BIOTURBO ADVANCED

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

1.1 Product identifier

Trade name : BIOTURBO ADVANCED

Product code : 000000000062652598

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

Company : Antec International Limited
Windham Road
CO10 2XD Sudbury / Suffolk
Chilton Industrial Estate, Great Britain

Responsible Department : +49 221 8885 2288
infosds@lanxess.com

1.4 Emergency telephone number

Emergency telephone number : For 24/7 multilingual emergency please call CHEMTREC EMEA: +44 20 3885 0382 and mention CCN 1001748.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Skin corrosion, Category 1	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms :

Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.

Precautionary statements :

Prevention:

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

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.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:
Alcohols, C12-14, ethoxylated, sulfates, sodium salts
sodium hydroxide

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

Components

Chemical name	CAS-No.	Classification	Concentration

	EC-No. Index-No. Registration number		(% w/w)
Alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3 500-234-8	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 10 - < 20
2-butoxyethanol	111-76-2 203-905-0 603-014-00-0 UK-01-2951808328-1-0001	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 _____ Acute toxicity estimate Acute oral toxicity: 1,200 mg/kg	>= 1 - < 10
sodium hydroxide	1310-73-2 215-185-5 011-002-00-6	Met. Corr. 1; H290 Skin Corr. 1A; H314 Eye Dam. 1; H318	>= 2 - < 3
Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides	308062-28-4 931-292-6	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 _____ M-Factor (Acute aquatic toxicity): 1	>= 0.25 - < 1

For explanation of abbreviations see section 16.
Disclaimer: EC numbers starting with 6, 7, 8, or 9 in this document are ECHA List Numbers used for internal reference and do not carry legal significance as typical EC Numbers in Safety Data Sheets.

Specific Concentration limits (Regulation EC) No 1272/2008)

Chemical name	CAS-No. EC-No.	Classification	Concentration (%)
Alcohols, C12-14, ethoxylated, sulfates, sodium salts	68891-38-3 500-234-8	Eye Irrit.2; H319 Eye Dam.1; H318	> 5 - < 10 % > 10 %
sodium hydroxide	1310-73-2 215-185-5	Skin Corr.1A; H314 Skin Corr.1B; H314 Skin Irrit.2; H315 Eye Irrit.2; H319	>= 5 % 2 - < 5 % 0.5 - < 2 % 0.5 - < 2 %

For explanation of abbreviations see section 16.
Disclaimer: EC numbers starting with 6, 7, 8, or 9 in this document are ECHA List Numbers used for internal reference and do not carry legal significance as typical EC Numbers in Safety Data Sheets.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Do not leave the victim unattended.
Call a physician immediately.
Show this safety data sheet to the doctor in attendance.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
No action shall be taken involving any personal risk or without suitable training.

If inhaled : Chemical burns must be treated promptly by a physician.
Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If unconscious, place in recovery position and get medical attention immediately.
Keep respiratory tract clear.
Loosen tight clothing such as a collar, tie, belt or waistband.
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

In case of skin contact : Chemical burns must be treated promptly by a physician.
Take off contaminated clothing and shoes immediately.
If on skin, rinse well with water.
Continue to rinse for at least 10 minutes.

In case of eye contact : Chemical burns must be treated promptly by a physician.
Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids.
Keep eye wide open while rinsing.
Continue to rinse for at least 10 minutes.
Remove contact lenses.
Protect unharmed eye.
Continue rinsing eyes during transport to hospital.

If swallowed : Chemical burns must be treated promptly by a physician.
Do not induce vomiting without medical advice.
Never give anything by mouth to an unconscious person.
Rinse mouth with water.
If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.
If unconscious, place in recovery position and get medical attention immediately.
Keep respiratory tract clear.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes serious eye damage.
Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : In a fire or if heated, a pressure increase will occur and the container may burst.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Carbon dioxide (CO2)
Carbon monoxide
Metal oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Further information : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.
No action shall be taken involving any personal risk or without suitable training.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : No action shall be taken involving any personal risk or without suitable training.
Keep unnecessary and unprotected personnel from entering.

Do not touch or walk through spilt material.
Avoid contact with skin and eyes.
Do not breathe vapours or spray mist.
Ensure adequate ventilation.
In case of inadequate ventilation wear respiratory protection.
Remove all sources of ignition.
Use personal protective equipment.

6.2 Environmental precautions

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Move containers from spill area.
Stop leak if safe to do so.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.
Dispose of wastes in an approved waste disposal facility.

