DYNAMEC 018 EC

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
7.2	06.06.2016	S1144779184	

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

1.1 Product identifier

Trade name : **DYNAMEC 018 EC**

Design code : A8612AB

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

Use of the Substance/Mixture : Insecticide

1.3 Details of the supplier of the safety data sheet

Company : Syngenta Crop Protection AG
Postfach
CH-4002 Basel
Switzerland

Telephone : +41 61 323 11 11

Telefax : +41 61 323 12 12

E-mail address : sds.ch@syngenta.com

1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H302: Harmful if swallowed.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Acute aquatic toxicity, Category 1	H400: Very toxic to aquatic life.
Chronic aquatic toxicity, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Warning

Hazard statements :	H302	Harmful if swallowed.
	H319	Causes serious eye irritation.
	H373	May cause damage to organs through prolonged or repeated exposure.
	H410	Very toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements :	EUH401	To avoid risks to human health and the environment, comply with the instructions for use.
Precautionary statements :	**Prevention:**	
	P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
	P280	Wear eye protection/ face protection.
	Response:	
	P314	Get medical advice/ attention if you feel unwell.
	P337 + P313	If eye irritation persists: Get medical advice/ attention.
	P391	Collect spillage.
	Disposal:	
	P501	Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:
abamectin (combination of avermectin B1a and avermectin B1b)

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

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
cyclohexanol	108-93-0 203-630-6 01-2119447488-26	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 50 - < 70

		STOT SE 3; H335	
2,6-di-tert-butyl-p-cresol	128-37-0 204-881-4 01-2119555270-46	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2.5
abamectin (combination of avermectin B1a and avermectin B1b)	71751-41-2	Acute Tox. 2; H300 Acute Tox. 1; H330 Acute Tox. 3; H311 Repr. 2; H361d STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2.5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

If inhaled : Move the victim to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control centre immediately.

In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.

If swallowed : If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Lack of coordination
Tremors
Dilatation of the pupil

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : This material is believed to enhance GABA activity in animals.

It is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiaziphines, valproic acid) in patients with potentially toxic mectin exposure.
Toxicity can be minimized by early administration of chemical absorbents (e.g. activated charcoal).
If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged.
Appropriate supportive parental fluid replacement therapy should be given, along with other required supportive measures as indicated by clinical signs, symptoms and measurements.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Alcohol-resistant foam

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).
Exposure to decomposition products may be a hazard to health.
Flash back possible over considerable distance.

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

Further information : Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
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 : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Refer to disposal considerations listed in section 13., Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : No special protective measures against fire required.
Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

Other data : Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

7.3 Specific end use(s)

Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
cyclohexanol	108-93-0	TWA	50 ppm 200 mg/m3	CH SUVA

Further information	Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resoption a substantial higher risk compared to only inhalation by the airways., National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles			
	108-93-0	STEL	50 ppm 200 mg/m3	CH SUVA
Further information	Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resoption a substantial higher risk compared to only inhalation by the airways., National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles			
2,6-di-tert-butyl-p-cresol	128-37-0	TWA (inhalable dust)	10 mg/m3	CH SUVA
Further information	Harm to the unborn child is not to be expected when the OEL-value is respected			
	128-37-0	STEL (inhalable dust)	40 mg/m3	CH SUVA
Further information	Harm to the unborn child is not to be expected when the OEL-value is respected			
abamectin (combination of avermectin B1a and avermectin B1b)	71751-41-2	TWA	0.02 mg/m3	Syngenta

8.2 Exposure controls

Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.
The extent of these protection measures depends on the actual risks in use.
If airborne mists or vapors are generated, use local exhaust ventilation controls.
Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.
Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection : Tightly fitting safety goggles
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

Hand protection
Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : 0.5 mm

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should

be discarded and replaced if there is any indication of degradation or chemical breakthrough.
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Skin and body protection : Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation / penetration characteristics of the clothing material.
Wash with soap and water after removing protective clothing.
Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots, etc.)
Wear as appropriate:
impervious protective suit

Respiratory protection : No personal respiratory protective equipment normally required.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Protective measures : The use of technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.
Personal protective equipment should be certified to appropriate standards.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : pale yellow to brown
Odour : aromatic

pH : 3.2, Concentration: 1.0 % w/v (25 °C)

Flash point : 69 °C
Method: Pensky-Martens c.c.

Density : 0.9764 g/cm3 (20 °C)

Solubility(ies)
Solubility in other solvents : partly miscible
(30 °C)
Solvent: Water

Miscible
(30 °C)
Solvent: methanol

		Miscible (30 °C) Solvent: toluene
Auto-ignition temperature	:	320 °C
Viscosity Viscosity, dynamic	:	77 - 113 mPa.s (20 °C) 30 - 65 mPa.s (40 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

See section 10.3 "Possibility of hazardous reactions".

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Combustion or thermal decomposition will evolve toxic and irritant vapors.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, female): 891 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.04 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,050 mg/kg

Components:

cyclohexanol:

Acute oral toxicity : LD50 (Rat, male and female): 1,400 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 3.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The component/mixture is moderately toxic after short term inhalation.

