

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 05.09.2018

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Revision: 05.09.2018

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

- **1.1 Product identifier**
 - **Trade name:** CARSYSTEM 2K-Filler Vario Plus
 - **1.2 Relevant identified uses of the substance or mixture and uses advised against**
The product is intended for professional use.
 - **Application of the substance / the mixture** Filler and surfacer
 - **1.3 Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
Vosschemie GmbH
Esinger Steinweg 50
D-25436 Uetersen
Phone: +49 (0)4122 717 0; Fax: +49 (0)4122 717158; info@vosschemie.de
 - **Further information obtainable from:**
Abteilung Labor / +49 (0)4122 717 0
s.schaller@vosschemie.de
 - **1.4 Emergency telephone number:**
Giftinformationszentrum (GIZ)-Nord, Goettingen, Deutschland
Phone: +49 (0)551 19240
-

SECTION 2: Hazards identification

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



GHS02 flame

Flam. Liq. 3

H226 Flammable liquid and vapour.

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Trade name: **CARSYSTEM 2K-Filler Vario Plus**

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GHS08 health hazard

STOT RE 2 H373 May cause damage to the central nervous system, the kidneys, the liver and the hearing organs through prolonged or repeated exposure.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

· **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



GHS09

· **Signal word** Warning

· **Hazard-determining components of labelling:**

xylene, mixture of isomers

· **Hazard statements**

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H373 May cause damage to the central nervous system, the kidneys, the liver and the hearing organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261 Avoid breathing mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

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

P314 Get medical advice/attention if you feel unwell.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

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· 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:

EC number: 905-562-9 Reg.nr.: 01-2119555267-33	Reaction mass of ethylbenzene and m-xylene and p-xylene ⚠ Flam. Liq. 3, H226; ⚠ STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	10-15%
CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32	xylene, mixture of isomers ⚠ Flam. Liq. 3, H226; ⚠ STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	2.5-<10%
CAS: 123-86-4 EINECS: 204-658-1 Reg.nr.: 01-2119485493-29	n-butyl acetate ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	1-5%
CAS: 108-65-6 EINECS: 203-603-9 Reg.nr.: 01-2119475791-29	2-methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226	1-5%
CAS: 100-41-4 EINECS: 202-849-4	ethylbenzene ⚠ Flam. Liq. 2, H225; ⚠ STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H332	1-5%
CAS: 7779-90-0 EINECS: 231-944-3 Reg.nr.: 01-2119485044-40	trizinc bis(orthophosphate) ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	1-<2.5%
CAS: 1314-13-2 EINECS: 215-222-5 Reg.nr.: 01-2119463881-32	zinc oxide ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.25-<1%

· Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information:

Personal protection for the First Aider.

Take affected persons out of danger area and lay down.

In case of irregular breathing or respiratory arrest provide artificial respiration.

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.

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- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Do not induce vomiting; call for medical help immediately.
- **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, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
Can form explosive gas-air mixtures.
Formation of toxic gases is possible during heating or in case of fire.
Carbon monoxide and carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
- **Additional information**
Remove undamaged containers from the danger zone.
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources.
Avoid contact with the eyes and skin.
- **6.2 Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Collect with an inert, non-combustible, absorbent material (i.e. sand, diatomaceous earth, acid binder, universal binder).
Do not flush with water or aqueous cleansing agents
Dispose of the material collected according to regulations.
- **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.

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SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

· Information about fire - and explosion protection:

Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.

Fumes can combine with air to form an explosive mixture.

Flammable gas-air mixtures may form in empty receptacles.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Use explosion-proof apparatus / fittings and spark-proof tools.

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage:

· Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.

Adhere to the provisions of the Law on Water Protection.

· Information about storage in one common storage facility:

Store away from oxidising agents.

Keep away from foodstuffs, beverages and feed.

· Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

Store receptacle in a well ventilated area.

Protect from heat and direct sunlight.

