



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 03.06.2015

Version number 4

Revision: 10.03.2015

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

- 1.1 Product identifier
- Trade name: **KRISTAL MS Hardener 81 STD**
- Article number: 8110
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.
- Application of the substance / the mixture Hardening agent/ Curing agent
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
Kristal Coatings B.V.
Platinawerf 22B
6641 TL Beuningen - Holland
Tel: 0031 24 67 526 36
Fax: 0031 24 67 533 60
- Further information obtainable from: Product safety department: info@kristalcoatings.nl
- 1.4 Emergency telephone number:
National Poisoning Information Centre - Bilthoven - The Netherlands
T +31 (0)30 274 88 88
Restricted to physicians for information on ingredients.

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R20/21-48/20-63-65: Harmful by inhalation and in contact with skin. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed.



Xi; Irritant

R37/38: Irritating to respiratory system and skin.



Xi; Sensitising

R43: May cause sensitisation by skin contact.



F; Highly flammable

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R11: Highly flammable.

· Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· 2.2 Label elements

· Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

· Hazard pictograms



GHS02

GHS07

GHS08

· Signal word Danger

· Hazard-determining components of labelling:

xylene

Hexane, 1,6-diisocyanato-, homopolymer

ethylbenzene

4-methylpentan-2-one

· Hazard statements

H225 Highly flammable liquid and vapour.

H332 Harmful if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P260 Do not breathe mist/vapours/spray.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P402+P404 Store in a dry place. Store in a closed container.

· Additional information:

EUH204 Contains isocyanates. May produce an allergic reaction.

Restricted to professional users.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 28182-81-2

Hexane, 1,6-diisocyanato-, homopolymer

25-50%

Polymer

☒ Xn R20; ☒ Xi R37; ☒ Xi R43

Reg.nr.: 01-2119485796-17

☠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335

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CAS: 1330-20-7	xylene	25-50%
EINECS: 215-535-7	☒ Xn R20/21-65; ☒ Xi R36/37/38	
Reg.nr.: 01-2119488216-32	R10	
01-2119486136-34	⚠ Flam. Liq. 3, H226; ⚠ STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H312;	
01-2119555267-33	Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335; Aquatic Chronic 3, H412	
CAS: 100-41-4	ethylbenzene	2,5-10%
EINECS: 202-849-4	☒ Xn R20-48/20-65; ☒ F R11	
	⚠ Flam. Liq. 2, H225; ⚠ STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H332;	
	Aquatic Chronic 3, H412	
CAS: 141-78-6	ethyl acetate	2,5-10%
EINECS: 205-500-4	☒ Xi R36; ☒ F R11	
Reg.nr.: 01-2119475103-46	R66-67	
05-2116947025-47	⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	
CAS: 108-10-1	4-methylpentan-2-one	2,5-10%
EINECS: 203-550-1	☒ Xn R20; ☒ Xi R36/37; ☒ F R11	
Reg.nr.: 01-2119473980-30	R66	
	⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	
CAS: 64742-95-6	Solvent naphtha (petroleum), light arom.	0,5-2,5%
EINECS: 265-199-0	☒ Xn R65; ☒ Xi R37; ☒ N R51/53	
Reg.nr.: 01-2119455851-35	R10-66-67	
	⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H332; STOT SE 3, H335-H336	
CAS: 123-86-4	n-butyl acetate	0,5-2,5%
EINECS: 204-658-1	R10-66-67	
Reg.nr.: 01-2119485493-29	⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	
· Additional information: For the wording of the listed risk phrases refer to section 16.		

