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

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

1.1. Product identifier

Trade name/designation:

RAVENOL Professional Radiator Cleaner

Article No.:

1390302

UFI:

QY76-PN5G-CV8Y-1GEM

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

Use of the substance/mixture:

Cleaning agent

* 1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

Ravensberger Schmierstoffvertrieb GmbH

Produktsicherheit

Jöllenbecker Str. 2

33824 Werther

Germany

Telephone: +49 5203 9719 0

Telefax: +49 5203 9719 40

E-mail: kontakt@ravenol.de

Website: www.ravenol.de

E-mail (competent person): sdb@ravenol.de

* 1.4. Emergency telephone number

24 hr. emergency phone number, 24h: +49 700 24 112 112 (Contract ID: RAV) / +1 872 5888271
(Contract ID: RAV)

SECTION 2: Hazards identification

* 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Skin corrosion/irritation (<i>Skin Irrit. 2</i>)	H315: Causes skin irritation.	Calculation method.
Serious eye damage/eye irritation (<i>Eye Irrit. 2</i>)	H319: Causes serious eye irritation.	Calculation method.

* 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:



GHS07

Exclamation mark

Signal word: Warning



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Hazard components for labelling:

sulphamidic acid; Citric acid

Hazard statements for health hazards

H315	Causes skin irritation.
H319	Causes serious eye irritation.

Supplemental hazard information: none

Precautionary statements Prevention

P280	Wear protective gloves and eye/face protection.
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Precautionary statements Response

P302 + P352	IF ON SKIN: Wash with plenty of water/Soap.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Precautionary statements Disposal

P501	Dispose of contents/container to an appropriate recycling or disposal facility.
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* **2.3. Other hazards**

Other adverse effects:

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

* **3.2. Mixtures**

Additional information:

Labelling for contents according to regulation (EC) No. 648/2004: sulfamic acid, citric acid

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 5329-14-6 EC No.: 226-218-8 Index No.: 016-026-00-0	sulphamidic acid Aquatic Chronic 3 (H412), Eye Irrit. 2 (H319), Skin Irrit. 2 (H315) ⚠ Warning	10 - < 20 weight-%
CAS No.: 5949-29-1 EC No.: 201-069-1 REACH No.: 01-2119457026-42	Citric acid Eye Irrit. 2 (H319), STOT SE 3 (H335) ⚠ Warning	1 - < 10 weight-%

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

* **4.1. Description of first aid measures**

General information:

Never give anything by mouth to an unconscious person or a person with cramps. Remove casualty to fresh air and keep warm and at rest. Remove contaminated, saturated clothing immediately. Remove persons to safety. If unconscious but breathing normally, place in recovery position and seek medical advice. Do not leave affected person unattended.

Following inhalation:

Provide fresh air. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Consult a doctor immediately.

In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention. Causes skin irritation.

After eye contact:

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Causes serious eye irritation.

Following ingestion:

Rinse mouth immediately and drink 1 glass of water. Do NOT induce vomiting. Call a physician immediately.

Self-protection of the first aider:

Use personal protection equipment. No direct artificial respiration to be given by first aider.



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

Causes skin irritation. Serious eye damage/eye irritation

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

Treat symptomatically. Observe risk of aspiration if vomiting occurs.

SECTION 5: Firefighting measures

* **5.1. Extinguishing media**

Suitable extinguishing media:

Co-ordinate fire-fighting measures to the fire surroundings.

Carbon dioxide (CO₂)

Extinguishing powder

alcohol resistant foam

Use water spray jet to protect personnel and to cool endangered containers.

Unsuitable extinguishing media:

Full water jet

* **5.2. Special hazards arising from the substance or mixture**

Non-flammable.

Hazardous combustion products:

Carbon monoxide, Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Gases/vapours, toxic

* **5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus. Protective clothing.

* **5.4. Additional information**

Do not inhale explosion and combustion gases. Move undamaged containers from immediate hazard area if it can be done safely. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

* **6.1. Personal precautions, protective equipment and emergency procedures**

6.1.1. For non-emergency personnel

Personal precautions:

Provide adequate ventilation. Use personal protection equipment. Avoid contact with skin, eyes and clothes.

Protective equipment:

Personal protection equipment: see section 8

Emergency procedures:

Eliminate all ignition sources if safe to do so. Remove persons to safety. Provide adequate ventilation.

6.1.2. For emergency responders

Personal protection equipment:

Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Immediately inform the responsible authorities in entry into waterways or sewage system.