· 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, mixture of isomers

WEL (Great Britain)	Short-term value: 441 mg/m ³ , 100 ppm Long-term value: 220 mg/m ³ , 50 ppm Sk; BMGV
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IOELV (EU)	Short-term value: 442 mg/m ³ , 100 ppm Long-term value: 221 mg/m ³ , 50 ppm Skin
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108-65-6 2-methoxy-1-methylethyl acetate

WEL (Great Britain)	Short-term value: 548 mg/m ³ , 100 ppm Long-term value: 274 mg/m ³ , 50 ppm Sk
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IOELV (EU)	Short-term value: 550 mg/m ³ , 100 ppm Long-term value: 275 mg/m ³ , 50 ppm Skin
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123-86-4 n-butyl acetate

WEL (Great Britain)	Short-term value: 966 mg/m ³ , 200 ppm Long-term value: 724 mg/m ³ , 150 ppm
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100-41-4 ethylbenzene

WEL (Great Britain)	Short-term value: 552 mg/m ³ , 125 ppm Long-term value: 441 mg/m ³ , 100 ppm Sk
IOELV (EU)	Short-term value: 884 mg/m ³ , 200 ppm Long-term value: 442 mg/m ³ , 100 ppm Skin

· DNELs

Reaction mass of ethylbenzene and m-xylene and p-xylene

Oral	Long-term exposure - systemic effects	1.6 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	108 mg/kg bw/day (general population) 180 mg/kg bw/day (worker)
Inhalative	Long-term exposure - systemic effects	14.8 mg/m ³ (general population) 77 mg/m ³ (worker)
	Acute/short-term exposure - local effects	289 mg/m ³ (worker)

1330-20-7 xylene, mixture of isomers

Oral	Long-term exposure - systemic effects	1.6 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	108 mg/kg bw/day (general population) 180 mg/kg bw/day (worker)
Inhalative	Long-term exposure - systemic effects	14.8 mg/m ³ (general population) 77 mg/m ³ (worker)
	Acute/short-term exposure - systemic effects	174 mg/m ³ (general population) 289 mg/m ³ (worker)
	Acute/short-term exposure - local effects	174 mg/m ³ (general population) 289 mg/m ³ (worker)

123-86-4 n-butyl acetate

Oral	Long-term exposure - systemic effects	3.4 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	3.4 mg/kg bw/day (general population) 7 mg/kg bw/day (worker)
Inhalative	Long-term exposure - systemic effects	102.34 mg/m ³ (general population) 480 mg/m ³ (worker)
	Acute/short-term exposure - systemic effects	859.7 mg/m ³ (general population) 960 mg/m ³ (worker)
	Acute/short-term exposure - local effects	859.7 mg/m ³ (general population) 960 mg/m ³ (worker)
	Long-term exposure - local effects	102.34 mg/m ³ (general population) 480 mg/m ³ (worker)

108-65-6 2-methoxy-1-methylethyl acetate

Oral	Long-term exposure - systemic effects	1.67 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	54.8 mg/kg bw/day (general population)

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Inhalative	Long-term exposure - systemic effects	153.5 mg/kg bw/day (worker) 33 mg/m ³ (general population) 275 mg/m ³ (worker)
7779-90-0 trizinc bis(orthophosphate)		
Oral	Long-term exposure - systemic effects	0.83 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	83 mg/kg bw/day (general population) 83 mg/kg bw/day (worker)
Inhalative	Long-term exposure - systemic effects	2.5 mg/m ³ (general population) 5 mg/m ³ (worker)
1314-13-2 zinc oxide		
Oral	Long-term exposure - systemic effects	0.83 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	83 mg/kg bw/day (general population) 83 mg/kg bw/day (worker)
Inhalative	Long-term exposure - systemic effects	2.5 mg/m ³ (general population) 5 mg/m ³ (worker)

