

SAFETY DATA SHEET



Nordkalk Terra GTC

The safety data sheet is in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

Date issued	03.09.2012
Revision date	05.03.2019

1.1. Product identifier

Product name	Nordkalk Terra GTC
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1.2. Relevant identified uses of the substance or mixture and uses advised against

Use categories nordic (UCN).	55 Others
Use of the substance / preparation	Soil stabilisation

1.3. Details of the supplier of the safety data sheet

Company name	Nordkalk Oy Ab
Office address	Skräbbölevägen 18
Postcode	21600
City	Pargas
Country	Finland
Telephone number	+358 20 753 7000
Email	sds@nordkalk.com
Website	www.nordkalk.com

1.4. Emergency telephone number

Emergency telephone	<p>Telephone number: 112 Description: Emergency telephone number (in Finland) Open 24 hours a day.</p> <p>Telephone number: +358 800 147 111 or +358 9 471 977 Description: Poison Information Centre (in Finland), P.O. Box 790 (Tukholmankatu 17), 00029 HUS Open 24 hours a day.</p>
Identification, comments	Please contact the Emergency Centre in your own country, e.g. 112 in European Union countries.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]	Skin Irrit. 2; H315
	Eye Dam. 1; H318
	STOT SE 3; H335

2.2. Label elements

Hazard pictograms (CLP)



Composition on the label	Calcium dihydroxide, Portland cement
Signal word	Danger
Hazard statements	H315 Causes skin irritation. H318 Causes serious eye damage. H335 May cause respiratory irritation.
Precautionary statements	P102 Keep out of reach of children. P261 Avoid breathing dust/spray. P280 Wear protective gloves / protective clothing / eye protection / face protection. P302+P352 IF ON SKIN: Wash with plenty of water. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER / doctor. P501 Dispose of contents / container to accordance with local regulation.

2.3. Other hazards

PBT / vPvB	The Annex XIII of the REACH Regulation No. 1907/2006 is not applicable to inorganic substances.
Other hazards	Calcium silicates contained in portland cement form e.g. calcium hydroxide when dissolved in water and thus the solution is strongly alkaline. Portland cement contains chromium (VI) compounds. Chromium (VI) compounds are water soluble and can cause chromium allergy. Portland cement contains also iron(II)sulfate which reduces chrome(VI) to chromium (III) (low water solubility, less sensitising).

SECTION 3: Composition / information on ingredients**3.2. Mixtures**

Substance	Identification	Classification	Contents
Calcium dihydroxide	CAS No.: 1305-62-0 EC No.: 215-137-3 REACH Reg. No.: 01-2119475151-45-XXXX	Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335	30 - 40 %
Calcium sulfate	CAS No.: 7778-18-9 EC No.: 231-900-3 REACH Reg. No.: 01-2119444918-26-XXXX	CLP classification, notes: Not classified.	30 - 40 %
Portland cement	CAS No.: 65997-15-1 EC No.: 266-043-4	Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335	20 - 30 %

Substance comments

The full text for all hazard statements are displayed in point 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General	If the situation is unclear or symptoms persist, seek medical attention.
Inhalation	Move exposed person immediately to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.
Skin contact	Dry product: Brush away dust from the skin with a dry brush. Rinse the skin immediately with plenty of water. Wet product: Wash contaminated skin with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation or other symptoms persist, seek medical attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes, holding eyelids open. Remove contact lenses, if present and easy to do, and continue rinsing. Get medical advice/attention.
Ingestion	Do not induce vomiting. Rinse the mouth and give 1-2 glasses of water to drink. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Acute symptoms and effects	Causes skin irritation. May irritate airways. Risk of serious eye damage.
Delayed symptoms and effects	None known.

4.3. Indication of any immediate medical attention and special treatment needed

Other information	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Dry chemical, carbon dioxide or foam.
Improper extinguishing media	Do not use water to extinguish fire.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	The product is non-combustible. Reacts with water by releasing heat (exothermic reaction).
Hazardous combustion products	No hazardous combustion products known.

