

Material Safety Data Sheet

according to Regulation (EC) No. 1907/2006

NovaTec® Solub Complete 18-18-18



Version: 4.8

Date of last issue: 06.04.2023

Date of first issue: 26.04.2017

Revision Date:

30.01.2024

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

1.1 Product identifier

Trade name : NovaTec® Solub Complete 18-18-18

UFI : AJM5-500F-H00D-N81T

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

Use of the : Fertiliser
Substance/Mixture

1.3 Details of the supplier of the safety data sheet

Company : COMPO EXPERT GmbH
Krögerweg 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 : info@compo-expert.com
responsible for the SDS

1.4 Emergency telephone number

GBK GmbH - Global Regulatory Compliance - 24h
Telephone: +49 (0) 6132 - 84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Oxidizing solids, Category 3 H272: May intensify fire; oxidizer.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



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Signal word	:	Warning	
Hazard statements	:	H272	May intensify fire; oxidizer.
Precautionary statements	:	Prevention: P210 P220 P221 P284 Response: P370 + P378	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep/ Store away from clothing/ combustible materials. Take any precaution to avoid mixing with combustibles. In case of inadequate ventilation wear respiratory protection. In case of fire: Use water spray to extinguish.
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 : Mixture of nutrient salts based on various inorganic salts.
Contains
1H-Pyrazole, 3,4-dimethyl-,phosphate (1:1)

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	>= 25 - <= 35

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potassium nitrate	7757-79-1 231-818-8 01-2119488224-35-XXXX	Ox. Sol. 3; H272	>= 30 - <= 40
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For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- If inhaled : Move to fresh air.
Obtain medical attention.
If unconscious, place in recovery position and seek medical advice.
In case of lung irritation, first treatment with dexametason aerosol (spray).
- In case of skin contact : Wash off with soap and 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.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Ingestion may provoke the following symptoms:
Methaemoglobinemia
- Risks : Later control for pneumonia and lung oedema.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.
There is no specific antidote available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Water
- Unsuitable extinguishing media : Foam
Dry chemical
Carbon dioxide (CO₂)

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Sand

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : At temperatures above 130 °C, dangerous decomposition gases can be emitted:
Nitrogen monoxide, nitrogen dioxide, dinitrogenoxide, ammonia

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 : Avoid dust formation.
Ensure adequate ventilation.
In case of insufficient ventilation, wear suitable respiratory equipment.

6.2 Environmental precautions

Environmental precautions : Do not empty into drains.
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

For personal protection see section 8.

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 heat and sources of ignition. Keep away from combustible materials.

Hygiene measures : At the end of the shift the skin should be cleaned and skin-

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care agents applied.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep away from heat. Keep away from sources of ignition - No smoking. Keep away from combustible material. Protect from contamination. When stored loose do not mix with other fertilizers. Protect against humidity (product is hygroscopic and tends to cake or disintegrate)

Further information on storage conditions : Protect against water. Keep away from direct sunlight.

Storage class (TRGS 510) : 5.1C, Ammonium nitrate and ammonium nitrate containing preparations

7.3 Specific end use(s)

Specific use(s) : Always read the label and product information before use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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	Long-term systemic effects	36 mg/m ³
	Workers	Skin contact	Long-term systemic effects	5,12 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	2,56 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	8,9 mg/m ³
	Consumers	Skin contact, Ingestion	Long-term systemic effects	2,56 mg/kg bw/day
potassium nitrate	Workers	Inhalation	Systemic effects	36,7 mg/m ³
	Workers	Skin contact	Systemic effects	20,8 mg/kg
Remarks:	Exposure time: 1 d			

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	Consumers	Ingestion	Systemic effects	12,5 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Skin contact	Systemic effects	12,5 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Inhalation	Systemic effects	10,9 mg/m3

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

Substance name	Environmental Compartment	Value
ammonium nitrate	Sewage treatment plant	18 mg/l
potassium nitrate	Fresh water	0,45 mg/l
	Marine water	0,045 mg/l
	Ceiling Limit Value	4,5 mg/l
	Sewage treatment plant	18 mg/l

8.2 Exposure controls

Personal protective equipment

Respiratory protection : Particle filtering disposable mask DIN EN 149 with filter FFP2.