· PNECs
Reaction mass of ethylbenzene and m-xylene and p-xylene

PNEC aqua	0.327 mg/l (freshwater) 0.327 mg/l (marine water)
PNEC sediment	12.46 mg/kg (freshwater) 12.46 mg/kg (marine water)
PNEC STP	6.58 mg/l
PNEC soil	2.31 mg/kg (soil dw)

1330-20-7 xylene, mixture of isomers

PNEC aqua	0.327 mg/l (freshwater) 0.327 mg/l (marine water) 0.327 mg/l (intermittent releases)
PNEC sediment	12.46 mg/kg (freshwater) 12.46 mg/kg (marine water)
PNEC STP	6.58 mg/l

123-86-4 n-butyl acetate

PNEC aqua	0.18 mg/l (freshwater) 18 mg/l (marine water) 0.36 mg/l (intermittent releases)
PNEC sediment	981 mg/kg (freshwater) 0.0981 mg/kg (marine water)
PNEC STP	35.6 mg/l
PNEC soil	0.0903 mg/kg (soil dw)

108-65-6 2-methoxy-1-methylethyl acetate

PNEC aqua	635 mg/l (freshwater) 0.0635 mg/l (marine water) 6.35 mg/l (intermittent releases)
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<i>PNEC sediment</i>	3.29 mg/kg (freshwater) 329 mg/kg (marine water)
<i>PNEC STP</i>	100 mg/l
<i>PNEC soil</i>	0.29 mg/kg (soil dw)

7779-90-0 trizinc bis(orthophosphate)

<i>PNEC aqua</i>	0.0206 mg/l (freshwater) 0.0061 mg/l (marine water)
<i>PNEC sediment</i>	117.8 mg/kg (freshwater) 56.5 mg/kg (marine water)
<i>PNEC STP</i>	0.1 mg/l
<i>PNEC soil</i>	35.6 mg/kg (soil dw)

1314-13-2 zinc oxide

<i>PNEC aqua</i>	0.0206 mg/l (freshwater) 0.0061 mg/l (marine water)
<i>PNEC sediment</i>	117.8 mg/kg (freshwater) 56.5 mg/kg (marine water)
<i>PNEC STP</i>	0.1 mg/l
<i>PNEC soil</i>	35.6 mg/kg (soil dw)

· Ingredients with biological limit values:

1330-20-7 xylene, mixture of isomers

<i>BMGV (Great Britain)</i>	650 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: methyl hippuric acid
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· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Do not eat, drink, smoke or sniff while working.
- Do not inhale gases / fumes / aerosols.
- Wash hands before breaks and at the end of work.
- Immediately remove all soiled and contaminated clothing
- Store protective clothing separately.
- Avoid contact with the eyes and skin.
- Use skin protection cream for skin protection.

· **Respiratory protection:**

- Adhere to the workplace limit values and / or other threshold values.
- 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 A2-P2

· **Protection of hands:**

- Preventive skin protection by use of skin-protecting agents is recommended.

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Protective gloves

To avoid skin problems reduce the wearing of gloves to the required minimum.

Check the permeability prior to each renewed use of the glove.

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

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

DIN EN 374

Recommended thickness of the material: ≥ 0.7 mm

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**

Value for the permeation: Level ≤ 6 (≥ 480 min.)

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

- **Eye protection:**

DIN EN 166



Tightly sealed goggles

- **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form: Highly viscous

Colour: Grey

· **Odour:** Characteristic

- **Change in condition**

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: 137 °C

· **Flash point:** 24 °C

· **Auto-ignition temperature:** Not determined

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- **Explosion limits:**

Lower: 1.0 Vol %

Upper: 15.0 Vol %

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· Vapour pressure at 20 °C:	10.7 hPa
· Density at 20 °C:	~1.5 g/cm ³
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No decomposition if used according to specifications.
- **10.2 Chemical stability** No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Fumes can combine with air to form an explosive mixture.
Reacts with alkali, amines and strong acids.
Reacts with oxidising agents.
- **10.4 Conditions to avoid** Protect from heat and direct sunlight.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Formation of toxic gases is possible during heating or in case of fire.
Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