5.3. Advice for firefighters

Personal protective equipment	Wear appropriate protective equipment and self-contained breathing apparatus.
Other information	Avoid dust formation.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	Ensure adequate ventilation. Keep unnecessary and unprotected people from entering. Avoid generation and spreading of dust. Stop leak if safe to do so. Avoid humidification.
Personal protection measures	Wear appropriate personal protective equipment. Avoid contact with skin or eyes. Avoid breathing dust.

6.2. Environmental precautions

Environmental precautionary measures	Prevent spreading over great surfaces (e.g. by damming or installing oil booms). Keep the product dry. Avoid release into drains, sewers or waterways. In case of environmental contamination, inform local authorities.
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6.3. Methods and material for containment and cleaning up

Containment	Avoid generation and spreading of dust. Pick up solid product mechanically. Store in a dry place.
Clean up	Collect product with a vacuum cleaner or by brushing. Keep the material dry.

6.4. Reference to other sections

Other instructions	Safe handling: see point 7. Personal protective equipment: see point 8. Waste disposal: see point 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	Avoid contact with skin or eyes. Avoid breathing dust. Wear appropriate personal protective equipment. Avoid generating excess dust. Ensure adequate ventilation (use process enclosures or local exhaust ventilation if necessary). Do not wear contact lenses when handling this product.
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Protective safety measures

Preventive measures to prevent aerosol and dust generation	Prevent formation of dust.
Advice on general occupational hygiene	Handle in accordance with good industrial hygiene and safety practices. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash hands and exposed skin areas before breaks and at the end of workday. Take off contaminated clothing immediately and wash before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage	Store in a dry place. Keep out of reach of children.
Conditions to avoid	Keep away from moisture and water. Do not allow contact with air. For incompatible materials see point 10.5.

Conditions for safe storage

Technical measures and storage conditions

Store in a dry, well-ventilated area.

Packaging compatibilities

Unsuitable packaging materials and coatings: Aluminium.

7.3. Specific end use(s)

Specific use(s)

None known.

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Substance	Identification	Value	TWA Year
Calcium dihydroxide	CAS No.: 1305-62-0	Country of origin: UK TWA (8 h): 5 mg/m ³ TWA (8 h): 1 mg/m ³ Comments: Respirable fraction OEL short term value Value: 4 mg/m ³ Comments: Respirable fraction	2018
Calcium sulfate	CAS No.: 7778-18-9	TWA (8 h): 10 mg/m ³ Comments: Inorganic dust	
Portland cement	CAS No.: 65997-15-1	Country of origin: UK TWA (8 h): 10 mg/m ³ Comments: Inhalable dust TWA (8 h): 4 mg/m ³ Comments: Respirable dust	2018

DNEL / PNEC

Substance

Calcium dihydroxide

DNEL

Group: Professional

Route of exposure: Acute inhalation (local)

Value: 4 mg/m³

Comments: respirable dust

Group: Professional

Route of exposure: Long-term inhalation (local)

Value: 1 mg/m³

Comments: respirable dust

Group: Consumer

Route of exposure: Acute inhalation (local)

Value: 4 mg/m³

Comments: respirable dust

Group: Consumer

Route of exposure: Long-term inhalation (local)

Value: 1 mg/m³

Comments: respirable dust

PNEC	<p>Route of exposure: Freshwater Value: 0,49 mg/l</p> <p>Route of exposure: Saltwater</p> <p>Value: 0,32 mg/l</p> <p>Route of exposure: Sewage treatment plant STP Value: 3 mg/l</p> <p>Route of exposure: Soil Value: 1080 mg/kg</p>
Substance	Calcium sulfate
DNEL	<p>Group: Professional Route of exposure: Acute inhalation (systemic) Value: 5082 mg/m³</p> <p>Group: Professional Route of exposure: Long-term inhalation (systemic) Value: 21,17 mg/m³</p> <p>Group: Consumer Route of exposure: Acute inhalation (systemic) Value: 3811 mg/m³</p> <p>Group: Consumer Route of exposure: Long-term inhalation (systemic) Value: 5,29 mg/m³</p> <p>Group: Consumer Route of exposure: Acute oral (systemic) Value: 11,4 mg/kg bw/day</p> <p>Group: Consumer Route of exposure: Long-term oral (systemic) Value: 1,52 mg/kg bw/day</p>
PNEC	<p>Route of exposure: Sewage treatment plant STP Value: 100 mg/l</p>

8.2. Exposure controls

Precautionary measures to prevent exposure

Technical measures to prevent exposure	Provide adequate general and local exhaust ventilation. Use local exhaust ventilation if necessary. Ensure that eye wash facilities and emergency shower are located near work station.
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Eye / face protection

Suitable eye protection	Use tight-fitting safety goggles.
Eye protection, comments	Do not wear contact lenses when handling this product. It is advisable to have individual pocket eyewash. Appropriate for alkali chemicals.

Hand protection

Suitable gloves type	Use appropriate chemical-resistant, impervious gloves.
Suitable materials	Nitrile rubber.

Skin protection

Suitable protective clothing	Wear appropriate chemical-resistant, impervious protective clothing. Wear appropriate protective footwear.
Additional skin protection measures	Avoid prolonged or repeated contact with skin. Wash contaminated skin after exposure. Remove contaminated clothing and shoes and wash/clean them before reuse.

Respiratory protection

Respiratory protection necessary at	If it is not possible to reduce exposure levels to below exposure limit values by ventilation, use appropriate respirator.
Recommended type of equipment	Particle filter mask.
Respiratory protection, comments	-

Appropriate environmental exposure control

Environmental exposure controls	Prevent entry into sewers or the environment.
Environmental exposure controls, comments	Danger of sewer clogging.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	Solid. Powder.
Colour	White. Light brown. Beige.
Odour	Odourless or mild odor.
Odour limit	Comments: Unknown.
pH	Status: In aqueous solution Value: 11 - 13,5 Comments: wet product
Melting point / melting range	Value: > 450 °C Method: EU A.1 Comments: Calcium dihydroxide
Boiling point / boiling range	Comments: Not relevant.
Flash point	Comments: Not relevant.
Evaporation rate	Comments: Not relevant.
Flammability (solid, gas)	Not flammable.
Explosion limit	Comments: Not applicable.
Vapour pressure	Comments: Not relevant.

Vapour density	Comments: Not relevant.
Density	Value: 0,7 - 1,3 kg/dm ³ (bulk density) Temperature: 20 °C
Solubility	Medium: Water Value: 1844,9 mg/l Method: EU A.6 Comments: Calcium dihydroxide Medium: Water Comments: Portland cement: Partially soluble Medium: Water Value: ~ 2 g/l Comments: Calcium sulfate Temperature: 20 °C
Partition coefficient: n-octanol/ water	Comments: Not relevant.
Spontaneous combustability	Comments: Not self-igniting.
Decomposition temperature	Value: > 580 °C Comments: Calcium dihydroxide
Viscosity	Comments: Not relevant.
Explosive properties	Not classified as explosive.
Oxidising properties	Not classified as oxidising.

9.2. Other information

Other physical and chemical properties

Comments	None reported.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Calcium dihydroxide: Dissociates in aqueous media. Exothermic reaction: calcium hydroxide and carbon dioxide form calcium carbonate. Exothermic reaction: calcium hydroxide and acids form calcium salts. Cement: Dissolves aluminium and zinc slowly with formation of hydrogen.
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10.2. Chemical stability

Stability	Chemically stable under normal storage conditions. Calcium hydroxide absorbs carbon dioxide from the air and forms calcium carbonate.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Reacts exothermically with acids (releasing heat). Reacts with water by releasing heat (exothermic reaction).
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10.4. Conditions to avoid

Conditions to avoid

Do not allow contact with air. Protect from moisture. Do not store in damp conditions or areas of high humidity.

10.5. Incompatible materials

Materials to avoid

Acids. Water. Carbon dioxide (CO₂). Ammonium salts.
Aluminium and brass - In the presence of moisture produces hydrogen which may cause risk of explosion.

10.6. Hazardous decomposition products

Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Substance

Calcium dihydroxide

Acute toxicity

Effect tested: LD50
Route of exposure: Oral
Method: OECD 425
Value: > 2000 mg/kg bw
Animal test species: Rat

Effect tested: LD50
Route of exposure: Dermal
Method: OECD 402
Value: > 2500 mg/kg bw
Animal test species: Rabbit

Substance

Calcium sulfate

Acute toxicity

Effect tested: LD50
Route of exposure: Oral
Method: OECD 420
Value: > 1581 mg/kg bw
Animal test species: Rat

Effect tested: LC50
Route of exposure: Inhalation.
Method: OECD 403
Value: > 2,61 mg/l
Animal test species: Rat

Substance

Portland cement

Acute toxicity

Effect tested: LDO
Route of exposure: Dermal
Method: Limit value test
Duration: 24 hour(s)
Value: 2000 mg/kg
Animal test species: Rabbit
Comments: No mortality.

Other toxicological data

The product is not classified as acutely toxic.

Other information regarding health hazards

Substance	Calcium dihydroxide
Skin corrosion / irritation test result	<p>Toxicity type: Skin irritation Method: In vivo Species: Rabbit Evaluation result: Irritating.</p> <p>Toxicity type: Skin corrosion Method: In vitro OECD 431 Evaluation result: Not corrosive.</p>
Substance	Calcium sulfate
Skin corrosion / irritation test result	<p>Method: OECD 404 Species: Rabbit Evaluation result: Not irritating.</p>
Assessment of skin corrosion / irritation, classification	Causes skin irritation.
Substance	Calcium dihydroxide
Eye damage or irritation, test results	<p>Toxicity type: Eye damage Method: In vivo Species: Rabbit Evaluation result: Causes serious eye damage</p>
Substance	Calcium sulfate
Eye damage or irritation, test results	<p>Method: OECD 405 Species: Rabbit Evaluation result: Not irritating.</p>
Assessment of eye damage or irritation, classification	Causes serious eye damage.
Sensitisation	The product is not classified as a respiratory or skin sensitiser.
Mutagenicity	The product is not classified as a mutagen. Calcium dihydroxide: In vitro (OECD 471, 473, 476 read across)
Carcinogenicity, other information Reproductive toxicity	The product is not classified as a carcinogen.
Assessment of specific target organ SE, classification	The product is not classified as toxic to reproduction. May cause respiratory irritation.
Assessment of specific target organ toxicity RE, classification	The product is not classified as toxic to specific target organs at repeated exposure.
Assessment of aspiration hazard, classification	The product is not classified as an aspiration hazard.
Symptoms of exposure	
In case of ingestion	Irritates the gastrointestinal tract.

In case of skin contact	Repeated or prolonged exposure may cause skin irritation and dermatitis.
Other information	No other health effects reported.

SECTION 12: Ecological information

12.1. Toxicity

Substance	Calcium dihydroxide
Acute aquatic, fish	Value: 50,6 mg/l Effect dose concentration: LC50
Substance	Calcium dihydroxide
Acute aquatic, fish	Test duration: 96 hour(s) Species: freshwater fish Value: 457 mg/l Effect dose concentration: LC50 Test duration: 96 hour(s) Species: marine water fish
Substance	Calcium sulfate
Acute aquatic, fish	Value: > 79 mg/l Effect dose concentration: LC50 Test duration: 96 hour(s) Species: Oryzias latipes Method: OECD 203 Comments: LIMIT-test
Substance	Calcium dihydroxide
Acute aquatic, algae	Value: 184,57 mg/l Effect dose concentration: EC50 Test duration: 72 hour(s) Species: freshwater algae Value: 48 mg/l Effect dose concentration: NOEC Test duration: 72 hour(s) Species: freshwater algae
Substance	Calcium sulfate
Acute aquatic, algae	Value: > 79 mg/l Effect dose concentration: EC50 Test duration: 72 hour(s) Species: Selenastrum capricornutum Method: OECD 201 Comments: LIMIT-test
Substance	Calcium dihydroxide