6.4 Reference to other sections

For personal protection see section 8.
For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8.
Avoid contact with skin and eyes.
Do not breathe vapours or spray mist.
Provide sufficient air exchange and/or exhaust in work rooms.
In case of insufficient ventilation, wear suitable respiratory equipment.
Remove all sources of ignition.
Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures : General industrial hygiene practice. When using do not eat, drink or smoke. Wash hands and face before breaks and im-

mediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in accordance with local regulations. Store in a segregated and approved area. Do not store in unlabelled containers. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep containers sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.

Advice on common storage : No materials to be especially mentioned.

Further information on storage stability : Stable under recommended storage conditions.

7.3 Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
2-butoxyethanol	111-76-2	TWA	25 ppm 123 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	50 ppm 246 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA	20 ppm 98 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	50 ppm 246 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			

sodium hydroxide	1310-73-2	STEL	2 mg/m3	GB EH40

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
2-butoxyethanol	111-76-2	butoxyacetic acid: 240 Millimoles per mole creatinine (Urine)	After shift	GB EH40 BAT

8.2 Exposure controls

Engineering measures

If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protective equipment

Eye/face protection : Safety glasses with side-shields
Wear face-shield and protective suit for abnormal processing problems.

Hand protection
Material : Butyl rubber - IIR
Wearing time : < 60 min

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Physical state : liquid

Colour : colourless

Odour : slight

Odour Threshold : No data available

Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flammability	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	100 °C Method: Not applicable not determined
Ignition temperature	:	No data available
Decomposition temperature	:	No data available
pH	:	> 13 Concentration: 100 %
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	completely miscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Relative density	:	1.04
Density	:	1.04 g/cm3 (20 °C)
Relative vapour density	:	No data available

9.2 Other information

Explosives	:	No data available

Oxidizing properties	:	No data available
Self-ignition	:	No data available
Metal corrosion rate	:	No data available
Evaporation rate	:	No data available
Miscibility with water	:	completely miscible
Surface tension	:	No data available
Molecular weight	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Exothermic reaction with acids.
Contact with strong oxidising agents may cause hazardous reactions.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Conditions to avoid : contact with incompatible materials

10.5 Incompatible materials

Materials to avoid : Acids
Oxidizing agents
Metals

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Not classified due to lack of data.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Components:

Alcohols, C12-14, ethoxylated, sulfates, sodium salts:

Acute oral toxicity : LD50 (Rat, male and female): 2,870 mg/kg
Method: OECD Test Guideline 401
GLP: No

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: Yes

2-butoxyethanol:

Acute oral toxicity : Acute toxicity estimate: 1,200 mg/kg
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

LD50 (Guinea pig, male and female): 1,200 mg/kg
Method: OECD Test Guideline 401
GLP: No

Acute inhalation toxicity : Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Guinea pig, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: Yes
Assessment: The substance or mixture has no acute dermal toxicity

Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides:

Acute oral toxicity : LD50 (Rat): 1,064 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Skin corrosion/irritation

Causes severe burns.

Components:

Alcohols, C12-14, ethoxylated, sulfates, sodium salts:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Irritating to skin.
GLP	:	Yes

2-butoxyethanol:

Species	:	Rabbit
Exposure time	:	4 h
Method	:	Regulation (EC) No. 440/2008, Annex, B.4
Result	:	Irritating to skin.
GLP	:	No

sodium hydroxide:

Species	:	Rabbit
Method	:	OECD Test Guideline 435
Result	:	Causes severe burns.
GLP	:	No

Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides:

Species	:	Rat
Result	:	Irritating to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

Alcohols, C12-14, ethoxylated, sulfates, sodium salts:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irreversible effects on the eye
GLP	:	No

2-butoxyethanol:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irritating to eyes.
GLP	:	Yes

sodium hydroxide:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Risk of serious damage to eyes.

Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides:

Result	:	Risk of serious damage to eyes.

Respiratory or skin sensitisation

Skin sensitisation

Not classified due to lack of data.

Respiratory sensitisation

Not classified due to lack of data.

Components:

Alcohols, C12-14, ethoxylated, sulfates, sodium salts:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Did not cause sensitisation on laboratory animals.
GLP	:	No

2-butoxyethanol:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
GLP	:	Yes

sodium hydroxide:

Species	:	Human
Assessment	:	Does not cause skin sensitisation.
GLP	:	No

Germ cell mutagenicity

Not classified due to lack of data.

Components:

Alcohols, C12-14, ethoxylated, sulfates, sodium salts:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: Yes

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476
Result: negative
GLP: Yes

Genotoxicity in vivo : Test Type: Cytogenetic assay
Species: mice (male and female)
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 475
Result: negative
GLP: Yes

2-butoxyethanol:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: No information available.

