

DISPERBYK-130

Product code: 00000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

SECTION 1: Identification of the hazardous chemical and of the supplier**Product identifier**

Product name : DISPERBYK-130

Recommended use : Wetting & Dispersing Additive

Manufacturer or supplier's details

Company : BYK-Chemie GmbH

Address : Abelstrasse 45
46483 Wesel

Telephone : +49 281 670-23532

Telefax : +49 281 670-23533

E-mail address : GHS.BYK@altana.com

Emergency telephone number : +60 3 6207 4347 (Malay and English)
+65 3158 1074 (All languages)

SECTION 2: Hazards identification**Classification of the hazardous chemical**

Flammable liquids : Category 3

Serious eye damage/eye irritation : Category 2

Skin sensitisation : Category 1

Specific target organ toxicity - single exposure : Category 3 (Respiratory system, Central nervous system)

Hazardous to the aquatic environment - acute hazard : Category 1

Hazardous to the aquatic environment - chronic hazard : Category 1

Label elements

Hazard pictograms : 

Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H410 Very toxic to aquatic life with long lasting effects.

DISPERBYK-130

Product code: 000000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

Precautionary statements :

Prevention:
 P210 Keep away from heat/ sparks/ open flames/ hot surfaces.
 No smoking.
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ eye protection/ face protection.

Response:
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
 P391 Collect spillage.

Other hazards which do not result in classification

None known.

SECTION 3: Composition and information of the ingredients of the hazardous chemical

Substance / Mixture : Mixture
 Chemical nature : Solution of polyamine amides of unsaturated polycarboxylic acids

Components

Chemical name	CAS-No.	Concentration (% w/w)
Fatty acids, C18 unsatd, trimers, reaction product with triethylene tetramine	162627-18-1	>= 50 -<= 100
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified	64742-95-6	>= 30 -< 50
2-butoxyethanol	111-76-2	>= 7 -< 10
3,6-diazaoctanethylenediamin	112-24-3	>= 2.5 -< 3

SECTION 4: First aid measures

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

If inhaled : Consult a physician after significant exposure.
 If unconscious, place in recovery position and seek medical advice.

In case of skin contact : If on skin, rinse well with water.
 If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water.
 Remove contact lenses.
 Protect unharmed eye.
 Keep eye wide open while rinsing.
 If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
 Do not give milk or alcoholic beverages.
 Never give anything by mouth to an unconscious person.
 If symptoms persist, call a physician.

Most important symptoms : No information available.

DISPERBYK-130

Product code: 00000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

and effects, both acute and delayed
Notes to physician : No information available.
: No information available.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
Unsuitable extinguishing media : High volume water jet

Physicochemical hazards arising from the chemical

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products : Carbon oxides
Nitrogen oxides (NO_x)

Special protective equipment and precautions for fire-fighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
Specific extinguishing methods : 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.
For safety reasons in case of fire, cans should be stored separately in closed containments.
Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions : 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.
Methods and materials for containment and cleaning up : Neutralise with acid.
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).

DISPERBYK-130

Product code: 000000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

SECTION 7: Handling and storage

Handling

Precautions for safe handling

- Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.
- Advice on safe handling : Avoid formation of aerosol. Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Storage

Conditions for safe storage, including any incompatibilities

- Conditions for safe storage : No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8: Exposure controls and personal protection

Control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2-butoxyethanol	111-76-2	TWA	20 ppm 96.7 mg/m ³	MY PEL
	Further information: Skin			
		TWA	20 ppm	ACGIH

DISPERBYK-130

Product code: 000000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
2-butoxyethanol	111-76-2	Butoxyacetic acid (BAA)	Urine	End of shift (As soon as possible after exposure ceases)	200 mg/g creatinine	ACGIH BEI

Individual protection measures, such as personal protective equipment

- Eye/face protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.
- Skin protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hand protection
Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : 0.5 mm
- Remarks : Wear suitable gloves.
- Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
- Filter type : Type A
- Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties

- Appearance : liquid
- Colour : light brown
- Odour : aromatic
- Odour Threshold : No data available
- pH : 10 (20 °C)
Concentration: 1 %
Method: Universal pH-value indicator
- Melting point/range : < 0 °C
Method: derived
- Initial boiling point : 160.00 °C
Method: derived
- Flash point : 45.00 °C