Reaction mass of ethylbenzene and m-xylene and p-xylene

Oral	LD 50	3,523 mg/kg (rat) (EU method B.1)
Dermal	ATE	1,100 mg/kg (mix)
	LD 50	>5,000 mg/kg (rabbit)
Inhalative	ATE	11 mg/l (mix)
	LC50 /4h	6,350 ppm (rat) (EU Method B.2)

1330-20-7 xylene, mixture of isomers

Oral	LD 50	>2,000 mg/kg (rat)
Dermal	LD 50	>1,700 mg/kg (rabbit)
Inhalative	LC 50 / 4h	21.7 mg/l (rat) (Vapour)
	LC50 /4h	5,000 ppm (rat) (Gas)

123-86-4 n-butyl acetate

Oral	LD50	10,760 mg/kg (rat) (OECD 423)
Dermal	LD 50	>5,000 mg/kg (rabbit)

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Inhalative	LC50 /4h	>21 mg/l (rat) (OECD 403, vapour)
	LC 50 / 4h	23.4 mg/l (rat) (OECD 403, aerosol)
108-65-6 2-methoxy-1-methylethyl acetate		
Oral	LD 50	>5,000 mg/kg (rat)
Dermal	LD 50	>5,000 mg/kg (rabbit)
Inhalative	LC50 /4h	35.7 mg/l (rat)
100-41-4 ethylbenzene		
Oral	LD50	3,500 mg/kg (rat)
Dermal	LD 50	>5,000 mg/kg (rabbit)
Inhalative	LC50 /4h	17.2 mg/l (rat)
7779-90-0 trizinc bis(orthophosphate)		
Oral	LD 50	>5,000 mg/kg (rat)
Inhalative	LC50 /4h	552 mg/l (mouse)
1314-13-2 zinc oxide		
Oral	LD50	7,950 mg/kg (mouse)
	LD 50	>5,000 mg/kg (rat)
Inhalative	LC 50 / 4h	>5.7 mg/l (rat) (Dust/Mist)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Subacute to chronic toxicity:** No further relevant information available.
- **Additional toxicological information:** Has a narcotising effect.
- **Sensitisation** No sensitising effects known.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
No further relevant information available.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **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**
May cause respiratory irritation.
- **STOT-repeated exposure**
May cause damage to the central nervous system, the kidneys, the liver and the hearing organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

Reaction mass of ethylbenzene and m-xylene and p-xylene

EC10/72h	1.9 mg/l (<i>Selenastrum capricornutum</i>)
EC50/48h	>3.4 mg/l (<i>daphnia magna</i>) (EPA 600/4-91-003)
EC50/72h	4.9 mg/l (<i>Pseudokirchneriella subcapitata</i>) (OECD 201)