SECTION 4: First aid measures

- 4.1 Description of first aid measures
- General information:
 - Immediately remove any clothing soiled by the product.
 - Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation:
 - Supply fresh air and to be sure call for a doctor.
 - In case of unconsciousness place patient stably in side position for transportation.
- After skin contact:
 - Immediately wash with water and soap and rinse thoroughly.
 - If skin irritation continues, consult a doctor.
- After eye contact:
 - Remove contactlenses.
 - Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing:
 - Do not induce vomiting; call for medical help immediately.
 - Rinse out mouth and then drink plenty of water.
- 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed
 - No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
 - Suitable extinguishing agents: CO₂ or powder. Fight larger fights with alcohol resistant foam.
 - For safety reasons unsuitable extinguishing agents: Water with full jet
- 5.2 Special hazards arising from the substance or mixture Carbon monoxide (CO)
- 5.3 Advice for firefighters
 - Protective equipment: Wear self-contained respiratory protective device.

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SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used.
Examination of lung function should be carried out on a regular basis on persons spraying this preparation.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**
Protect from humidity and water.
Caution when reopening receptacles with broken seal.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Storage class:** 3
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**

1330-20-7 xylene

IOELV Short-term value: 442 mg/m³, 100 ppm
 Long-term value: 221 mg/m³, 50 ppm
 Skin

100-41-4 ethylbenzene

IOELV Short-term value: 884 mg/m³, 200 ppm
 Long-term value: 442 mg/m³, 100 ppm
 Skin

108-10-1 4-methylpentan-2-one

IOELV Short-term value: 208 mg/m³, 50 ppm
 Long-term value: 83 mg/m³, 20 ppm

- **DNELs**

1330-20-7 xylene

Dermal	Long-term exposure - systemic effects	180 mg/kg bw/day (worker)
Inhalative	Acute - short-term exposure - local effects	289 mg/m ³ (worker)
	Acute - short-term exposure - systemic effects	289 mg/m ³ (worker)
	Long-term exposure - systemic effects	77 mg/m ³ (worker)

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100-41-4 ethylbenzene

Dermal	Acute - short-term exposure - local effects	293 mg/kg bw/day (worker)
	Long-term exposure - systemic effects	180 mg/kg bw/day (worker)
Inhalative	Long-term exposure - systemic effects	77 mg/m3 (worker)

141-78-6 ethyl acetate

Dermal	Long-term exposure - systemic effects	63 mg/kg bw/day (worker)
Inhalative	Acute - short-term exposure - local effects	1468 mg/m3 (worker)
	Acute - short-term exposure - systemic effects	1468 mg/m3 (worker)
	Long-term exposure - local effects	734 mg/m3 (worker)
	Long-term exposure - systemic effects	734 mg/m3 (worker)

108-10-1 4-methylpentan-2-one

Dermal	Long-term exposure - systemic effects	11,8 mg/kg bw/day (worker)
Inhalative	Acute - short-term exposure - local effects	208 mg/m3 (worker)
	Acute - short-term exposure - systemic effects	208 mg/m3 (worker)
	Long-term exposure - local effects	83 mg/m3 (worker)
	Long-term exposure - systemic effects	83 mg/m3 (worker)

123-86-4 n-butyl acetate

Inhalative	Acute - short-term exposure - local effects	960 mg/m3 (worker)
	Acute - short-term exposure - systemic effects	960 mg/m3 (worker)
	Long-term exposure - local effects	480 mg/m3 (worker)
	Long-term exposure - systemic effects	480 mg/m3 (worker)

PNECs**1330-20-7 xylene**

PNEC	6,58 mg/l (STP)
	0,237 mg/l (aqua, freshwater)
	0,327 mg/l (aqua, intermittent releases)
	0,327 mg/l (aqua, marine water)
	12,46 mg/kg (sediment marine water)

100-41-4 ethylbenzene

PNEC	9,6 mg/l (STP)
	0,1 mg/l (aqua, freshwater)
	0,1 mg/l (aqua, intermittent releases)
	0,01 mg/l (aqua, marine water)
	13,7 mg/kg (sediment freshwater)
	2,68 mg/kg (soil)