* **6.3. Methods and material for containment and cleaning up**

For containment:

Suitable material for taking up: Sand, Kieselguhr, Universal binder, Chemical binding agents, containing acids

Prevent spread over a wide area (e.g. by containment or oil barriers).

For cleaning up:

Remove from the water surface (e.g. skimming, sucking). Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information:

Treat the recovered material as prescribed in the section on waste disposal.

* **6.4. Reference to other sections**

Safe handling: see section 7

Disposal: see section 13

Personal protection equipment: see section 8



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* **6.5. Additional information**

Clear spills immediately. Use appropriate container to avoid environmental contamination.

SECTION 7: Handling and storage

* **7.1. Precautions for safe handling**

Protective measures

Advices on safe handling:

Wear personal protection equipment (refer to section 8).

When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Do not put any product-impregnated cleaning rags into your trouser pockets. Clear spills immediately. Use appropriate container to avoid environmental contamination.

Fire prevent measures:

No special fire protection measures are necessary.

Measures to prevent aerosol and dust generation:

See protective measures under point 7 and 8.

Environmental precautions:

SECTION 6: Accidental release measures

Advices on general occupational hygiene

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

* **7.2. Conditions for safe storage, including any incompatibilities**

Technical measures and storage conditions:

Keep container tightly closed. Keep locked up and out of reach of children. Keep only in original container. Keep in a cool, well-ventilated place.

Requirements for storage rooms and vessels:

No special measures are necessary. Shafts and sewers must be protected from entry of the product. Keep only in the original container in a cool, well-ventilated place.

Hints on storage assembly:

TRGS 510

Do not store together with: Alkali (lye)

Storage class (TRGS 510, Germany): 12 - non-combustible liquids that cannot be assigned to any of the above storage classes

Further information on storage conditions:

Observe technical data sheet.

7.3. Specific end use(s)

Recommendation:

Observe technical data sheet.

SECTION 8: Exposure controls/personal protection

* **8.1. Control parameters**

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
RU	sulphamidic acid CAS No.: 5329-14-6 EC No.: 226-218-8	③ 2 mg/m ³
TRGS 900 (DE) from 7 Jun 2018	Citric acid CAS No.: 5949-29-1 EC No.: 201-069-1	① 2 mg/m ³ ② 4 mg/m ³ ⑤ (einatembare Fraktion) DFG, Y
CH from 1 Jan 2022	Citric acid CAS No.: 5949-29-1 EC No.: 201-069-1	① 2 mg/m ³ ② 4 mg/m ³ ⑤ (einatembare Fraktion) SSC; Tox: AW Reizung



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Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
RU	Citric acid CAS No.: 5949-29-1 EC No.: 201-069-1	③ 1 mg/m ³

8.1.2. Biological limit values

No data available

8.1.3. DNEL-/PNEC-values

No data available

* **8.2. Exposure controls**

8.2.1. Appropriate engineering controls

No data available

8.2.2. Personal protection equipment



Eye/face protection:

During transfer: Eye glasses with side protection
 DIN-/EN-Norms EN 166

Skin protection:

Hand protection

Suitable material: Butyl caoutchouc (butyl rubber)

Thickness of the glove material: ≥ 0,4 mm

Breakthrough time: 480 min

Breakthrough times and swelling properties of the material must be taken into consideration.

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Tested protective gloves must be worn: EN ISO 374

Suitable protective clothing: Protective clothing

Respiratory protection:

Usually no personal respirative protection necessary.

8.2.3. Environmental exposure controls

See section 7. No additional measures necessary.

SECTION 9: Physical and chemical properties

* **9.1. Information on basic physical and chemical properties**

Appearance

Physical state: Liquid

Colour: colourless

Odour: odourless

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	1	20 °C	
Melting point	<i>not determined</i>		
Freezing point	<i>not determined</i>		
Initial boiling point and boiling range	> 100 °C		
Decomposition temperature	<i>not applicable</i>		
Flash point	<i>not determined</i>		
Evaporation rate	<i>not determined</i>		
Auto-ignition temperature	<i>not determined</i>		



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Parameter	Value	at °C	① Method ② Remark
Upper/lower flammability or explosive limits	<i>not applicable</i>		
Vapour pressure	<i>not determined</i>		
Vapour density	<i>not applicable</i>		
Density	1.07 kg/m ³	20 °C	
Relative density	<i>not applicable</i>		
Bulk density	<i>not applicable</i>		
Water solubility	easily soluble		
Partition coefficient: n-octanol/water	<i>not applicable</i>		
Dynamic viscosity	<i>not determined</i>		
Kinematic viscosity	<i>not applicable</i>		

* **9.2. Other information**
 Not applicable

SECTION 10: Stability and reactivity

* **10.1. Reactivity**

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

No information available.

