Material Safety Data Sheet
according to Regulation (EC) No. 1907/2006

Floranid Twin Club

Version: 1.4

Revision Date: 16.01.2017

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

1.1 Product identifier

Trade name : Floranid Twin Club

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

Use of the Substance/Mixture : Fertilizer

1.3 Details of the supplier of the safety data sheet

Company : COMPO EXPERT GmbH
Kroegerweg 10
D-48155 Münster

Telephone : +49 (0) 251 29 79 81 – 000

Telefax : +49 (0) 251 29 79 81 - 111

E-mail address of person responsible for the SDS : info@compo-expert.com

1.4 Emergency telephone number

Quality / Safety / Environment
Telephone:+49 (0) 2151 - 579 - 0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard statements : Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Further information : German "Hazardous Substances" legislation (Gefahrstoffverordnung) appendix I, No. 5 (Ammonium Nitrate group C III)

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Fertilizer
NPK - fertilizer contains:N,N´-(2-Methylpropyliden)-bis-urea,

ammonium nitrate, potasium salt, ammonium salt, phosphate, magnesium salt, calcium salt, trace element combination.

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
ammonium nitrate	6484-52-2 229-347-8 01-2119490981-27-XXXX	Ox. Sol. 3; H272 Eye Irrit. 2; H319	>= 1 - < 10
N,N''-(isobutylidene)diurea	6104-30-9 228-055-8 01-2119457269-28-XXXX		>= 10 - <= 45
iron sulphate	7720-78-7 231-753-5 01-2119513203-57-XXXX	Acute Tox. 4; H302 Eye Irrit. 2; H319 Skin Irrit. 2; H315	<= 5
Borates, tetra sodium salts, pentahydrate	12179-04-3 215-540-4 01-2119490790-32-XXXX	Repr. 1B; H360FD Eye Irrit. 2; H319	<= 1

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Wash hands with water as a precaution.

If inhaled : Move to fresh air in case of accidental inhalation of fumes from overheating or combustion.
Obtain medical attention.
In case of lung irritation, first treatment with dexametason aerosol (spray).

In case of skin contact : Wash off with plenty of water.

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

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Ingestion may provoke the following symptoms:

Methaemoglobinemia
Inhalation of decomposition products in high concentration may cause shortness of breath (lung oedema).

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 : Water

Unsuitable extinguishing media : Foam
Dry chemical
Carbon dioxide (CO2)
Sand

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Can decompose at above 100 °C. Thermal decomposition products:
Nitrogen monoxide, nitrogen dioxide, dinitrogenoxide, ammonia
Isobutyraldehyd

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Further information : 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 : Keep away from children.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.
Retain and dispose of contaminated wash water.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Use mechanical handling equipment.

6.4 Reference to other sections

none

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Protect from contamination. Keep away from direct sunlight. Protect against heat. Protect from moisture.
Advice on protection against fire and explosion	:	The product is not flammable. Keep away from sources of ignition - No smoking. Keep away from combustible materials. Keep away from heat. Risk of explosion if heated under confinement.
Hygiene measures	:	Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	When stored loose do not mix with other fertilizers. Store well away from other substances. Keep away from direct sunlight. Protect against heat. Protect from contamination. Protect from moisture.
Storage class (TRGS 510)	:	5.1C, Ammonium nitrate and ammonium nitrate containing preparations
Dampness	:	Keep in a dry place.

7.3 Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Borates, tetra sodium salts, pentahydrate			3 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	8;(II)			
Further information	Commission for dangerous substances, The threshold value is based on the element content of the corresponding metal., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW	0,5 mg/m3 (Borate)	DE TRGS 900
Peak-limit: excursion factor (category)	2;(I)			
Further information	Commission for dangerous substances, The threshold value is based on the			

	element content of the corresponding metal., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
			1 mg/m3	ACGIHTLV