Environmental exposure controls

General advice : Do not empty into drains.
Retain and dispose of contaminated wash water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : granular
Colour : various
Odour : very faint
Odour Threshold : No data available
pH : ca. 4, (20 °C)

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Melting point/range	: No data available
Boiling point/boiling range	: Not applicable
Flash point	: Not applicable
Evaporation rate	: Not applicable
Flammability (solid, gas)	: The product is not flammable.
Upper explosion limit	: Not explosive
Lower explosion limit	: Not explosive
Vapour pressure	: Not applicable
Relative vapour density	: Not applicable
Bulk density	: ca. 1.150 kg/m ³
Solubility(ies)	
Water solubility	: soluble
Partition coefficient: n-octanol/water	: 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 considered an oxidizing substance
Particle characteristics	
Particle Size Distribution	: D50 = 340 µm D50 Tolerance range = 272 µm - 408 µm Measurement technique: Sieve analysis

9.2 Other information

No data available

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SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : Evolution of ammonia under influence of alkalis.

10.4 Conditions to avoid

Conditions to avoid : Protect from frost, heat and sunlight.
Avoid moisture.

10.5 Incompatible materials

Materials to avoid : Sulphur, chlorites, chloride, chlorates, Hypochlorites, acid or alkaline reacting substances, flammable oxidizable substances, nitrites, metallic salts, metallic powder, herbicide, chlorinated hydrocarbons, organic compounds.

10.6 Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product:

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

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

potassium nitrate:

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

Acute inhalation toxicity : LC50 (Rat): 0,527 mg/l

Acute dermal toxicity : LD50 (Rat): > 5.000 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

potassium nitrate:

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

potassium nitrate:

Species: Rabbit

Result: No eye irritation

Respiratory or skin sensitisation

Product:

Result: non-sensitizing

Components:

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ammonium nitrate:

Result: Does not cause skin sensitisation.

potassium nitrate:

Result: non-sensitizing

germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: Contains no hazardous ingredients according to GHS

Components:

ammonium nitrate:

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

potassium nitrate:

Genotoxicity in vitro : Remarks: No data available

Carcinogenicity

Product:

Remarks: Contains no ingredient listed as a carcinogen

Components:

ammonium nitrate:

Species: Rat

Remarks: Animal testing did not show any carcinogenic effects.

potassium nitrate:

Remarks: Did not show carcinogenic effects in animal experiments.

Reproductive toxicity

Product:

Effects on fertility :
Remarks: No toxicity to reproduction

Effects on foetal development : Remarks: Did not show teratogenic effects in animal experiments.
Information given is based on data obtained from similar substances.

Components:

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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.

potassium nitrate:

Effects on fertility

:

Remarks: No toxicity to reproduction

Effects on foetal
development

: Remarks: Did not show teratogenic effects in animal
experiments.

STOT - single exposure

Product:

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

Components:

potassium nitrate:

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:

potassium nitrate:

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

Repeated dose toxicity

Components:

ammonium nitrate:

Species: Rat

NOAEL: > 1.500 mg/kg

Application Route: Oral

Exposure time: 28 d

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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.

potassium nitrate:

Species: Rat
NOAEL: >= 1.500 mg/kg
Exposure time: 1 d

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties

No data available

Experience with human exposure

Product:

General Information : Danger of methaemoglobin formation.