DISPERBYK-130

Product code: 00000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

	Method: 48 (Abel-Pensky) DIN 51755
Evaporation rate	: No data available
Flammability (liquids)	: Sustains combustion
Upper explosion limit / Upper flammability limit	: 10.60 %(V)
Lower explosion limit / Lower flammability limit	: 1.00 %(V)
Vapour pressure	: 4 hPa (20.00 °C) Method: derived
Relative vapour density	: No data available
Relative density	: No data available
Density	: 0.9300 g/cm ³ (20.00 °C) Method: 4 (20°C oscillating U-tube)
Solubility(ies)	
Water solubility	: immiscible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: > 200 °C Method: DIN 51794
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: 689.000 mm ² /s (20.00 °C) 347.000 mm ² /s (40.00 °C)

SECTION 10: Stability and reactivity

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.
Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: Strong oxidizing agents Acids
Hazardous decomposition products	: No decomposition if stored and applied as directed.

DISPERBYK-130

Product code: 000000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

SECTION 11: Toxicological information

Information on likely routes of exposure : None known.

Acute toxicity**Product:**

Acute oral toxicity : LD50 (Rat, male and female): 11,100.000000 mg/kg
Method: OECD Test Guideline 401

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

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

Components:**Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50 (Rabbit, male and female): > 3,160 mg/kg
Method: OECD Test Guideline 402

2-butoxyethanol:

Acute inhalation toxicity : LC50 (Guinea pig): 11 mg/l
Exposure time: 4 h
Test atmosphere: vapour

3,6-diazaoctanethylenediamin:

Acute oral toxicity : LD50 (Rat, male): 1,716 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute dermal toxicity : LD50 (Rabbit): 1,465 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Skin corrosion/irritation**Product:**

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

Remarks : May cause skin irritation and/or dermatitis.

DISPERBYK-130

Product code: 000000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

Components:**Fatty acids, C18 unsatd, trimers, reaction product with triethylene tetramine:**

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

2-butoxyethanol:

Species : Rabbit
Result : Skin irritation

3,6-diazaoctanethylenediamin:

Method : OECD Test Guideline 435
Result : Corrosive

Serious eye damage/eye irritation**Product:**

Species : Rabbit
Result : Eye irritation
Assessment : Irritating to eyes.
Method : OECD Test Guideline 405
GLP : yes

Remarks : Causes serious eye irritation.

Components:**Fatty acids, C18 unsatd, trimers, reaction product with triethylene tetramine:**

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405
GLP : yes

Species : Bovine corneal opacity and permeability assay (BCOP)
Result : No eye irritation
Method : OECD Test Guideline 437
GLP : yes

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

DISPERBYK-130

Product code: 000000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

GLP : yes

2-butoxyethanol:

Species : Rabbit
Result : Eye irritation
Method : OECD Test Guideline 405
GLP : yes

3,6-diazaoctanethylenediamin:

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

Respiratory or skin sensitisation**Product:**

Remarks : Causes sensitisation.

Components:**Fatty acids, C18 unsatd, trimers, reaction product with triethylene tetramine:**

Test Type : Mouse Local Lymph Node assay (LLNA)
Species : Mouse
Assessment : The product is a skin sensitiser, sub-category 1B.
Method : OECD Test Guideline 429
Result : The product is a skin sensitiser, sub-category 1B.
GLP : yes

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

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

2-butoxyethanol:

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

3,6-diazaoctanethylenediamin:

Test Type : Buehler Test
Exposure routes : Dermal
Species : Guinea pig
Method : OECD Test Guideline 406
Result : May cause sensitisation by skin contact.
GLP : yes

DISPERBYK-130

Product code: 000000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

Germ cell mutagenicity**Product:**

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Components:**Fatty acids, C18 unsatd, trimers, reaction product with triethylene tetramine:**

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

Test Type: Chromosome aberration test in vitro
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes

Test Type: In vitro mammalian cell gene mutation test (mouse lymphoma)

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Germ cell mutagenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Carcinogenicity**Product:**

Remarks : No data available

Components:**Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Reproductive toxicity**Product:**

Effects on fertility : Remarks: No data available

Effects on foetal : Remarks: No data available

DISPERBYK-130

Product code: 000000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

development

STOT - single exposure**Product:**

Remarks : No data available

STOT - repeated exposure**Product:**

Remarks : No data available

Repeated dose toxicity**Product:**

Remarks : No data available

Components:**Fatty acids, C18 unsatd, trimers, reaction product with triethylene tetramine:**

Species : Rat, male and female
NOAEL : 300 mg/kg
Application Route : Oral
Method : OECD Test Guideline 422
GLP : yes
Target Organs : Heart

Aspiration toxicity**Product:**

No data available

Components:**Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Further information**Product:**

Remarks : Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Concentrations substantially above the TLV value may cause narcotic effects.
Solvents may degrease the skin.