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
ammonium nitrate	Workers	Inhalation	Specific effects	36 mg/m3
Remarks:	Exposure time: 1 d			
	Workers	Skin contact	Specific effects	5,12 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Ingestion	Specific effects	2,56 mg/kg bw/day
Remarks:	Exposure time: 1 d			
	Consumers	Inhalation	Specific effects	8,9 mg/m3
Remarks:	Exposure time: 1 d			
N,N''-(isobutylidene)diurea	Workers	Skin contact	systemic effects	37,5 mg/m3
Remarks:	Continuous exposure			
	Workers	Inhalation	systemic effects	66,12 mg/m3
Remarks:	Continuous exposure			
	Consumers	Skin contact	systemic effects	18,75 mg/m3
Remarks:	Continuous exposure			
	Consumers	Inhalation	systemic effects	16,31 mg/m3
Remarks:	Continuous exposure			
	Consumers	Ingestion	systemic effects	9,375 mg/m3
Remarks:	Continuous exposure			
iron sulphate	Workers	Skin contact	Acute effects, systemic effects	2,8 mg/kg
Remarks:	Exposure time: 24 h			
	Workers	Inhalation	Acute effects, systemic effects	9,9 mg/m3
	Workers	Skin contact	Chronic effects, systemic effects	2,8 mg/kg
Remarks:	Exposure time: 24 h			
	Workers	Inhalation	Chronic effects, systemic effects	9,9 mg/m3

	Consumers	Ingestion	Acute effects, systemic effects	1,4 mg/kg
Remarks:	Exposure time: 24 h			
	Consumers	Skin contact	Acute effects, systemic effects	1,4 mg/kg
Remarks:	Exposure time: 24 h			
	Consumers	Inhalation	Acute effects, systemic effects	2,5 mg/m3
	Consumers	Ingestion	systemic effects, Chronic effects	1,4 mg/kg
Remarks:	Exposure time: 24 h			
	Consumers	Skin contact	Chronic effects, systemic effects	1,4 mg/kg
Remarks:	Exposure time: 24 h			
	Consumers	Inhalation	Chronic effects, systemic effects	2,5 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
ammonium nitrate	Fresh water	0,45 mg/l
	Marine water	0,045 mg/l
	Ceiling Limit Value	4,5 mg/l
N,N''-(isobutylidene)diurea	Fresh water	0,5 mg/l
	Marine water	0,05 mg/l
	Fresh water sediment	1,76 mg/l
	Marine sediment	0,176 mg/l
	Soil	10,7 mg/l
	Behaviour in waste water treatment plants	640 mg/l
iron sulphate	Water	
Remarks:	This product has no known ecotoxicological effects.	
	Behaviour in waste water treatment plants	2483 mg/l
	Fresh water sediment	246000 mg/kg
	Marine sediment	246000 mg/kg
	Soil	276000 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye protection : In case of dust formation:

		Tightly fitting safety goggles
Hand protection Material	:	Gloves
Skin and body protection	:	No special protective equipment required.
Respiratory protection	:	Breathing apparatus only if aerosol or dust is formed.

Environmental exposure controls

General advice	:	Do not flush into surface water or sanitary sewer system. Retain and dispose of contaminated wash water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	granular
Colour	:	various
Odour	:	odourless
Odour Threshold	:	No data available
pH	:	ca. 6,2, Concentration: 100 g/l (20 °C)
Melting point/range	:	No data available
Boiling point/boiling range	:	Not applicable
Flash point	:	Not relevant
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	The product is not flammable.
Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Bulk density	:	ca. 860 kg/m³
Solubility(ies) Water solubility	:	soluble
Partition coefficient: n-octanol/water	:	Not applicable

Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	> 130 °C To avoid thermal decomposition, do not overheat.
Viscosity		
Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	Not applicable

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed.
Decomposes on heating.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Evolution of ammonia under influence of alkalies.

10.4 Conditions to avoid

Conditions to avoid	:	Keep away from heat and sources of ignition.

10.5 Incompatible materials

Materials to avoid	:	oxidizable substances Strong acids and strong bases

10.6 Hazardous decomposition products

Hazardous decomposition products	:	Nitrogen monoxide, nitrogen dioxide, dinitrogenoxide, ammonia Isobutyraldehyd

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

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

Acute dermal toxicity : Remarks: No data available
Contains no hazardous ingredients according to GHS
Health injuries are not known or expected under normal use.

Components:

ammonium nitrate:

Acute oral toxicity : LD50 (Rat): > 2.950 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : > 88,8 mg/l
Method: No information available.