10.5. Incompatible materials

Oxidizing agent, Alkali (Iye), concentrated

* **10.6. Hazardous decomposition products**

Hazardous combustion products: Carbon monoxide, Carbon dioxide (CO₂), Nitrogen oxides (NO_x),
 During heating or in case of fire, toxic gases is possible.

Further information

Do not mix with other chemicals.

SECTION 11: Toxicological information

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

sulphamidic acid CAS No.: 5329-14-6 EC No.: 226-218-8
LD₅₀ oral: 3,160 mg/kg (rat)
Citric acid CAS No.: 5949-29-1 EC No.: 201-069-1
LD₅₀ oral: 5,400 mg/kg (mouse)
LD₅₀ dermal: >2,000 mg/kg (rat)

Acute oral toxicity:

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

Acute dermal toxicity:

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

Acute inhalation toxicity:

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

Skin corrosion/irritation:

Causes skin irritation.

Serious eye damage/irritation:

Causes serious eye irritation.

Respiratory or skin sensitisation:

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

Germ cell mutagenicity:

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



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Carcinogenicity:

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

Reproductive toxicity:

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

STOT-single exposure:

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

STOT-repeated exposure:

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

Aspiration hazard:

Observe risk of aspiration if vomiting occurs.
For viscosity data, see section 9.

Additional information:

Frequently or prolonged contact with skin may cause dermal irritation.

* **11.2. Information on other hazards**

Endocrine disrupting properties:

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Other information:

No data available.

SECTION 12: Ecological information

* **12.1. Toxicity**

sulphamidic acid CAS No.: 5329-14-6 EC No.: 226-218-8
LC ₅₀ : 70.3 mg/L 4 d (fish, Pimephales promelas)
Citric acid CAS No.: 5949-29-1 EC No.: 201-069-1
LC ₅₀ : 440 mg/L 2 d (fish, Leuciscus idus melanotus)
LC ₅₀ : >100 - <220 mg/L 4 d (fish, Leuciscus idus) DIN 38412 part 15
EC ₅₀ : 1,535 mg/L 2 d (crustaceans, Daphnia magna)
EC ₅₀ : 101.48 mg/L 3 d (Algae/water plant, Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)) DIN 38412 part 9
EC ₅₀ : 187.35 mg/L 2 d (crustaceans, Daphnia magna) EU Method C.2 (Acute Toxicity for Daphnia)
NOEC: 100 mg/L 4 d (fish, Leuciscus idus) DIN 38412 part 15

Assessment/classification:

The substance/mixture does not fulfill the criteria of the acute aquatic toxicity according to Regulation (EC) No 1272/2008 [CLP], Annex I.

Additional ecotoxicological information:

Do not allow uncontrolled discharge of product into the environment.

12.2. Persistence and degradability

Additional information:

No information available.

* **12.3. Bioaccumulative potential**

Citric acid CAS No.: 5949-29-1 EC No.: 201-069-1
Log K _{ow} : 1.8

Partition coefficient: n-octanol/water:

not applicable

Accumulation / Evaluation:

The product has not been tested.

* **12.4. Mobility in soil**

The product has not been tested.

* **12.5. Results of PBT and vPvB assessment**

sulphamidic acid CAS No.: 5329-14-6 EC No.: 226-218-8
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Citric acid CAS No.: 5949-29-1 EC No.: 201-069-1
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.



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The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

* **12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

* **13.1. Waste treatment methods**

Dispose of waste according to applicable legislation.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV Directive 2008/98/EC (Waste Framework Directive)

HP 4	Irritant — skin irritation and eye damage
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Remark:

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Waste code packaging

Remark:

Dispose of waste according to applicable legislation.

Waste treatment options

Appropriate disposal / Product:

Dispose of waste according to applicable legislation.

Appropriate disposal / Package:

Non-contaminated packages may be recycled.

Other disposal recommendations:

Consult the appropriate local waste disposal expert about waste disposal.