DISPERBYK-130

Product code: 000000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

SECTION 12: Ecological information**Ecotoxicity****Product:**

Toxicity to fish :
Remarks: No data available

Components:**Fatty acids, C18 unsatd, trimers, reaction product with triethylene tetramine:**

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 1.56 mg/l
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other : EL50 (Daphnia magna (Water flea)): 0.74 mg/l
aquatic invertebrates
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic : ErL50 (Pseudokirchneriella subcapitata (green algae)): 0.454
plants
mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic : 1
toxicity)

M-Factor (Chronic aquatic : 1
toxicity)

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
GLP: yes

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Toxicity to fish : LL50 (Fish): 9.2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 3.2 mg/l
aquatic invertebrates
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

DISPERBYK-130

Product code: 00000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

- Toxicity to algae/aquatic plants : EC50 (*Pseudokirchneriella subcapitata*): 2.6 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes
- 2-butoxyethanol:**
- Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 1,474 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)): 1,550 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : ErC50 (*Pseudokirchneriella subcapitata* (green algae)): 1,840 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
- Toxicity to fish (Chronic toxicity) : NOEC: > 100 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 204
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (*Daphnia magna* (Water flea)): 100 mg/l
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211
- 3,6-diazaoctanethylenediamin:**
- Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 31.1 mg/l
Exposure time: 48 h
Test Type: static test
GLP: yes
- Toxicity to algae/aquatic plants : ErC50 (*Selenastrum capricornutum* (green algae)): Exposure time: 72 h
Test Type: semi-static test
Method: OECD Test Guideline 201
GLP: yes

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Components:

Fatty acids, C18 unsatd, trimers, reaction product with triethylene tetramine:

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301

DISPERBYK-130

Product code: 00000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

GLP: yes

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301F

2-butoxyethanol:

Biodegradability : aerobic
Result: Readily biodegradable.
Method: OECD Test Guideline 301B

Bioaccumulative potential**Product:**

Bioaccumulation : Remarks: No data available

Components:**2-butoxyethanol:**

Partition coefficient: n- : log Pow: 0.81 (25 °C)
octanol/water pH: 7

Mobility in soil

No data available

Other adverse effects**Product:**

Additional ecological : An environmental hazard cannot be excluded in the event of
information unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal information**Disposal methods**

Waste from residues : The product should not be allowed to enter drains, water
courses or the soil.
Do not contaminate ponds, waterways or ditches with
chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information**International Regulations**

IATA-DGR
UN/ID No. : UN 1268

DISPERBYK-130

Product code: 00000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

Proper shipping name : Petroleum distillates, n.o.s.
 Class : 3
 Packing group : III
 Labels : Flammable Liquids
 Packing instruction (cargo aircraft) : 366
 Packing instruction (passenger aircraft) : 355

IMDG-Code

UN number : UN 1268
 Proper shipping name : PETROLEUM DISTILLATES, N.O.S. (SOLVENT NAPHTHA)
 Class : 3
 Packing group : III
 Labels : 3
 EmS Code : F-E, S-E
 Marine pollutant : yes
 Remarks : IMDG Code segregation group - none

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

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.

SECTION 15: Regulatory information

Safety, health, and environmental regulations specific for the hazardous chemical

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

SECTION 16: Other information

Date format : dd.mm.yyyy

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
 ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
 MY PEL : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

ACGIH / TWA : 8-hour, time-weighted average

MY PEL / TWA : Eight-hour time-weighted average airborne concentration

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 -

DISPERBYK-130

Product code: 00000000000101304

Version 5.0 SDS_APJ_MY

Revision Date 02.11.2023

Print Date 29.11.2023

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

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.

MY / EN