

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Potassium cyanide solution 0.1 mol/l - 0.1 N solution

Revision date: 23.02.2023

Product code: 13163

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

##### 1.1. Product identifier

Potassium cyanide solution 0.1 mol/l - 0.1 N solution

UFI: 54F5-F16F-0005-0PXE

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

###### Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

###### Uses advised against

Do not use for private purposes (household).

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

Company name:	AnalytiChem GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
e-mail:	info@analytichem.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
e-mail:	produktsicherheit@analytichem.de	
Internet:	www.analytichem.de	
Responsible Department:	Abteilung Produktsicherheit	

##### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

##### Further Information

This product is a mixture. REACH Registration Number see section 3.

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Regulation (EC) No 1272/2008

Acute Tox. 3; H301

Acute Tox. 3; H331

Acute Tox. 4; H312

Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

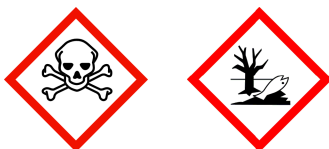
###### Regulation (EC) No 1272/2008

###### Hazard components for labelling

potassium cyanide

Signal word: Danger

###### Pictograms:



###### Hazard statements

H301+H331 Toxic if swallowed or if inhaled.

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H312 Harmful in contact with skin.  
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements**

P273 Avoid release to the environment.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P391 Collect spillage.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P501 Dispose of contents/container to Dispose of contents/container in accordance with local/regional/national/international regulations..

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
151-50-8	potassium cyanide			< 1 %
	205-792-3	006-007-00-5	01-2119486407-29	
	Acute Tox. 1, Acute Tox. 1, Acute Tox. 1, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H330 H310 H300 H372 H400 H410 EUH032			

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
151-50-8	205-792-3	potassium cyanide	< 1 %
	inhalation: ATE = 0,05 mg/l (vapours); inhalation: ATE = 0,005 mg/l (dusts or mists); inhalation: LC50 = 63 ppm (gases); dermal: LD50 = ca. 11,28 mg/kg; oral: LD50 = >= 7,49 mg/kg Aquatic Chronic 1; H410: M=10		

**Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

Indication of any immediate medical attention and special treatment needed: Hydrogen cyanide (hydrocyanic acid)

**After inhalation**

Provide fresh air.  
Call a physician immediately.

**After contact with skin**

Wash immediately with: Water  
Take off immediately all contaminated clothing and wash it before reuse.  
Call a physician immediately.

**After contact with eyes**

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water.  
Remove contact lenses, if present and easy to do. Continue rinsing.

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Consult an ophthalmologist.

#### After ingestion

Rinse mouth immediately and drink plenty of water.

Water, to which activated charcoal may be added

Call a physician immediately.

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

Respiratory complaints

Cardiac arrhythmias

Circulatory collapse

Dyspnoea

Unconsciousness

Irritant

Dizziness

Gastrointestinal complaints

Vomiting

Agitation

Spasms

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

Antidote:

Dimethylaminophenol

Cobalt-EDTA

Sodium thiosulfate

## SECTION 5: Firefighting measures

### **5.1. Extinguishing media**

#### **Suitable extinguishing media**

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

#### **Unsuitable extinguishing media**

no restriction

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

Non-combustible liquids

Hazardous combustion products

In case of fire may be liberated:

Hydrogen cyanide (hydrocyanic acid)

### **5.3. Advice for firefighters**

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

In case of fire and/or explosion do not breathe fumes.

#### **Additional information**

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

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**

#### **General advice**

Do not breathe vapour/aerosol.

#### **For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

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Emergency procedures

Do not breathe dust/fume/gas/mist/vapours/spray.

#### For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.

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

##### For containment

Cover drains.

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

Collect in closed and suitable containers for disposal.

Take up carefully when dry. Take up dust-free and set down dust-free.

##### For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

##### Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

#### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Use extractor hood (laboratory).

Do not breathe vapour/aerosol.

Provide adequate ventilation.

#### Advice on protection against fire and explosion

Usual measures for fire prevention.

#### Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

#### Further information on handling

Take off immediately all contaminated clothing and wash it before reuse.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

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

#### Requirements for storage rooms and vessels

Unsuitable container/equipment material:

Aluminium

tin

Zinc

#### Further information on storage conditions

Store in a well-ventilated place.

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Keep container tightly closed and dry.  
Store in a place accessible by authorized persons only.

