SAFETY DATA SHEET

Mikrobac forte

Version	Revision Date:	SDS Number:	Date of last issue: 15.08.2022
1.18	26.08.2022	R11021	Date of first issue: 28.05.2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Mikrobac forte

Manufacturer or supplier's details

Manufacturer : BODE Chemie GmbH
Melanchthonstraße 27
22525 Hamburg (Germany)
Tel.: +49 (0)40 / 54 00 60

Supplier :

Responsible Department : Scientific Affairs
sds@bode-chemie.de

Emergency telephone number : Giftnotruf Göttingen
24h-Phone +49 (0)551 / 1 92 40

Recommended use of the chemical and restrictions on use

Recommended use : In-door use
Disinfectants and algaecides not intended for direct application to humans or animals
Food and feed area disinfectants
For further information, refer to the product technical data sheet.

Restrictions on use : Restricted to professional users.

2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Skin corrosion/irritation : Sub-category 1B

Serious eye damage/eye irritation : Category 1

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P273 Avoid release to the environment.

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

Disposal:

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

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Alkyl (C12-18) dimethylbenzyl ammonium chloride (ADBAC (C12-18))	68391-01-5	>= 10 - < 20
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	2372-82-9	>= 3 - < 5
L-(+)-lactic acid	79-33-4	>= 1 - < 3
Tridecanol, branched, ethoxylated	69011-36-5	>= 2,5 - < 3
Alcohols, C12-14. ethoxylated	68439-50-9	>= 1 - < 2,5
N-(2-Ethylhexyl)isononan-1-amid	93820-33-8	>= 0,25 - < 1
N-dodecylpropane-1,3-diamine	5538-95-4	>= 0,25 - < 1

4. FIRST AID MEASURES

General advice : Call a physician immediately.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off immediately with plenty of water.
Cover wound with sterile dressing.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

In case of eye contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed : Rinse mouth.
Give small amounts of water to drink.
Do NOT induce vomiting.
Obtain medical attention.

Most important symptoms and effects, both acute and delayed : Harmful if swallowed.
Causes serious eye damage.
Causes severe burns.

Notes to physician : For specialist advice physicians should contact the Poisons Information Service.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray jet Dry powder Carbon dioxide (CO2) Foam
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	Standard procedure for chemical fires.
Special protective equipment for firefighters	:	Use personal protective equipment. In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation.
Environmental precautions	:	Should not be released into the environment.
Methods and materials for containment and cleaning up	:	Clean-up methods - large spillage Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean-up methods - small spillage Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Local/Total ventilation	:	Ensure adequate ventilation.
Advice on safe handling	:	Prepare the working solution as given on the label(s) and/or the user instructions.
Conditions for safe storage	:	Store at room temperature in the original container.
Materials to avoid	:	Keep away from food and drink.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection	:	No personal respiratory protective equipment normally required.
Hand protection		
Nitrile rubber		
Material	:	Protective gloves complying with EN 374.
Break through time	:	> 480 min
Glove thickness	:	0,1 mm
Protective index	:	Class 6
	:	peha-soft nitrile guard
Eye protection	:	Safety glasses with side-shields conforming to EN166 Ensure that eyewash stations and safety showers are close to the workstation location.
Skin and body protection	:	Work uniform or laboratory coat.

		Remove and wash contaminated clothing before re-use. Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with the skin and the eyes. Ensure adequate ventilation, especially in confined areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	light yellow
Odour	:	sweet
pH	:	8 - 9 (20 °C)
Melting point/range	:	not determined
Boiling point/boiling range	:	> 95 °C
Flash point	:	does not flash
Vapour pressure	:	not determined
Density	:	1,01 g/cm3 (20 °C)
Solubility(ies) Water solubility	:	completely miscible
Viscosity Viscosity, dynamic	:	60 mPa.s (23 °C)

10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	None reasonably foreseeable.
Conditions to avoid	:	Heat Strong sunlight for prolonged periods.
Incompatible materials	:	aldehydes Anionic surfactants

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 1.287 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: > 10 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5.000 mg/kg Method: Calculation method

Components:

Alkyl (C12-18) dimethylbenzyl ammonium chloride (ADBAC (C12-18)) (CAS: 68391-01-5):

Acute oral toxicity	:	LD50 (Rat): 344 mg/kg
Acute dermal toxicity	:	LD50 (Rabbit): 3.412 mg/kg

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):