* **13.2. Additional information**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.2. UN proper shipping name			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es)			
not relevant	not relevant	not relevant	not relevant
14.4. Packing group			
not relevant	not relevant	not relevant	not relevant
14.5. Environmental hazards			
not relevant	not relevant	not relevant	not relevant
14.6. Special precautions for user			
not relevant	not relevant	not relevant	not relevant

14.7. Maritime transport in bulk according to IMO instruments

No transport as bulk according to IBC Code.



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SECTION 15: Regulatory information

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

15.1.1. EU legislation

Other regulations (EU):

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]: This product is not assigned to a hazard category.
 Safety data sheet available on request.

15.1.2. National regulations

[DE] National regulations

Restrictions of occupation

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Störfallverordnung (12. BlmschV)

for substances contained in the product:

This product is not assigned to a hazard category.

Technische Anleitung zur Reinhaltung der Luft (TA-Luft)

Remark:

To follow: 5.2.5

Water hazard class

WGK:

1 - slightly hazardous to water

Source:

Self-classification (mixture; calculation rule).
 Identification number 436

Technische Regeln für Gefahrstoffe

TRGS 510

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Berufsgenossenschaftliche Vorschriften (DGUV-Vorschriften)

Berufsgenossenschaftliche Informationen (DGUV-Informationen) 868
 Berufsgenossenschaftliche Regeln (DGUV-Regeln) 189, 190, 192, 195

15.2. Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

15.3. Additional information

No data available

SECTION 16: Other information

* 16.1. Indication of changes

1.3.	Details of the supplier of the safety data sheet
1.4.	Emergency telephone number
2.1.	Classification of the substance or mixture
2.2.	Label elements
2.3.	Other hazards
3.2.	Mixtures
4.1.	Description of first aid measures
4.2.	Most important symptoms and effects, both acute and delayed
4.3.	Indication of any immediate medical attention and special treatment needed
5.1.	Extinguishing media
5.2.	Special hazards arising from the substance or mixture
5.3.	Advice for firefighters
5.4.	Additional information
6.1.	Personal precautions, protective equipment and emergency procedures
6.3.	Methods and material for containment and cleaning up
6.4.	Reference to other sections
6.5.	Additional information



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7.1.	Precautions for safe handling
7.2.	Conditions for safe storage, including any incompatibilities
8.1.	Control parameters
8.2.	Exposure controls
9.1.	Information on basic physical and chemical properties
9.2.	Other information
10.1.	Reactivity
10.6.	Hazardous decomposition products
11.1.	Information on hazard classes as defined in Regulation (EC) No 1272/2008
11.2.	Information on other hazards
12.1.	Toxicity
12.3.	Bioaccumulative potential
12.4.	Mobility in soil
12.5.	Results of PBT and vPvB assessment
12.6.	Endocrine disrupting properties
13.1.	Waste treatment methods
13.2.	Additional information
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
16.1.	Indication of changes
16.3.	Key literature references and sources for data
16.4.	Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]
16.5.	Relevant R-, H- and EUH-phrases (Number and full text)

16.2. Abbreviations and acronyms

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).
 See overview table at www.euphrac.eu

* 16.3. Key literature references and sources for data

EC 1907/2006 - REACH Regulation
 1272/2008 EC - Regulation on classification, labeling and packaging of substances and mixtures, and amending Directives 67/548/EEC and 1999/45/EC and Regulation (EC) No 1907/2006
 Regulation (EC) No 1907/2006 (REACH), Annex II
 European Chemicals Agency (ECHA), C & L classification and labeling inventory
 European Chemicals Agency (ECHA), ECHA CHEM Registered substances
 OECD The Global Portal to Information on Chemical Substances (ChemPortal)
 Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA): GESTIS substance database and International limit values for chemical substances
 Federal Environment Agency, Section IV 2.4: Documentation and Information Centre substances hazardous to water Rigoletto (catalog substances hazardous to water)

Substance name	Type	source of supply
Citric acid CAS No.: 5949-29-1 EC No.: 201-069-1	Classification of the substance or mixture; LC ₅₀ ; EC ₅₀ ; NOEC	Source: European Chemicals Agency, http://echa.europa.eu/

* 16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Skin corrosion/irritation (<i>Skin Irrit. 2</i>)	H315: Causes skin irritation.	Calculation method.
Serious eye damage/eye irritation (<i>Eye Irrit. 2</i>)	H319: Causes serious eye irritation.	Calculation method.

* 16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

16.6. Training advice

No data available



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16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

* Data changed compared with the previous version.