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<i>EC50/3h</i>	>157 mg/l (activated slugde) (OECD 209)
<i>LC50/96h</i>	2.6 mg/l (salmo gairdneri) (OECD 203)
<i>LOEC</i>	3.16 mg/l (daphnia magna) (OECD 211, 21d)
<i>NOEC</i>	1.57 mg/l (daphnia magna) (OECD 211, 21d) >1.3 mg/l (oncorhynchus mykiss) (56d)
1330-20-7 xylene, mixture of isomers	
<i>EC50</i>	>175 mg/l (activated slugde)
<i>EC50/48h</i>	3.82 mg/l (daphnia magna)
<i>EC50/72h</i>	4.7 mg/l (Pseudokirchneriella subcapitata)
<i>LC50/96h</i>	7.6 mg/l (oncorhynchus mykiss)
<i>NOEC</i>	>1.3 mg/l (oncorhynchus mykiss) (56 d)
123-86-4 n-butyl acetate	
<i>EC50</i>	356 mg/l (bacteria) (Tetrahymena, 40h)
<i>EC50/48h</i>	44 mg/l (daphnia magna)
<i>EC50/72h</i>	674.7 mg/l (scenedesmus subspicatus) 647.7 mg/l (desmodesmus subspicatus)
<i>LC50/96h</i>	18 mg/l (pimephales promelas) (OECD 203)
<i>LC50</i>	64 mg/l (danio rerio) (48h)
<i>NOEC</i>	200 mg/l (desmodesmus subspicatus)
108-65-6 2-methoxy-1-methylethyl acetate	
<i>EC50/48h</i>	>500 mg/l (daphnia magna) (67/548/EWG Apendix V, C.2.)
<i>EC50/72h</i>	>1,000 mg/l (Pseudokirchneriella subcapitata) (OECD- 201)
<i>LC50/96h</i>	130 mg/l (oncorhynchus mykiss) (OECD- 203)
<i>NOEC</i>	≥100 mg/l (daphnia magna) (21d, OECD 211) 47.5 mg/l (Oryzias latipes) (14d, OECD 204)
100-41-4 ethylbenzene	
<i>EC50/48h</i>	2.4 mg/l (daphnia magna) >5.2 mg/l (americamysis bahia)
<i>EC50/72h</i>	4.6 mg/l (Pseudokirchneriella subcapitata)
<i>LC50/96h</i>	4.2 mg/l (oncorhynchus mykiss)
7779-90-0 trizinc bis(orthophosphate)	
<i>M Factor</i>	1 (acute) 1 (chronic)
<i>LC50/96h</i>	0.09 mg/l (oncorhynchus mykiss)
1314-13-2 zinc oxide	
<i>M Factor</i>	1 (acute) 1 (chronic)
<i>EC50/48h</i>	98 mg/l (daphnia magna)
<i>EC50/72h</i>	42 mg/l (Pseudokirchneriella subcapitata)
<i>LC50/96h</i>	2.17 mg/l (oncorhynchus mykiss)
<i>NOEC</i>	0.4 mg/l (daphnia magna) (48 h)
<i>NOEC (aqua chron.)</i>	17 mg/l (Pseudokirchneriella subcapitata)

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· 12.2 Persistence and degradability**Reaction mass of ethylbenzene and m-xylene and p-xylene**

Biodegradation 100 %

1330-20-7 xylene, mixture of isomers

Biodegradation 87.8 % (28d)

123-86-4 n-butyl acetate

Biodegradation 83 % (OECD 301 D 28d)

108-65-6 2-methoxy-1-methylethyl acetate

BSB >90 % (activated slugde) (28d, OECD 301 F)

Biodegradation 100 % (OECD 302 B, 8d)

100-41-4 ethylbenzene

Biodegradation >70 % (28 d)

· 12.3 Bioaccumulative potential**Reaction mass of ethylbenzene and m-xylene and p-xylene**

log Pow 3.12-3.2

log Kow 3.15

BCF >5.5-<12.2

Kow 1,425

1330-20-7 xylene, mixture of isomers

log Pow >3

BCF 6-23.4

123-86-4 n-butyl acetate

log Pow 2.3 (OECD 117)

BCF 15.3

108-65-6 2-methoxy-1-methylethyl acetate

log Pow 1.2 (OECD Guideline 117 [20°C; pH 6,8])

100-41-4 ethylbenzene

log Pow 3.1

1314-13-2 zinc oxide

log Pow 2.2

BCF 60,960

· Behaviour in environmental systems:**· 12.4 Mobility in soil****Reaction mass of ethylbenzene and m-xylene and p-xylene**

log Koc 2.73

Koc 537 (OECD 212)

123-86-4 n-butyl acetate

log Koc 1.27

108-65-6 2-methoxy-1-methylethyl acetate

Koc 1.7

100-41-4 ethylbenzene

log Koc 2.41

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- **Additional ecological information:**
- **General notes:**
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.
Disposal must be made according to official regulations.
- **Waste disposal key:**
The waste codes given above are to be considered recommendations; because of regional and industrial sector specific features, application of different waste codes is possible.