2,6-di-tert-butyl-p-cresol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

abamectin (combination of avermectin B1a and avermectin B1b):

Acute oral toxicity : LD50 (Rat, female): 12.8 mg/kg

LD50 (Rat, male): 8.7 mg/kg

Acute toxicity estimate: 5 mg/kg
Method: Converted acute toxicity point estimate

Acute inhalation toxicity : LC50 (Rat, female): > 0.034 - < 0.051 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

LC50 (Rat, male): > 0.051 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

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

LD50 (Rat, female): 700 - 2,000 mg/kg

Skin corrosion/irritation

Product:

Species: Rabbit
Result: No skin irritation

Components:

cyclohexanol:
Species: Rabbit
Result: Irritating to skin.

abamectin (combination of avermectin B1a and avermectin B1b):
Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

Components:

cyclohexanol:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

abamectin (combination of avermectin B1a and avermectin B1b):
Species: Rabbit
Result: No eye irritation

Respiratory or skin sensitisation

Product:

Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Components:

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

abamectin (combination of avermectin B1a and avermectin B1b):
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Components:

2,6-di-tert-butyl-p-cresol:
Germ cell mutagenicity- As- : In vitro tests did not show mutagenic effects, Animal testing

sessment | did not show any mutagenic effects.

abamectin (combination of avermectin B1a and avermectin B1b):
Germ cell mutagenicity- Assessment : Animal testing did not show any mutagenic effects.

Carcinogenicity

Components:

abamectin (combination of avermectin B1a and avermectin B1b):
Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Components:

2,6-di-tert-butyl-p-cresol:
Reproductive toxicity - Assessment : No toxicity to reproduction

abamectin (combination of avermectin B1a and avermectin B1b):
Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

Product:

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

Components:

cyclohexanol:
Exposure routes: Inhalation
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure

Components:

abamectin (combination of avermectin B1a and avermectin B1b):
Target Organs: Nervous system
Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.247 mg/l

		Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.095 mg/l Exposure time: 48 h
Toxicity to algae	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h

Components:

cyclohexanol:

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 17 mg/l Exposure time: 48 h

2,6-di-tert-butyl-p-cresol:

Toxicity to fish	:	LC0 (Danio rerio (zebra fish)): 0.57 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.61 mg/l Exposure time: 48 h
Toxicity to algae	:	IC50 (Desmodesmus subspicatus (green algae)): 0.4 mg/l Exposure time: 72 h
Toxicity to bacteria	:	EC50 (Bacteria): > 10,000 mg/l Exposure time: 3 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.316 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

abamectin (combination of avermectin B1a and avermectin B1b):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 3.6 µg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.33 µg/l Exposure time: 48 h
		EC50 (Americamysis bahia (Mysid shrimp)): 0.02 µg/l Exposure time: 96 h
Toxicity to algae	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	10,000
	:	10,000
Toxicity to bacteria	:	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h
Toxicity to fish (Chronic tox-	:	NOEC: 6.1 µg/l

icity)		Exposure time: 28 d Species: Cyprinus carpio (Carp) Test Type: flow-through test NOEC: 0.52 µg/l Exposure time: 72 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: Early-life Stage
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.01 µg/l Exposure time: 21 d Species: Daphnia magna (Water flea) NOEC: 0.0035 µg/l Exposure time: 28 d Species: Americamysis bahia (Mysid shrimp)
M-Factor (Chronic aquatic toxicity)	:	10,000 10,000

12.2 Persistence and degradability

Components:

cyclohexanol:

Biodegradability	:	Result: Readily biodegradable

abamectin (combination of avermectin B1a and avermectin B1b):

Biodegradability	:	Result: Not readily biodegradable.
Stability in water	:	Degradation half life: 1.7 d Remarks: Product is not persistent.

12.3 Bioaccumulative potential

Components:

abamectin (combination of avermectin B1a and avermectin B1b):

Bioaccumulation	:	Remarks: Does not bioaccumulate.
Partition coefficient: n-octanol/water	:	log Pow: 4.4

12.4 Mobility in soil

Components:

abamectin (combination of avermectin B1a and avermectin B1b):

Distribution among environmental compartments	:	Remarks: Slightly mobile in soils
Stability in soil	:	Percentage dissipation: 50 % (DT50: 12 - 52 d) Remarks: Product is not persistent.

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..

Components:

cyclohexanol:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

2,6-di-tert-butyl-p-cresol:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT)..

abamectin (combination of avermectin B1a and avermectin B1b):

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

12.6 Other adverse effects

Product:

Additional ecological information : Remarks: Chronic aquatic toxicity
Classification of the product is based on the summation of the concentrations of classified components.

Components:

cyclohexanol:

Additional ecological information : Remarks: No data available

2,6-di-tert-butyl-p-cresol:

Additional ecological information : Remarks: No data available

abamectin (combination of avermectin B1a and avermectin B1b):

Additional ecological information : Remarks: No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.

Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number

ADN : UN 3082

ADR : UN 3082

RID : UN 3082

IMDG : UN 3082

IATA : UN 3082

14.2 UN proper shipping name

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(ABAMECTIN)

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(ABAMECTIN)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(ABAMECTIN)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(ABAMECTIN)

IATA : Environmentally hazardous substance, liquid, n.o.s.
(ABAMECTIN)

14.3 Transport hazard class(es)

ADN : 9

ADR : 9

RID : 9

IMDG : 9

IATA : 9

14.4 Packing group

ADN

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

ADR

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9
Tunnel restriction code	:	(E)

RID

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

IMDG

Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F

IATA

Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 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

Other regulations : Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical

agents at work.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

SECTION 16: Other information

Full text of H-Statements

H300	:	Fatal if swallowed.
H302	:	Harmful if swallowed.
H311	:	Toxic in contact with skin.
H315	:	Causes skin irritation.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H361d	:	Suspected of damaging the unborn child.
H372	:	Causes damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Acute aquatic toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
Eye Irrit.	:	Eye irritation
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; 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; TCSI - Taiwan Chemical Substance 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

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

CH / EN