Acute oral toxicity	:	LD50 Oral (Rat): 261 mg/kg Method: OECD Test Guideline 401

L-(+)-lactic acid (CAS: 79-33-4):

Acute oral toxicity	:	LD50 (Rat): 3.543 mg/kg

Tridecanol, branched, ethoxylated (CAS: 69011-36-5):

Acute oral toxicity	:	LD50 Oral (Rat): 2.000 mg/kg Method: Expert judgement
Acute dermal toxicity	:	LD50 Dermal (Rabbit): > 2.000 mg/kg Method: Expert judgement

Alcohols, C12-14. ethoxylated (CAS: 68439-50-9):

Acute oral toxicity	:	LD50 Oral (Rat): 2.000 mg/kg

N-dodecylpropane-1,3-diamine (CAS: 5538-95-4):

Acute oral toxicity	:	LD50 (Rat): 2.000 mg/kg

Skin corrosion/irritation

Causes severe burns.

Components:

Alkyl (C12-18) dimethylbenzyl ammonium chloride (ADBAC (C12-18)) (CAS: 68391-01-5):

Species	:	Rabbit
Result	:	Corrosive after 1 to 4 hours of exposure

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):

Species	:	Rabbit
Exposure time	:	3 min
Method	:	OECD Test Guideline 404
Result	:	Corrosive after 3 minutes or less of exposure

L-(+)-lactic acid (CAS: 79-33-4):

Species	:	Guinea pig
Method	:	OECD Test Guideline 404

Result : Corrosive

Tridecanol, branched, ethoxylated (CAS: 69011-36-5):

Species : Rabbit
Result : No skin irritation

N-dodecylpropane-1,3-diamine (CAS: 5538-95-4):

Species : Rabbit
Method : OECD Test Guideline 404
Result : Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

Alkyl (C12-18) dimethylbenzyl ammonium chloride (ADBAC (C12-18)) (CAS: 68391-01-5):

Species : Rabbit
Result : Corrosive

L-(+)-lactic acid (CAS: 79-33-4):

Result : Risk of serious damage to eyes.

Tridecanol, branched, ethoxylated (CAS: 69011-36-5):

Species : Rabbit
Method : OECD Test Guideline 437
Result : Risk of serious damage to eyes.

Alcohols, C12-14. ethoxylated (CAS: 68439-50-9):

Result : Risk of serious damage to eyes.

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Alkyl (C12-18) dimethylbenzyl ammonium chloride (ADBAC (C12-18)) (CAS: 68391-01-5):

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Did not cause sensitisation on laboratory animals.

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):

Test Type : Buehler Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Did not cause sensitisation on laboratory animals.

Tridecanol, branched, ethoxylated (CAS: 69011-36-5):

Test Type : Maximisation Test
Species : Guinea pig

Result : Did not cause sensitisation on laboratory animals.

N-dodecylpropane-1,3-diamine (CAS: 5538-95-4):

Result : May cause sensitisation by skin contact.

Germ cell mutagenicity

Not classified based on available information.

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):

Genotoxicity in vitro : Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):

Assessment : May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):

Species : Rat
NOAEL : 8 mg/kg
Application Route : Oral
Exposure time : 90 d

Species : Dog
NOAEL : 18 mg/kg
Application Route : Oral
Exposure time : 90 d

Species : Rat
NOAEL : 14 mg/kg
Application Route : Dermal
Exposure time : 90 d

Aspiration toxicity

Not classified based on available information.

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 2,5 mg/l Method: OECD Test Guideline 203
Toxicity to microorganisms	:	EC10 (Pseudomonas putida): 9,8 mg/l

Components:

Alkyl (C12-18) dimethylbenzyl ammonium chloride (ADBAC (C12-18)) (CAS: 68391-01-5):

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,515 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,016 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (microalgae)): 0,049 mg/l Exposure time: 72 h Test Type: Cell multiplication inhibition test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	NOEC: 0,032 mg/l Exposure time: 34 d Species: Leuciscus idus (Golden orfe) Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,0042 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211
M-Factor (Chronic aquatic toxicity)	:	1

N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (CAS: 2372-82-9):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0,68 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,073 mg/l Exposure time: 48 h Test Type: Immobilization
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 0,054 mg/l Exposure time: 72 h

		Test Type: Growth inhibition NOEC (Desmodesmus subspicatus (green algae)): 0,0069 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to microorganisms	:	(Bacteria): 18 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,32 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211
M-Factor (Chronic aquatic toxicity)	:	1

L-(+)-lactic acid (CAS: 79-33-4):