Further information

Product:

Remarks: 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 (Cyprinus carpio (Carp)): 422 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to daphnia and other : EC50 (Daphnia (water flea)): 555 mg/l
aquatic invertebrates
Exposure time: 48 h
Test Type: static test

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Toxicity to algae	: No observed effect concentration (Desmodesmus subspicatus (green algae)): 83 mg/l Exposure time: 168 h Test Type: other Method: No data available
Toxicity to bacteria	: EC20 (activated sludge): ca. > 100 mg/l Exposure time: 0,5 h Test Type: other 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
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potassium nitrate:

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

12.2 Persistence and degradability

Product:

Biodegradability	: Remarks: The product works in the soil as fertilizer and is diminished in a few weeks.
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Components:

ammonium nitrate:

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

potassium nitrate:

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

potassium nitrate:

Bioaccumulation	: Remarks: Does not bioaccumulate.
-----------------	------------------------------------

12.4 Mobility in soil

Product:

Mobility	: Remarks: No data available
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Components:

potassium nitrate:

Mobility	: Remarks: No data available
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12.5 Results of PBT and vPvB assessment

Product:

Assessment	: Remarks: No data available
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Components:

potassium nitrate:

Assessment	: Substance is not persistent, bioaccumulative, and toxic (PBT).. Substance is not very persistent and very bioaccumulative (vPvB)..
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12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

Product:

Additional ecological information	: Disposal via sewage water treatment plants may cause impairment of the nitrification activity of the activated sludge.
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There is a high probability that the product is acute not harmful to aquatic organisms.
Additional ecological information
The product has not been tested. The information is derived from the properties of the individual components.
At higher pH values, which can be found in natural surface waters, an increase of toxic effects on aquatic organisms may be expected.

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

SECTION 14: Transport information

14.1 UN number or ID number

- | | |
|------|-----------|
| ADN | : UN 1477 |
| ADR | : UN 1477 |
| RID | : UN 1477 |
| IMDG | : UN 1477 |
| IATA | : UN 1477 |

14.2 UN proper shipping name

- | | |
|------|-------------------------------|
| ADN | : NITRATES, INORGANIC, N.O.S. |
| ADR | : NITRATES, INORGANIC, N.O.S. |
| RID | : NITRATES, INORGANIC, N.O.S. |
| IMDG | : NITRATES, INORGANIC, N.O.S. |
| IATA | : Nitrates, inorganic, n.o.s. |

14.3 Transport hazard class(es)

- | | |
|------|-------|
| ADN | : 5.1 |
| ADR | : 5.1 |
| RID | : 5.1 |
| IMDG | : 5.1 |

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IATA : 5.1

14.4 Packing group

ADN

Packing group : III
Classification Code : O2
Hazard Identification Number : 50
Labels : 5.1

ADR

Packing group : III
Classification Code : O2
Hazard Identification Number : 50
Labels : 5.1
Tunnel restriction code : (E)

RID

Packing group : III
Classification Code : O2
Hazard Identification Number : 50
Labels : 5.1

IMDG

Packing group : III
Labels : 5.1
EmS Code : F-A, S-Q
Segregation group : 2: Ammonium compounds

IATA

Packing instruction (cargo aircraft) : 563
Packing instruction (passenger aircraft) : 559
Packing instruction (LQ) : Y546
Packing group : III
Labels : 5.1

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR

Environmentally hazardous : no

RID

Environmentally hazardous : no

IMDG

Marine pollutant : no

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14.6 Special precautions for user

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Water hazard class : WGK 1 slightly hazardous to water
(Germany)

Other regulations : TRGS 511 'Ammonium nitrate'

Acquisition, introduction, possession or use of this product by the general public is restricted by Regulation (EU) 2019/1148. All suspicious transactions, and significant disappearances and thefts must be reported to the relevant national contact point.

The product is subject to the supply restrictions of the Ordinance on the Prohibition of Chemicals.

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.
H319 : Causes serious eye irritation.

Full text of other abbreviations

Eye Irrit. : Eye irritation
Ox. Sol. : Oxidizing solids

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx -

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Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

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.

DE / EN