141-78-6 ethyl acetate

PNEC	650 mg/l (STP)
	0,26 mg/l (aqua, freshwater)
	1,65 mg/l (aqua, intermittent releases)
	0,026 mg/l (aqua, marine water)
	0,125 mg/kg (sediment marine water)
	1,25 mg/kg (sediment freshwater)

108-10-1 4-methylpentan-2-one

PNEC	27,5 mg/l (STP)
	0,6 mg/l (aqua, freshwater)
	1,5 mg/l (aqua, intermittent releases)
	0,06 mg/l (aqua, marine water)
	0,83 mg/kg (sediment marine water)
	8,27 mg/kg (sediment freshwater)

123-86-4 n-butyl acetate

PNEC	35,6 mg/l (STP)
	0,18 mg/l (aqua, freshwater)
	0,36 mg/l (aqua, intermittent releases)

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- 0,018 mg/l (aqua, marine water)
- 0,0981 mg/l (sediment marine water)
- 0,981 mg/kg (sediment freshwater)

- **Additional information:**

The lists valid during the making were used as basis.

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used.

Examination of lung function should be carried out on a regular basis on persons spraying this preparation.

- **8.2 Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Filter A.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product.

- **Material of gloves**

Fluorocarbon rubber gloves (Viton)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

Thickness of the gloves \geq 0.7 mm (xylenes)

Value for the permeation: Level \geq 480 min (xylenes)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Solvent resistant protective clothing

SECTION 9: Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form: Fluid

Colour: Clear

· **Odour:** Characteristic

- **Change in condition**

Boiling point/Boiling range: 111 °C

· **Flash point:** 8 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 460 °C

· **Self-igniting:** Product is not selfigniting.

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- Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
- Explosion limits:
 - Lower: 1,1 Vol %
 - Upper: 9,0 Vol %
- Vapour pressure at 20 °C: 29 hPa
- Density at 20 °C: 0,96 g/cm³
- Solubility in / Miscibility with water: Insoluble.
- Viscosity:
 - Dynamic: Not determined.
 - Kinematic at 20 °C: 17 s (DIN 53211/4)
- Solvent content:
 - Organic solvents: 61,5 %
 - VOC (EC) 61,61 %
- Solids content: 38,5 %
- 9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity
- 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions
 - Reacts with alcohols.
 - Reacts with amines.
 - Reacts with water.
 - Reacts with strong oxidising agents.
- 10.4 Conditions to avoid High temperatures.
- 10.5 Incompatible materials: Oxidizing agents.
- 10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

- 11.1 Information on toxicological effects
- Acute toxicity:
- LD/LC50 values relevant for classification:
 - 1330-20-7 xylene**
 - Oral LD50 3523 mg/kg (rat)
 - Dermal LD50 12126 mg/kg bw (rabbit)
 - Inhalative LC50/4h 27124 mg/m³ (rat)
 - 100-41-4 ethylbenzene**
 - Oral LD50 3500 mg/kg (rat)
 - Dermal LD50 17800 mg/kg (rabbit)
 - 141-78-6 ethyl acetate**
 - Oral LD50 4100 mg/kg (mouse)
 - Dermal LD50 5620 mg/kg (rat)
 - 20000 mg/kg (rabbit)
 - Inhalative LC50/4h 30 mg/l (rat)
 - 108-10-1 4-methylpentan-2-one**
 - Oral LD50 2080 mg/kg (rat)
 - Dermal LD50 >2000 mg/kg (rabbit)
 - Inhalative LC50/4h 8,2-16,4 mg/l (rat)

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64742-95-6 Solvent naphtha (petroleum), light arom.