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 130 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 130 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 2.800 mg/l Exposure time: 72 h

Tridecanol, branched, ethoxylated (CAS: 69011-36-5):

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): > 10 mg/l Exposure time: 96 h Test Type: flow-through test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): > 1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

N-(2-Ethylhexyl)isononan-1-amid (CAS: 93820-33-8):

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 1.000 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,475 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): 0,962 mg/l Exposure time: 72 h

Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

NOEC (Desmodesmus subspicatus (green algae)): 0,31 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity) : 1

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,028 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
GLP: yes

M-Factor (Chronic aquatic toxicity) : 1

N-dodecylpropane-1,3-diamine (CAS: 5538-95-4):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,68 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,073 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 0,054 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Persistence and degradability

Product:

Biodegradability : Remarks: The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

Components:

Alkyl (C12-18) dimethylbenzyl ammonium chloride (ADBAC (C12-18)) (CAS: 68391-01-5):

Biodegradability : Method: OECD Test Guideline 301B
Remarks: According to the results of tests of biodegradability this product is considered as being readily biodegradable.

Tridecanol, branched, ethoxylated (CAS: 69011-36-5):

Biodegradability : Result: Totally biodegradable

Alcohols, C12-14. ethoxylated (CAS: 68439-50-9):

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of as hazardous waste in compliance with local and national regulations. The product should not be allowed to enter drains, water courses or the soil. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
Contaminated packaging	:	Empty remaining contents. Clean container with water. Offer rinsed packaging material to local recycling facilities.

14. TRANSPORT INFORMATION

ADR

UN number	:	UN 1903
Proper shipping name	:	DISINFECTANT, LIQUID, CORROSIVE, N.O.S. (quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides, N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)
Class	:	8
Packing group	:	II
Labels	:	8
Hazard Identification Number	:	80
Tunnel restriction code	:	(E)
Limited quantity (LQ)	:	1,00 L
Environmentally hazardous	:	yes

UNRTDG

UN number	:	UN 1903
Proper shipping name	:	DISINFECTANT, LIQUID, CORROSIVE, N.O.S. (quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides, N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)
Class	:	8
Packing group	:	II
Labels	:	8

IATA-DGR

UN/ID No.	:	UN 1903
Proper shipping name	:	Disinfectant, liquid, corrosive, n.o.s. (quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides, N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)
Class	:	8
Packing group	:	II
Labels	:	Corrosive
Packing instruction (cargo aircraft)	:	855
Packing instruction (passenger aircraft)	:	851

IMDG-Code

UN number	:	UN 1903

Proper shipping name	:	DISINFECTANT, LIQUID, CORROSIVE, N.O.S. (quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides, N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine)
Class	:	8
Packing group	:	II
Labels	:	8
EmS Code	:	F-A, S-B
Limited quantity (LQ)	:	1,00 L
Marine pollutant	:	yes

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

Special precautions for user

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.

15. REGULATORY INFORMATION

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

Other international regulations

The components of this product are reported in the following inventories:

TSCA	:	On the inventory, or in compliance with the inventory

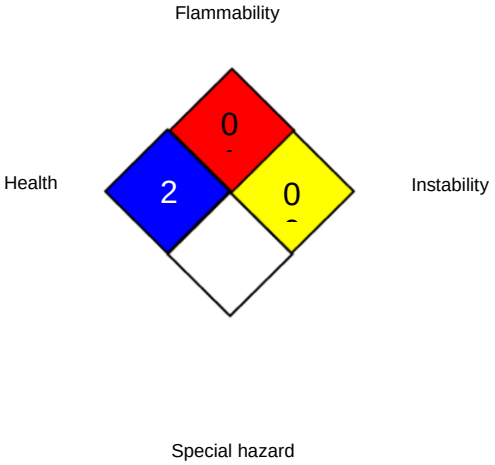
16. OTHER INFORMATION

Safety datasheet sections which have been updated:

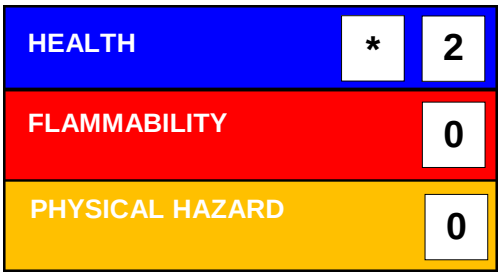
14. Transport information

Further information

NFPA:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

TC / EN