**7.3. Specific end use(s)**

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Occupational exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
151-50-8	Potassium cyanide (as cyanide)	-	1		TWA (8 h)	
		-	5		STEL (15 min)	

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
151-50-8	potassium cyanide			
Worker DNEL, long-term		inhalation	systemic	0,94 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	systemic	12,5 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	0,14 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	4,03 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
151-50-8	potassium cyanide	
Environmental compartment		
Freshwater		0,001 mg/l
Freshwater (intermittent releases)		0,0032 mg/l
Marine water		0,0002 mg/l
Freshwater sediment		0,004 mg/kg
Marine sediment		0,0008 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,05 mg/l
Soil		0,007 mg/kg

**8.2. Exposure controls**

**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

goggles

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. 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

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supplier of these gloves.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L  
Recommended material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 741 Dermatril® L  
Recommended material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet (>, <) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Skin protection**

Protective clothing  
Take off immediately all contaminated clothing and wash it before reuse.  
Wash hands and face before breaks and after work and take a shower if necessary.  
Draw up and observe skin protection programme.

**Respiratory protection**

Respiratory protection necessary at: aerosol or mist formation

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties**

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

Physical state:	Liquid	
Colour:	colourless	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		not applicable not applicable
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		not applicable
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		11,2
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		
not determined		

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Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density:	1,002 g/cm <sup>3</sup>
Relative density:	No data available
Bulk density:	No data available
Relative vapour density:	not determined
Particle characteristics:	No data available

**9.2. Other information**

**Information with regard to physical hazard classes**

Explosive properties	
No data available	
Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Oxidizing properties	
No data available	

**Other safety characteristics**

Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	No data available
Solid content:	not determined
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	not determined

**Further Information**

No data available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No data available

**10.2. Chemical stability**

No data available

**10.3. Possibility of hazardous reactions**

Acid

**10.4. Conditions to avoid**

No data available

**10.5. Incompatible materials**

Aluminium  
tin  
Zinc

**10.6. Hazardous decomposition products**

SECTION 5: Firefighting measures

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**Further information**

No data available

**SECTION 11: Toxicological information**

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

**Toxicokinetics, metabolism and distribution**

There are no data available on the mixture itself.

**Acute toxicity**

Toxic if swallowed.

Toxic if inhaled.

Harmful in contact with skin.

**ATEmix calculated**

ATE (oral) 76,8 mg/kg; ATE (dermal) 1732,7 mg/kg; ATE (inhalation vapour) 7,68 mg/l; ATE (inhalation dust/mist) 0,768 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
151-50-8	potassium cyanide				
	oral	LD50 >= 7,49 mg/kg	Rat	Clinical and Experimental Toxicology of	A reputable corporate laboratory
	dermal	LD50 ca. 11,28 mg/kg	Rabbit	J Toxicol – Cut and Ocular Toxicol 13:24	Animals were exposed to a solution of cy
	inhalation vapour	ATE 0,05 mg/l			
	inhalation dust/mist	ATE 0,005 mg/l			
	inhalation (1 h) gas	LC50 63 ppm	Rat	Study report (1981)	OECD Guideline 403

**Irritation and corrosivity**

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

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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.

Causes damage to organs through prolonged or repeated exposure.

Organs affected: thyroid gland

**Aspiration hazard**

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

**Information on likely routes of exposure**

There are no data available on the mixture itself.

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available



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**11.2. Information on other hazards**

**Endocrine disrupting properties**

There are no data available on the mixture itself.

**Other information**

No data available

**Further information**

Respiratory complaints  
Cardiac arrhythmias  
Circulatory collapse  
Dyspnoea  
Unconsciousness  
Irritant  
Dizziness  
Gastrointestinal complaints  
Vomiting  
Agitation  
Spasms

**SECTION 12: Ecological information**

**12.1. Toxicity**

There are no data available on the preparation/mixture itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
151-50-8	potassium cyanide					
	Acute fish toxicity	LC50 mg/l	0,1038	96 h	Gasterosteus aculeatus	Study report (2005) other: ASTM E729-96. Standard Guide for
	Acute algae toxicity	ErC50 mg/l	0,116	72 h	Pseudokirchneriella subcapitata	Journal of Hazardous Materials 197 (2011) ISO 8692
	Acute crustacea toxicity	EC50 mg/l	0,21638	48 h	other aquatic crustacea: Acartia tonsa	Study report (2006) other: ASTM E 729-96: Standard Guide for
	Algae toxicity	NOEC	0,1 mg/l	10 d	Chlamydomonas sp.	Bulletin 106. Virginia Water resources R Bartsch, A.F. 1971. Algal Assay Procedur
	Acute bacteria toxicity	(EC50	2,3 mg/l)	0,5 h	activated sludge, domestic	Acta hydrochim. hydrobiol. 20, 3 (1992) EU Method C.11

**12.2. Persistence and degradability**

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

**12.3. Bioaccumulative potential**

There are no data available on the preparation/mixture itself.