Oral LD50 >6800 mg/kg (rat)
 Dermal LD50 >3400 mg/kg (rab)
 Inhalative LC50/4h >10,2 mg/l (rat)

123-86-4 n-butyl acetate

Oral LD50 10760 mg/kg (rat) (OECD 423)
 Dermal LD50 >14112 mg/kg (rabbit) (OECD 402)
 Inhalative LC50/4h 23,4 mg/l (rat) (OECD 403 in vivo, aerosol)

· **Primary irritant effect:**· **on the skin:** Irritant to skin and mucous membranes.· **on the eye:** No irritating effect.· **Sensitisation:** Sensitisation possible through skin contact.· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

· **Sensitisation** May cause sensitisation by skin contact.**SECTION 12: Ecological information**· **12.1 Toxicity**· **Aquatic toxicity:****1330-20-7 xylene**

EC50/48h 7,4 mg/l (daphnia magna)
 IC50 1-10 mg/l (TISBE Marine copepod)
 1-10 mg/l (algae)
 > 100 mg/l (bacteria)
 1-10 mg/l (fish)
 NOAEL 0,1-1 mg/l (TISBE Marine copepod)
 1-10 mg/l (fish)

100-41-4 ethylbenzene

EC50/24h >100 mg/l (daphnia magna)

141-78-6 ethyl acetate

EC50/48h 5600 mg/l (algae)
 610 mg/l (daphnia magna)
 LC50/96h 230 mg/l (fish)
 NOEC/21d 2,4 mg/l (daphnia magna)
 NOEC/32d >9,65 mg/l (fish)

108-10-1 4-methylpentan-2-one

EC50/48h >200 mg/l (daphnia magna)
 EC50/96h 400 mg/l (algae)
 LC50/96h >179 mg/l (fish)

123-86-4 n-butyl acetate

EC50/48h 44 mg/l (daphnia magna)
 EC50/72h 647,7 mg/l (desmodesmus supspicatus)
 IC50 356 mg/l (tetrahymena pyriformis) (40 h)
 LC50/96h 18 mg/l (pimphales promelas) (OECD 203)
 NOAEL/72h 200 mg/l (desmodesmus supspicatus)

· **12.2 Persistence and degradability** No further relevant information available.· **Degree of elimination:****123-86-4 n-butyl acetate**

OECD 301D 83 % (l) (28 d)

· **12.3 Bioaccumulative potential** No further relevant information available.· **12.4 Mobility in soil** No further relevant information available.

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- Additional ecological information:
- General notes:
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- 12.5 Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- 13.1 Waste treatment methods
- Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- European waste catalogue
08 01 11* waste paint and varnish containing organic solvents or other dangerous substances
- Uncleaned packaging:
- Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

- 14.1 UN-Number
ADR,ADN, IMDG, IATA UN1263
- 14.2 UN proper shipping name
ADR/ADN 1263 PAINT RELATED MATERIAL
IMDG, IATA PAINT RELATED MATERIAL
- 14.3 Transport hazard class(es)
ADR,ADN, IMDG, IATA



- Class 3 Flammable liquids.
- Label 3
- 14.4 Packing group
ADR,ADN, IMDG, IATA II
- 14.5 Environmental hazards:
Marine pollutant: No
- 14.6 Special precautions for user
Warning: Flammable liquids.
- Danger code (Kemler): 33
- EMS Number: F-E,S-E
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

· Transport/Additional information:

- ADR/ADN
- Limited quantities (LQ) 5L
- Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
- Transport category 2
- Tunnel restriction code D/E

- IMDG
- Limited quantities (LQ) 5L
- Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

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· UN "Model Regulation":

UN1263, PAINT RELATED MATERIAL, 3, II

SECTION 15: Regulatory information

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

· National regulations:

· Other regulations, limitations and prohibitive regulations

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
R10	Flammable.
R11	Highly flammable.
R20	Harmful by inhalation.
R20/21	Harmful by inhalation and in contact with skin.
R36	Irritating to eyes.
R36/37	Irritating to eyes and respiratory system.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R43	May cause sensitisation by skin contact.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

· Contact: Dhr. B. Peters

· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

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 Harmonised 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 (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3