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 402

N,N''-(isobutylidene)diurea:

Acute oral toxicity : LD50 (Rat): > 10.000 mg/kg
Remarks: Calculation method

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402

iron sulphate:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat): 657 - 4.390 mg/kg
Method: Calculation method

Acute toxicity estimate: 500 mg/kg
Method: Converted acute toxicity point estimate

Acute inhalation toxicity : Remarks: This information is not available.

Acute dermal toxicity : LD50 (Rat): > 1.992 mg/kg
Method: Converted acute toxicity point estimate

Borates, tetra sodium salts, pentahydrate:

Acute oral toxicity : LD50 (Rat): 3.200 - 3.400 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2,0 mg/l
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

Skin corrosion/irritation

Product:

Species: Rabbit
Method: OECD Test Guideline 404
Result: non-irritant

Components:

ammonium nitrate:
Species: Rabbit
Method: OECD Test Guideline 404
Result: non-irritant

iron sulphate:
Method: OECD Test Guideline 404
Result: Skin irritation
Remarks: Irritating to skin and mucous membranes

Borates, tetra sodium salts, pentahydrate:
Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Product:

Species: Rabbit
Method: OECD Test Guideline 405
Result: non-irritant

Components:

ammonium nitrate:
Species: Rabbit
Method: OECD Test Guideline 405
Result: Irritant

iron sulphate:
Method: OECD Test Guideline 405
Result: Eye irritation

Borates, tetra sodium salts, pentahydrate:
Species: Rabbit
Assessment: Irritant
Result: Moderate eye irritation

Respiratory or skin sensitisation

Product:

Result: non-sensitizing

Components:

ammonium nitrate:
Result: Does not cause skin sensitisation.

N,N''-(isobutylidene)diurea:
Species: Mouse
Method: OECD Guideline 429
Result: Did not cause sensitisation on laboratory animals.

iron sulphate:
Method: OECD TG 429
Result: Did not cause sensitisation on laboratory animals.

Borates, tetra sodium salts, pentahydrate:
Test Type: Buehler Test
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

Germ cell mutagenicity

Product:

Genotoxicity in vitro	:	Remarks: No data available

Components:

ammonium nitrate:

Genotoxicity in vitro	:	Method: OECD Test Guideline 471 Result: negative

N,N''-(isobutylidene)diurea:

Genotoxicity in vitro	:	Remarks: In vitro tests did not show mutagenic effects

Borates, tetra sodium salts, pentahydrate:

Germ cell mutagenicity- Assessment	:	In vitro tests showed mutagenic effects

Carcinogenicity

Product:

Remarks: Contains no ingredient listed as a carcinogen

Components:

ammonium nitrate:
Species: Rat
Remarks: Animal testing did not show any carcinogenic effects.

N,N''-(isobutylidene)diurea:
Remarks: Animal testing did not show any carcinogenic effects.

iron sulphate:

Carcinogenicity - Assessment	:	Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

Borates, tetra sodium salts, pentahydrate:

Carcinogenicity - Assessment	:	Carcinogenicity classification not possible from current data.

Reproductive toxicity

Product:

Effects on fertility	:	Remarks: No toxicity to reproduction
Effects on foetal development	:	Remarks: Contains no ingredient listed as toxic to reproduction

Components:

ammonium nitrate:

Effects on fertility	:	Species: Rat Remarks: Animal testing did not show any effects on fertility.
Effects on foetal development	:	Species: Rat Remarks: Did not show teratogenic effects in animal experiments.

N,N''-(isobutylidene)diurea:

Effects on fertility	:	Remarks: Animal testing did not show any effects on fertility.
Effects on foetal development	:	Remarks: Did not show teratogenic effects in animal experiments.

Borates, tetra sodium salts, pentahydrate:

Reproductive toxicity - Assessment	:	In animal testing, risk of impaired fertility was shown only after administration of very high doses of this substance. May damage fertility. May damage the unborn child.

STOT - single exposure

Product:

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

Components:

N,N''-(isobutylidene)diurea:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Product:

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

Components:

N,N''-(isobutylidene)diurea:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

iron sulphate:
Remarks: No known effect.

