2-Butoxyethanol; H

National legislation United Kingdom

NOVAKLEEN HEAVY DUTY

No data available

2-butoxyethanol

Skin absorption	2-Butoxyethanol; Sk

Other relevant data

NOVAKLEEN HEAVY DUTY

No data available

2-butoxyethanol

TLV - Carcinogen	2-Butoxyethanol; A3
IARC - classification	3; 2-butoxyethanol

15.2. Chemical safety assessment

No chemical safety assessment is required for a mixture.

SECTION 16: Other information

Full text of any H- and EUH-statements referred to under section 3:

H290 May be corrosive to metals.
H302 Harmful if swallowed.
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.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H373 May cause damage to organs (respiratory tract) through prolonged or repeated exposure if inhaled.
H373 May cause damage to organs (gastrointestinal tract, thymus) 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.
EUH208 Contains a sensitising substance. May produce an allergic reaction.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
BCF	Bioconcentration Factor
BEI	Biological Exposure Indices
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC10	Effect Concentration 10 %
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
GLP	Good Laboratory Practice
LC0	Lethal Concentration 0 %
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
LOAEC/LOAEL	Lowest Observed Adverse Effect Concentration/Lowest Observed Adverse Effect Level
NOAEC/NOAEL	No Observed Adverse Effect Concentration/No Observed Adverse Effect Level
NOEC/NOEL	No Observed Effect Concentration/No Observed Effect Level
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative