



SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

SK 3301.960, 3301.965, 3301.967 Kühlmedium für Chiller (Standard)

Version 4.1

Print Date 12.12.2022

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

1.1. Product identifier

Trade name : SK 3301.96x Kühlmedium für Chiller (Standard)

UFI : 8T3N-W0UX-A00P-E9XM

UFI code notified in : Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, Greece, Croatia, Hungary, Ireland, Iceland, Italy, Liechtenstein, Lithuania, Luxembourg, Latvia, Malta, Netherlands, Norway, Poland, Portugal, Romania, Sweden, Slovenia, Slovakia

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

Use of the Substance/Mixture : Anti-freezing agents

Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Rittal GmbH & Co. KG
Auf dem Stützelberg
D-35745 Herborn

Informing department:

Phone: +49 2772 505 9052
E-Mail: info@rittal.de

1.4. Emergency telephone number

Germany: +49 800 5121 5121 (24 h)
National Toxicology Center: +359 2 9154 409 (7/5)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008

Hazard class	Hazard category	Target Organs	Hazard statements
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Specific target organ toxicity - repeated exposure	Category 2	Kidney	H373
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For the full text of the H-Statements mentioned in this Section, see Section 16.

Most important adverse effects

Human Health	:	See section 11 for toxicological information.
Physical and chemical hazards	:	See section 9/10 for physicochemical information.
Potential environmental effects	:	See section 12 for environmental information.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard symbols	:	
Signal word	:	Warning
Hazard statements	:	H373 May cause damage to organs (Kidney) through prolonged or repeated exposure.
Precautionary statements	:	
Prevention	:	P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Response	:	P314 Get medical advice/ attention if you feel unwell.
Disposal	:	P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

- ethanediol

2.3. Other hazards

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This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)	
		Hazard class / Hazard category	Hazard statements
ethanediol			
Index-No. : 603-027-00-1	>= 20 - < 30	Acute Tox.4 Oral STOT RE2	H302 H373
CAS-No. : 107-21-1			
EC-No. : 203-473-3			
EU REACH-Reg. No. : 01-2119456816-28-xxxx		Acute toxicity estimate Acute oral toxicity: 500 mg/kg Acute dermal toxicity: 3500,01 mg/kg	

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

- General advice : Take off all contaminated clothing immediately.
- If inhaled : Move to fresh air. If symptoms call a physician.
- In case of skin contact : Wash off immediately with plenty of water. If symptoms call a physician.
- In case of eye contact : Rinse thoroughly with plenty of water, also under the eyelids. Consult a physician.
- If swallowed : Rinse mouth with water. Immediately give plenty of water (if possible charcoal slurry). Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position. Call a physician immediately.

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Protection of First Aid Responders : First Aid responders should pay attention to self-protection and use the recommended protective clothing. If potential for exposure exists refer to Section 8 for specific personal protective equipment.

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

Symptoms : Kidney disorders, See Section 11 for more detailed information on health effects and symptoms.

Effects : May cause damage to organs through prolonged or repeated exposure. See Section 11 for more detailed information on health effects and symptoms.

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 spray, Carbon dioxide (CO₂), Alcohol-resistant foam, Dry powder
Unsuitable extinguishing media : High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting : Combustible liquid. Vapors may produce explosive mixtures with air at temperatures over the flash point. Keep containers cool by spraying with water if exposed to fire, Heating will cause a pressure rise - with risk of bursting, Heating or fire can release toxic gas.

Hazardous combustion products : Carbon oxides, nitrous gases, Under certain fire conditions, traces of other toxic products cannot be excluded.

5.3. Advice for firefighters

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

Further advice : Cool closed containers exposed to fire with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment. Provide adequate ventilation. Keep away from heat and sources of ignition. Avoid contact with the skin and the eyes.

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6.2. Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up : Ensure adequate ventilation. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Treat recovered material as described in the section "Disposal considerations". Flush away residuals with plenty of water.

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Keep container tightly closed. Handle and open container with care. Provide sufficient air exchange and/or exhaust in work rooms. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Take off all contaminated clothing immediately. Do not breathe gas/fumes/vapour/spray. Avoid contact with the skin and the eyes. Smoking, eating and drinking should be prohibited in the application area. Keep away from food, drink and animal feedingstuffs. 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 : Keep in an area equipped with solvent resistant flooring.

Advice on protection against fire and explosion : Combustible liquid. Keep away from open flames, hot surfaces and sources of ignition.

Further information on storage conditions : Keep container tightly closed. Keep in a well-ventilated place. Keep away from heat. Store in cool place. Keep in a dry place. Product is hygroscopic.

Advice on common storage : Incompatible with strong bases and oxidizing agents. Keep away from food, drink and animal feedingstuffs.

German storage class : 10 Combustible liquids

7.3. Specific end use(s)

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Specific use(s) : For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Component:	ethanediol	CAS-No. 107-21-1
Other Occupational Exposure Limit Values		

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):
20 ppm, 52 mg/m³
Indicative

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Short Term Exposure Limit (STEL):
40 ppm, 104 mg/m³
Indicative

Germany. TRGS 900, Occupational Exposure Limits (AGW), as amended, Exposure limit(s):,
Vapor and aerosol.
10 ppm, 26 mg/m³, (2)
If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).

Germany. TRGS 900, Occupational Exposure Limits (AGW), as amended, Skin designation:,
Vapor and aerosol.
Can be absorbed through the skin.

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice : In case of insufficient ventilation, wear suitable respiratory equipment.
Required, if exposure limit is exceeded (e.g. OEL).
Required if vapours or aerosol are released.
In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
Recommended Filter type:
Combination filter: A-P2

Hand protection

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Advice : Protective gloves complying with EN 374.
As the product is a mixture of several substances, the durability of the glove materials cannot be calculated in advance and has to be tested before use.
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
Protective gloves should be replaced at first signs of wear.
Recommended Material:

Material : butyl-rubber
Break through time : ≥ 480 min
Glove thickness : 0,7 mm

Eye protection

Advice : Tightly fitting safety goggles

Skin and body protection

Advice : Wear personal protective equipment.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.
Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form : liquid
Physical state : liquid
Colour : light yellow
Odour : characteristic
Odour Threshold : No data available

Freezing point : No data available

Boiling point/boiling range : 100 - 165 °C

Flammability : No data available

Upper explosion limit / Upper flammability limit : 14 %(V)
(20 °C)
applies to anhydrous substance

Lower explosion limit / Lower flammability limit : 3 %(V)
(20 °C)
applies to anhydrous substance

Flash point : > 110 °C

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Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Self-Accelerating decomposition temperature (SADT)	:	No data available
pH	:	7 - 9 Concentration: 100 %
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Flow time	:	No data available
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Dissolution Rate	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Dispersion Stability	:	No data available
Vapour pressure	:	No data available
Relative density	:	No data available
Density	:	1,026 g/cm ³
Bulk density	:	No data available
Relative vapour density	:	No data available
Particle characteristics		No data available

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Advice : No decomposition if stored and applied as directed.

10.2. Chemical stability

Advice : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

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Hazardous reactions : Reacts with alkalis. Incompatible with oxidizing agents.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Materials to avoid : Oxidizing agents, Strong acids and strong bases

10.6. Hazardous decomposition products

Hazardous decomposition products : Carbon oxides, Under certain fire conditions, traces of other toxic products cannot be excluded.

SECTION 11: Toxicological information

11.1. Information on the hazard classes within the meaning of Regulation (EC) No. 1272/2008

Data for the product

Acute toxicity

Oral

Acute toxicity estimate : > 2000 mg/kg) (Calculation method)

Inhalation

For this mixture is no data available.
Please find this information in the listing of the component/components below in this section.

Dermal

For this mixture is no data available.
Please find this information in the listing of the component/components below in this section.

Irritation

Skin

Result : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.

Eyes

Result : According to the classification criteria of the European Union, the product is not considered as being an eye irritant.

Sensitisation

Result : No sensitizing effect known.

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CMR effects

CMR Properties

Carcinogenicity	:	It is not considered carcinogenic. Contains no ingredient listed as a carcinogen
Mutagenicity	:	It is not considered mutagenic. Contains no ingredient listed as a mutagen
Reproductive toxicity	:	It is not considered toxic for reproduction. Contains no ingredient listed as toxic to reproduction

Specific Target Organ Toxicity

Single exposure

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

Remarks	:	Target Organs: Kidney May cause damage to organs through prolonged or repeated exposure.
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Other toxic properties

Repeated dose toxicity

; There is no data available for this product.

Aspiration hazard

No aspiration toxicity classification,

Component:	ethanediol	CAS-No. 107-21-1
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Acute toxicity

Inhalation

LC50	:	> 2,5 mg/l (Rat; 6 h; dust/mist)
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Dermal

LD50	:	> 3500 mg/kg (Mouse, male and female)
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11.2. Information on other hazards

Data for the product

Endocrine disrupting properties

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
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SECTION 12: Ecological information

12.1. Toxicity

Component:	ethanediol	CAS-No. 107-21-1
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Acute toxicity

Fish

LC50 : 72.860 mg/l (Pimephales promelas; 96 h) (static test; EPA OPP 72-1)

Toxicity to daphnia and other aquatic invertebrates

EC50 : > 100 mg/l (Daphnia magna; 48 h) (OECD Test Guideline 202)

algae

EC50 : 6500 - 13000 mg/l (Selenastrum capricornutum; 96 h) (End point: Growth rate)

Bacteria

EC20 : > 1995 mg/l (activated sludge; 0,5 h) (ISO 8192)Read-across (Analogy)

Chronic toxicity

Fish

NOEC : 15380 mg/l (Pimephales Promelas; 7 d)

Aquatic invertebrates

NOEC 8590 mg/l (Ceriodaphnia dubia (water flea); 7 d)

12.2. Persistence and degradability

Component:	ethanediol	CAS-No. 107-21-1
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Persistence and degradability

Persistence

Result : (Related to: Water) non-significant hydrolysis

Biodegradability

Result : 90 - 100 % (aerobic; activated sludge; 53 mg/l; Related to: Dissolved organic carbon (DOC); Exposure Time: 10 d)(OECD Test Guideline 301A)Readily biodegradable.

12.3. Bioaccumulative potential

Component:	ethanediol	CAS-No. 107-21-1
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Bioaccumulation

Result : log Kow ca. -1,36 (23 °C) ((calculated))
: Bioaccumulation is not expected.

12.4. Mobility in soil

Component:	ethanediol	CAS-No. 107-21-1
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Mobility

Water : The product is water soluble.
Air : The substance will not evaporate into the atmosphere from the water surface.
Soil : Adsorption to solid soil phase is not expected.

12.5. Results of PBT and vPvB assessment

Data for the product

Results of PBT and vPvB assessment

Result : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Endocrine disrupting properties

Data for the product

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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12.7. Other adverse effects

Data for the product

Additional ecological information

Result : Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Product : Disposal together with normal waste is not allowed. Do not let product enter drains. Can be incinerated, when in compliance with local regulations.
- Contaminated packaging : Empty remaining contents. Do not burn, or use a cutting torch on, the empty drum. Empty containers should be taken to local recyclers for disposal.
- European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

SECTION 14: Transport information

Not dangerous goods for ADR, RID and IMDG.

14.1. UN number or ID number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

Not applicable.

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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

Data for the product

EU. REACH, Annex XVII, : Point Nos.: 3
Marketing and Use
Restrictions (Regulation
1907/2006/EC)

WGK (DE) : WGK 1: slightly hazardous to water; (according AwSV)

German : Does not fall under the German StörfallV. -
Störfallverordnung

Other regulations : Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG). Take note of the national regulations on the protection of young people at work.
This product, delivered to the European Economic Area, is compliant with Regulation (EC) 1907/2006 (REACH) as every substance/monomer it is composed of is excluded from regulation or exempted from registration or have been registered in the supply chain.
Please note, that REACH requirements still might apply to import, re-import or specific uses.

Component:

ethanediol

CAS-No. 107-21-1

EU. Chemicals Subject : ; The substance/mixture does not fall under this legislation.
to PIC Procedure:
Regulation 649/2012/EU
on export and import of
dangerous chemicals, as
amended

EU. REACH, Annex XVII, : Point Nos.: , 3; Listed
Marketing and Use
Restrictions (Regulation
1907/2006/EC)

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Notification status

ethanediol:

Regulatory List	Notification	Notification number
AICS	YES	
DSL	YES	
EINECS	YES	203-473-3
ENCS (JP)	YES	(2)-230
IECSC	YES	
INSQ	YES	
ISHL (JP)	YES	(2)-230
JEX (JP)	YES	(2)-230
KECI (KR)	YES	KE-13169
NZIOC	YES	HSR001534
ONT INV	YES	
PICCS (PH)	YES	
TCSI	YES	
TH INV	YES	55-1-00456
TH INV	YES	2905.31
TSCA	YES	
VN INVL	YES	

15.2. Chemical safety assessment

No data available

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.

Full text of the Notes referred to under section 3.

Abbreviations and Acronyms

AU AIICL	Australia. Industrial Chemicals Act (AIIC) List
BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level

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DSL	Canada. Environmental Protection Act, Domestic Substances List
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ENCS (JP)	Japan. Kashin-Hou Law List
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IECSC	China. Inventory of Existing Chemical Substances
INSQ	Mexico. National Inventory of Chemical Substances
ISHL (JP)	Japan. Inventory of Industrial Safety & Health
KECI (KR)	Korea. Existing Chemicals Inventory
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level
LOEL	lowest observed effect level
NDSL	Canada. Environmental Protection Act. Non-Domestic Substances List
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
NZIOC	New Zealand. Inventory of Chemicals
OECD	Organisation for Economic Cooperation and Development
OEL	occupational exposure limit
ONT INV	Canada. Ontario Inventory List
PBT	persistent, bioaccumulative and toxic
PHARM (JP)	Japan. Pharmacopoeia Listing
PICCS (PH)	Philippines. Inventory of Chemicals and Chemical Substances
PNEC	predicted no-effect concentration
REACH Auth. No.:	REACH Authorisation Number
REACH AuthAppC. No.	REACH Authorisation Application Consultation Number
STOT	specific target organ toxicity
SVHC	substance of very high concern
TCSI	Taiwan. Existing Chemicals Inventory
TH INV	Thailand. Existing Chemicals Inventory from FDA
TSCA	US. Toxic Substances Control Act
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
VN INVL	Vietnam. National Chemical Inventory
vPvB	very persistent and very bioaccumulative

Further information

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- Key literature references and sources for data : Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
- Methods used for product classification : The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
- Hints for trainings : The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.
- Other information :
The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship.
The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.