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: No information available.

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: No

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male)
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
GLP: No information available.

Test Type: Micronucleus test
Species: Rat (male)
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
GLP: No information available.

sodium hydroxide:

Genotoxicity in vitro	:	Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse Application Route: Intraperitoneal Method: OECD Test Guideline 474 Result: negative

Carcinogenicity

Not classified due to lack of data.

Components:

2-butoxyethanol:

Species	:	Rat, male and female
Application Route	:	inhalation (vapour)
Exposure time	:	2 Years
Dose	:	31 - 62,5 - 125 parts per million
Frequency of Treatment	:	5 days/week
NOAEC	:	> 125 ppm
Method	:	OECD Test Guideline 451
Result	:	negative
GLP	:	No information available.

Species	:	Mouse, male and female
Application Route	:	inhalation (vapour)
Exposure time	:	2 Years
Dose	:	62,5 - 125 - 250 parts per million
Frequency of Treatment	:	5 days/week
NOAEC	:	125 ppm
Method	:	OECD Test Guideline 451
Result	:	equivocal
GLP	:	No information available.

Reproductive toxicity

Not classified due to lack of data.

Components:

Alcohols, C12-14, ethoxylated, sulfates, sodium salts:

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: Oral Dose: 0 - 30 - 100 milligram per kilogram General Toxicity - Parent: NOAEL: >= 300 mg/kg body weight General Toxicity F1: NOAEL: >= 300 mg/kg body weight

General Toxicity F2: NOAEL: >= 300 mg/kg body weight
Fertility: NOAEL: >= 300 mg/kg body weight
Early Embryonic Development: NOAEL: >= 300 mg/kg body weight
Method: OECD Test Guideline 416
Result: No effects on fertility and early embryonic development were detected.
GLP: Yes

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat, female
Application Route: Oral
Dose: 0 - 100 - 300 milligram per kilogram
General Toxicity Maternal: NOAEL: >= 1,000 mg/kg body weight
Teratogenicity: NOAEL: >= 1,000 mg/kg body weight
Developmental Toxicity: NOAEL: >= 1,000 mg/kg body weight
Method: OECD Test Guideline 414
Result: No adverse effects
GLP: Yes

2-butoxyethanol:

Effects on fertility : Test Type: Two-generation study
Species: Mouse, male and female
Application Route: Oral
Dose: 720 - 1340 - 2050 milligram per kilogram
General Toxicity - Parent: NOAEL: 720 mg/kg bw/day
Fertility: NOAEL: 720 mg/kg bw/day
Early Embryonic Development: NOAEL: 720 mg/kg bw/day
GLP: Yes

Effects on foetal development : Test Type: Pre-natal
Species: Rat, female
Application Route: Oral
Dose: 30 - 100 - 200 - 300 milligram per kilogram
General Toxicity Maternal: NOAEL: 30 mg/kg bw/day
Developmental Toxicity: LOAEL: 200 mg/kg bw/day
Method: OECD Test Guideline 414
Result: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses
GLP: No information available.

Test Type: Pre-natal
Species: Rabbit, female
Application Route: inhalation (vapour)
Dose: 25 - 50 - 100 - 200 parts per million
Frequency of Treatment: 6 hours/day
General Toxicity Maternal: NOAEC: 100 ppm
Developmental Toxicity: NOAEC: 100 ppm
Method: OECD Test Guideline 414
Result: Embryotoxic effects and adverse effects on the off-

spring were detected only at high maternally toxic doses
GLP: No information available.

Test Type: Pre-natal
Species: Rat, female
Application Route: inhalation (vapour)
Dose: 25 - 50 - 100 - 200 parts per million
Frequency of Treatment: 6 hours/day
General Toxicity Maternal: NOAEC: 50 ppm
Developmental Toxicity: NOAEC: 50 ppm
Method: OECD Test Guideline 414
Result: Embryotoxic effects and adverse effects on the off-spring were detected only at high maternally toxic doses
GLP: No information available.

STOT - single exposure

Not classified due to lack of data.

STOT - repeated exposure

Not classified due to lack of data.