**BCF**

CAS No	Chemical name	BCF	Species	Source
151-50-8	potassium cyanide	3,162		United States Enviro

**12.4. Mobility in soil**

There are no data available on the preparation/mixture itself.

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

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

There are no data available on the preparation/mixture itself.

#### **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.

There are no data available on the mixture itself.

#### **12.7. Other adverse effects**

There are no data available on the preparation/mixture itself.

#### **Further information**

Do not allow to enter into surface water or drains.

Avoid release to the environment.

### SECTION 13: Disposal considerations

#### **13.1. Waste treatment methods**

##### **Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not allow to enter into surface water or drains.

Do not mix with other wastes.

##### **Contaminated packaging**

This material and its container must be disposed of as hazardous waste.

Handle contaminated packages in the same way as the substance itself.

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)**

<b><u>14.1. UN number or ID number:</u></b>	UN 1935
<b><u>14.2. UN proper shipping name:</u></b>	CYANIDE SOLUTION, N.O.S. (potassium cyanide)
<b><u>14.3. Transport hazard class(es):</u></b>	6.1
<b><u>14.4. Packing group:</u></b>	II
Hazard label:	6.1
Classification code:	T4
Special Provisions:	274 525
Limited quantity:	100 mL
Excepted quantity:	E4
Transport category:	2
Hazard No:	60
Tunnel restriction code:	D/E

#### **Inland waterways transport (ADN)**

<b><u>14.1. UN number or ID number:</u></b>	UN 1935
<b><u>14.2. UN proper shipping name:</u></b>	CYANIDE SOLUTION, N.O.S. (potassium cyanide)
<b><u>14.3. Transport hazard class(es):</u></b>	6.1
<b><u>14.4. Packing group:</u></b>	II
Hazard label:	6.1
Classification code:	T4
Special Provisions:	274 525 802
Limited quantity:	100 mL
Excepted quantity:	E4

#### **Marine transport (IMDG)**

<b><u>14.1. UN number or ID number:</u></b>	UN 1935
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<b>14.2. UN proper shipping name:</b>	CYANIDE SOLUTION, N.O.S. (potassium cyanide)
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	II
Hazard label:	6.1
Marine pollutant:	P
Special Provisions:	274
Limited quantity:	100 mL
Excepted quantity:	E4
EmS:	F-A, S-A
Segregation group:	6 - cyanides

#### Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number or ID number:</b>	UN 1935
<b>14.2. UN proper shipping name:</b>	CYANIDE SOLUTION, N.O.S. (potassium cyanide)
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	II
Hazard label:	6.1
Special Provisions:	A3
Limited quantity Passenger:	1 L
Passenger LQ:	Y641
Excepted quantity:	E4
IATA-packing instructions - Passenger:	654
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	661
IATA-max. quantity - Cargo:	60 L

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:	Yes
Danger releasing substance:	potassium cyanide

#### 14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

#### 14.7. Maritime transport in bulk according to IMO instruments

not applicable

### SECTION 15: Regulatory information

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

##### EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

##### National regulatory information

Employment restrictions: 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.

Water hazard class (D): 2 - obviously hazardous to water

Skin resorption/Sensitization: Permeates easily through outer skin and causes poisoning.

#### 15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

### SECTION 16: Other information

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#### Changes

This data sheet contains changes from the previous version in section(s): 7,9.

#### Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service  
LC50: Lethal concentration, 50%  
LD50: Lethal dose, 50%

#### Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 3; H301	Calculation method
Acute Tox. 3; H331	Calculation method
Acute Tox. 4; H312	Calculation method
Aquatic Chronic 2; H411	Calculation method

#### Relevant H and EUH statements (number and full text)

H300	Fatal if swallowed.
H301	Toxic if swallowed.
H301+H331	Toxic if swallowed or if inhaled.
H310	Fatal in contact with skin.
H312	Harmful in contact with skin.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H372	Causes damage to organs (thyroid gland) through prolonged or repeated exposure if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.

#### Further 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. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*