Repeated dose toxicity

Components:

ammonium nitrate:
Species: Rat
NOAEL: > 1.500 mg/kg
Application Route: Oral
Exposure time: 28 d

Species: Rat
NOAEL: = 256 mg/kg
Application Route: Oral
Exposure time: 52 w
Method: OECD Test Guideline 453

Species: Rat
NOAEL: >= 185 mg/kg
Application Route: by inhalation
Exposure time: 2 w
Method: Repeated Dose Inhalation Toxicity: 28-day or 14-day Study.

iron sulphate:
Species: Rat
NOAEL: 284 - 324 mg/kg
Application Route: Oral
Exposure time: 90 d
Remarks: Information given is based on data obtained from similar substances.

Species: Rat
NOAEL: 100 mg/kg
Application Route: Oral
Exposure time: 49 d

Application Route: by inhalation
Remarks: This information is not available.

Application Route: Dermal
Remarks: This information is not available.

Further information

Product:

Remarks: Danger of methaemoglobin formation.
The product was not tested. The statement was derived from products of similar structure and composition.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: Directive 84/449/EEC, C.2
Toxicity to algae	:	EC50 (Scenedesmus subspicatus): > 100 mg/l Exposure time: 72 h Method: DIN 38412
Toxicity to bacteria	:	EC0 (Pseudomonas putida): ca. 640 mg/l Exposure time: 16 h Test Type: activated sludge Method: No data available

Components:

ammonium nitrate:

Toxicity to fish	:	LC50 (Fish): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia (water flea)): 490 mg/l Exposure time: 48 h LC50 : 490 mg/l
Toxicity to algae	:	EC50 (Selenastrum capricornutum (green algae)): 1.700 mg/l Exposure time: 10 d

N,N''-(isobutylidene)diurea:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 1.000 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna): ca. 500 mg/l Exposure time: 48 h Method: Directive 84/449/EEC, C.2
Toxicity to algae	:	EC50 (Scenedesmus subspicatus): > 500 mg/l Exposure time: 72 h Method: DIN 38412
Toxicity to bacteria	:	EC0 (Pseudomonas putida): ca. 640 mg/l

iron sulphate:
Ecotoxicology Assessment
Acute aquatic toxicity : This product has no known ecotoxicological effects.

Borates, tetra sodium salts, pentahydrate:

Toxicity to fish : LC50 (dab): 74 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 242 mg/l
Exposure time: 24 h

Toxicity to algae : EC10 (Scenedesmus subspicatus): 24 mg/l
Exposure time: 96 h

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : DOC reduction
ca. 85 %
Method: OECD 301E/92/69/EWG, C.4-B
Remarks: Readily eliminated from water

Components:

ammonium nitrate:

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

N,N''-(isobutylidene)diurea:

Biodegradability : Remarks: The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.

iron sulphate:

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Components:

ammonium nitrate:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: -3,1

N,N''-(isobutylidene)diurea:
Bioaccumulation : Remarks: Bioaccumulation is unlikely.

iron sulphate:
Bioaccumulation : Remarks: Accumulation in aquatic organisms is unlikely.

12.4 Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: Moderately mobile in soils

Components:

iron sulphate:
Distribution among environmental compartments : Medium:Soil
Remarks: immobile

12.5 Results of PBT and vPvB assessment

Product:

Assessment : Remarks: Not applicable

Components:

N,N''-(isobutylidene)diurea:
Assessment : Remarks: Not applicable

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

12.6 Other adverse effects

Product:

Additional ecological information : Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.
There is a high probability that the product is acute not harmful to aquatic organisms.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Check if agriculture use is possible.
Contact manufacturer.

Contaminated packaging : Contaminated packaging should be emptied as far as possi-

ble; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

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

Remarks : Not relevant

SECTION 15: Regulatory information

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

Water contaminating class (Germany) : WGK 1 slightly water endangering

Other regulations : TRGS 511 'Ammonium nitrate'

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this product.

SECTION 16: Other information

Full text of H-Statements

H272 : May intensify fire; oxidizer.
H302 : Harmful if swallowed.
H315 : Causes skin irritation.
H319 : Causes serious eye irritation.
H360FD : May damage fertility. May damage the unborn child.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Eye Irrit. : Eye irritation
Ox. Sol. : Oxidizing solids
Repr. : Reproductive toxicity
Skin Irrit. : Skin irritation

(Q)SAR - (Quantitative) Structure Activity Relationship; 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; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; DIN - Standard of the German Institute for Standardisation; 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; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; 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; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; 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; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; 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; TRGS - Technical Rule for Hazardous Substances; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice

Further information

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.

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