Acute aquatic, Daphnia	<p>Toxicity type: Chronic Value: 32 mg/l Effect dose concentration: NOEC Test duration: 14 day(s) Species: marine water invertebrates</p> <p>Value: 49,1 mg/l Effect dose concentration: EC50 Test duration: 48 hour(s) Species: freshwater invertebrates</p> <p>Value: 158 mg/l Effect dose concentration: LC50 Test duration: 96 hour(s) Species: marine water invertebrates</p>
Substance	Calcium sulfate
Acute aquatic, Daphnia	<p>Value: > 79 mg/l</p> <p>Effect dose concentration: EC50 Test duration: 48 hour(s) Species: Daphnia magna Method: OECD 202 Comments: LIMIT-test</p>
Substance	Calcium dihydroxide
Toxicity to earthworm	<p>Value: 2000 mg/kg Species: macro organisms Method: soil dry weight</p>
Substance	Calcium dihydroxide
Toxicity to soil microorganisms	<p>Value: 12000 mg/kg Species: microorganisms Method: soil dry weight</p>
Plant toxicity	<p>Value: 1080 mg/kg Effect dose concentration: NOEC Test duration: 21 day(s) Comments: calcium dihydroxide</p>
Impact on sewage treatment	Comments: Calcium dihydroxide: At high concentration, through the rise of temperature and pH, the product is used for disinfection of sewage sludges.
Substance	Calcium sulfate
Impact on sewage treatment	<p>Value: > 790 mg/l Effect dose concentration: EC50 Test duration: 3 hour(s) Species: Activated sludge Method: OECD 209</p>
Aquatic, comments	The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

12.2. Persistence and degradability

Persistence and degradability, comments	Not relevant for inorganic substances.
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12.3. Bioaccumulative potential

Bioaccumulative potential	Not relevant for inorganic substances.
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12.4. Mobility in soil

Mobility	Calcium dihydroxide: The product is sparingly soluble, presents a low mobility in most soils.
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12.5. Results of PBT and vPvB assessment

PBT assessment results vPvB evaluation results	Not relevant for inorganic substances. Not relevant for inorganic substances.
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12.6. Other adverse effects

Environmental details, summation	The product is not classified as hazardous to the environment. Prevent entry into drains, sewers, waterways or soil.
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SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Specify the appropriate methods of disposal	Avoid release to the environment. The used packaging is only meant for packing this product; it should not be reused for other purposes. After usage, empty the packing completely.
Other information	Processing, use or contamination of this product may change the waste management options. Dispose of in compliance with local and national regulations.

SECTION 14: Transport information**14.1. UN number**

Comments	The product is not classified for transportation.
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14.2. UN proper shipping name**14.3. Transport hazard class(es)****14.4. Packing group****14.5. Environmental hazards**

Comments	The product is not classified as hazardous to the environment.
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14.6. Special precautions for user

Special safety precautions for user	Prevent entry into sewers, waterways and soil. Avoid generation and spreading of dust.
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14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Additional information

Additional information	Not applicable.
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SECTION 15: Regulatory information

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

Restriction of chemicals according to Annex XVII (REACH)	Entry: 47 Chromium VI compounds
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15.2. Chemical safety assessment

Chemical safety assessment	Has been carried out for calcium dihydroxide.
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SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3)	H315 Causes skin irritation. H318 Causes serious eye damage. H335 May cause respiratory irritation.
Training advice	Read safety data sheet.
Key literature references and sources for data	Previous version of the SDS SDSs for product components EH40/2005 Workplace exposure limits (3rd ed, 2018)
Abbreviations and acronyms used	DNEL: Derived No-Effect Level EC50: Effective concentration: concentration which kills or immobilises 50 % of exposed organisms LC50: Lethal concentration 50 % (median lethal concentration): concentration which kills 50 % of exposed organisms LD50: Lethal dose 50 % (median lethal dose): dose which kills 50 % of exposed organisms NOEC: No Observed Effect Concentration: concentration at which no effects are observed OEL: Occupational exposure limit PNEC: Predicted No-Effect Concentration STEL: Short-term exposure limit. TWA: Time-weighted average
Information added, deleted or revised	5.3.2019: The following sections have been revised: 1.3 Contact information 2.1 Classification of the substance or mixture 2.2 Labeling 3.2 Mixtures 8.1 Control parameters 16 Other Information
Version	1

Comments

Disclaimer

This safety data sheet (SDS) is based on the legal provisions of the REACH Regulation (EC 1907/2006; article 31 and Annex II), as amended. Its contents are intended as a guide to the appropriate precautionary handling of the material. It is the responsibility of recipients of this SDS to ensure that the information contained therein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. Information and instructions provided in this SDS are based on the current state of scientific and technical knowledge at the date of issue indicated. It should not be construed as any guarantee of technical performance, suitability for particular applications, and does not establish a legally valid contractual relationship. This version of the SDS supersedes all previous versions.