Repeated dose toxicity

Components:

Alcohols, C12-14, ethoxylated, sulfates, sodium salts:

Species	:	Rat, male and female
NOAEL	:	>= 225 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Number of exposures	:	daily
Dose	:	0 - 25 - 75
Method	:	OECD Test Guideline 408
GLP	:	Yes
Remarks	:	Subchronic toxicity

2-butoxyethanol:

Species	:	Rat, male and female
LOAEL	:	750 ppm
Application Route	:	Oral
Exposure time	:	90 d
Number of exposures	:	Continuous
Dose	:	750-1500-3000-4500-6000 parts per million
Method	:	OECD Test Guideline 408
GLP	:	Yes
Remarks	:	Subchronic toxicity

Species	:	Rat, male
NOAEC	:	62.5 ppm
Application Route	:	Inhalation
Test atmosphere	:	vapour

Exposure time	:	90 d
Number of exposures	:	5 days/week
Dose	:	31 - 62,5 - 125 parts per million
Method	:	OECD Test Guideline 413
GLP	:	Yes
Remarks	:	Subchronic toxicity

Species	:	Rat, female
NOAEC	:	< 31 ppm
Application Route	:	Inhalation
Test atmosphere	:	vapour
Exposure time	:	90 d
Number of exposures	:	5 days/week
Dose	:	31 - 62,5 - 125 parts per million
Method	:	OECD Test Guideline 413
GLP	:	Yes
Remarks	:	Subchronic toxicity

Species	:	Rabbit, male and female
NOAEL	:	>= 150 mg/kg
Application Route	:	Dermal
Exposure time	:	90 d
Number of exposures	:	5 days/week
Dose	:	10 - 50 - 150 mg/kg bw/day
Method	:	OECD Test Guideline 411
GLP	:	Yes
Remarks	:	Subchronic toxicity

Aspiration toxicity

Not classified due to lack of data.

Further information

Product:

Remarks	:	No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

Alcohols, C12-14, ethoxylated, sulfates, sodium salts:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 7.1 mg/l Exposure time: 96 h Analytical monitoring: Yes Method: OECD Test Guideline 203 GLP: Yes Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 7.4 mg/l Exposure time: 48 h Analytical monitoring: Yes Method: OECD Test Guideline 202 GLP: Yes Remarks: Fresh water
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): 27.7 mg/l End point: Growth rate Exposure time: 72 h Analytical monitoring: Yes Method: OECD Test Guideline 201 GLP: Yes Remarks: Fresh water NOEC (Desmodesmus subspicatus (green algae)): 0.95 mg/l End point: Growth rate Exposure time: 72 h Analytical monitoring: Yes Method: OECD Test Guideline 201 GLP: Yes Remarks: Fresh water
Toxicity to microorganisms	:	EC10 (Pseudomonas putida): > 10,000 mg/l End point: Growth rate Exposure time: 16 h Analytical monitoring: No Method: DIN 38 412 Part 8 GLP: Yes
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.14 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Analytical monitoring: Yes Method: OECD Test Guideline 215 GLP: Yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.27 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Analytical monitoring: Yes Method: OECD Test Guideline 211 GLP: No Remarks: Fresh water Test results on an analogous product

2-butoxyethanol:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 1,474 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: Yes

Method: OECD Test Guideline 203
GLP: No
Remarks: Fresh water
nominal concentration

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,550 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Analytical monitoring: Yes
Method: OECD Test Guideline 202
GLP: No
Remarks: Fresh water
nominal concentration

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 1,840 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: Yes
Method: OECD Test Guideline 201
GLP: No
Remarks: Fresh water
nominal concentration

EC10 (Raphidocelis subcapitata (freshwater green alga)): 679 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: Yes
Method: OECD Test Guideline 201
GLP: No
Remarks: Fresh water
nominal concentration

NOEC (Raphidocelis subcapitata (freshwater green alga)): 286 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: Yes
Method: OECD Test Guideline 201
GLP: No
Remarks: Fresh water
nominal concentration

Toxicity to fish (Chronic toxicity) : NOEC: > 100 mg/l
Exposure time: 21 d
Species: Danio rerio (zebra fish)
Test Type: semi-static test

Analytical monitoring: No
Method: OECD Test Guideline 204
GLP: No
Remarks: Fresh water
nominal concentration

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10: 134 mg/l
End point: Reproduction
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Analytical monitoring: Yes
Method: OECD Test Guideline 211
GLP: No
Remarks: Fresh water
nominal concentration

NOEC: 100 mg/l
End point: Reproduction
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Analytical monitoring: Yes
Method: OECD Test Guideline 211
GLP: No
Remarks: Fresh water
nominal concentration

sodium hydroxide:

Toxicity to fish : LC50 (Trout): 45.4 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides:

Toxicity to fish : LC50 (Fish): 2.67 - 3.49 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3.1 mg/l
Exposure time: 48 h

NOEC (Daphnia magna (Water flea)): 0.7 mg/l
Exposure time: 28 d

Toxicity to algae/aquatic plants	:	EC50 (algae): 0.14 mg/l Exposure time: 72 h NOEC (algae): 0.7 mg/l Exposure time: 28 d
M-Factor (Acute aquatic toxicity)	:	1

12.2 Persistence and degradability

Components:

Alcohols, C12-14, ethoxylated, sulfates, sodium salts:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 100 % Exposure time: 28 d Method: Regulation (EC) No. 440/2008, Annex, C.4-C GLP: Yes

2-butoxyethanol:

Biodegradability	:	Test Type: aerobic Result: Readily biodegradable. Biodegradation: 90.4 % Exposure time: 28 d Method: OECD Test Guideline 301B GLP: No

sodium hydroxide:

Biodegradability	:	Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Components:

Alcohols, C12-14, ethoxylated, sulfates, sodium salts:

Bioaccumulation	:	Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.
Partition coefficient: n-octanol/water	:	log Pow: 0.3 (23 °C) pH: 6.1 Method: OECD Test Guideline 123

2-butoxyethanol:

Bioaccumulation	:	Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

Partition coefficient: n-octanol/water	:	log Pow: 0.81 (25 °C) Method: OECD Test Guideline 107

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment	:	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:

Endocrine disrupting potential	:	This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).
Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	The generation of waste should be avoided or minimised wherever possible. Where possible recycling is preferred to disposal or incineration. Wastedisposal should be in accordance with existing federal state, provincial and or local environmental controls Dispose of as hazardous waste in compliance with local and national regulations. Do not contaminate ponds, waterways or ditches with chemical or used container. The product should not be allowed to enter drains, water courses or the soil. Dispose of wastes in an approved waste disposal facility.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Empty containers retain residue and can be dangerous. Do not re-use empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

ADN	:	UN 1824
ADR	:	UN 1824
RID	:	UN 1824
IMDG	:	UN 1824
IATA	:	UN 1824

14.2 UN proper shipping name

ADN	:	SODIUM HYDROXIDE SOLUTION
ADR	:	SODIUM HYDROXIDE SOLUTION
RID	:	SODIUM HYDROXIDE SOLUTION
IMDG	:	SODIUM HYDROXIDE SOLUTION
IATA	:	Sodium hydroxide solution

14.3 Transport hazard class(es)

ADN	:	8
ADR	:	8
RID	:	8
IMDG	:	8
IATA	:	8

14.4 Packing group

ADN

Packing group	:	III
Classification Code	:	C5
Hazard Identification Number	:	80
Labels	:	8
	:	

ADR

Packing group	:	III
Classification Code	:	C5
Hazard Identification Number	:	80
Labels	:	8

:

Tunnel restriction code : (E)

RID

Packing group : III
Classification Code : C5
Hazard Identification Number : 80
Labels : 8
:

IMDG

Packing group : III
Labels : 8
:

EmS Code : F-A, S-B

IATA (Cargo)

Packing instruction (cargo aircraft) : 856 : 60.00 L
Packing group : III
Labels : 8
:

IATA (Passenger)

Packing instruction (passenger aircraft) : 852 : 5.00 L
Packing group : III
Labels : 8
:

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR
Environmentally hazardous : no

RID
Environmentally hazardous : no

IMDG
Marine pollutant : no

14.6 Special precautions for user

Hazard and Handling Notes. : Slightly corrosive.
Keep away from foodstuffs, acids and alkalis.

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	:	Conditions of restriction for the following entries should be considered: Number on list 3
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	:	Not applicable
International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Council Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors.	:	Neither banned nor restricted
Council Regulation (EC) No 273/2004 on drug precursors	:	Not applicable
UK REACH List of substances subject to authorisation	:	Not applicable

(Annex XIV)

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation : Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH)
Not applicable

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

15.2 Chemical safety assessment

Not applicable

SECTION 16: Other information

Full text of H-Statements

H290	:	May be corrosive to metals.
H302	:	Harmful if swallowed.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H332	:	Harmful if inhaled.
H400	:	Very toxic to aquatic life.
H411	:	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	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Met. Corr.	:	Corrosive to metals
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits

GB EH40 BAT	:	UK. Biological monitoring guidance values
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Skin Corr. 1	H314	Based on product data or assessment
Eye Dam. 1	H318	Based on product data or assessment

The data contained in this Safety Data Sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. 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 to be a guidance for processing and does not contain any

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. It is the responsibility of the recipient of the product to ensure that any proprietary rights and existing laws and legislation are observed.

Relevant changes from the previous version are marked on the left side of the Safety Data Sheet with a black double bar in appropriate places.