· **European waste catalogue**

08 01 11	waste paint and varnish containing organic solvents or other dangerous substances
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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- **14.1 UN-Number**
 - **ADR, IMDG, IATA** UN1263
 - **14.2 UN proper shipping name**
 - **ADR** 1263 PAINT
 - **IMDG** PAINT (trizinc bis(orthophosphate)), MARINE POLLUTANT
 - **IATA** PAINT
 - **14.3 Transport hazard class(es)**
 - **ADR, IMDG**
- 

- **Class** 3 Flammable liquids.
 - **Label** 3

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· IATA



· Class 3 Flammable liquids.
· Label 3

· 14.4 Packing group III
· ADR, IMDG, IATA

· 14.5 Environmental hazards:
· Marine pollutant: Symbol (fish and tree)
· Special marking (ADR): Symbol (fish and tree)

· 14.6 Special precautions for user Warning: Flammable liquids.
· Danger code (Kemler): 30
· EMS Number: F-E, S-E
· Stowage Category A

· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

· Transport/Additional information:

· ADR
· Limited quantities (LQ) 5L
· Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
· Transport category 3
· Tunnel restriction code D/E

· IMDG
· Limited quantities (LQ) 5L
· Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- European regulations
- Directive 2004/42/EC 2004/42/IIB (c) (540) <540
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- Seveso category
E2 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 40

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- **National regulations:**
- **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
- **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.
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 the central nervous system, the kidneys, the liver and the hearing organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
- **Classification according to Regulation (EC) No 1272/2008**
Flam. Liq.3, H226
Skin. Irrit.2,H315
Eye Irrit.2,H319
STOT SE 3,H335
STOT RE 2,H373
Aquatic Chronic 2,H411
- **Classification procedure**
Bridging principle "Substantially similar mixtures"
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
- **Department issuing SDS:** Abteilung Labor
- **Contact:** Frau S. Schaller
- **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)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4

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Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
· *** Data compared to the previous version altered.**

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

- **1.1 Product identifier**
 - **Trade name:** CARSYSTEM 2K Hardener Vario
 - **1.2 Relevant identified uses of the substance or mixture and uses advised against** Not determined
 - **Application of the substance / the mixture** Hardening agent/ Curing agent
 - **1.3 Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
Vosschemie GmbH
Esinger Steinweg 50
D-25436 Uetersen
Phone: +49 (0)4122 717 0; Fax: +49 (0)4122 717158; info@vosschemie.de
 - **Further information obtainable from:**
Abteilung Labor / +49 (0)4122 717 0
s.schaller@vosschemie.de
 - **1.4 Emergency telephone number:**
Giftinformationszentrum (GIZ)-Nord, Goettingen, Deutschland
Phone: +49 (0)551 19240
-

SECTION 2: Hazards identification

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



GHS02 flame

Flam. Liq. 3 H226

Flammable liquid and vapour.



GHS08 health hazard

Resp. Sens. 1 H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

· **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:**

Hexamethylene diisocyanate homopolymer
n-butyl acetate
m-tolylidene diisocyanate
aromatic polyisocyanate
Tosylisocyanate

· **Hazard statements**

H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 [In case of inadequate ventilation] wear respiratory protection.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**

EUH066 Repeated exposure may cause skin dryness or cracking.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

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

· Dangerous components:

CAS: 123-86-4 EINECS: 204-658-1 Reg.nr.: 01-2119485493-29	n-butyl acetate ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	25-50%
EC number: 931-274-8 Reg.nr.: 01-2119485796-17	Hexamethylene diisocyanate homopolymer ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	10-<20%
CAS: 53317-61-6 NLP: 500-120-8	aromatic polyisocyanate ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317	10-<20%
CAS: 108-65-6 EINECS: 203-603-9 Reg.nr.: 01-2119475791-29	2-methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226	10-<20%
CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32	xylene, mixture of isomers ⚠ Flam. Liq. 3, H226; ⚠ STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	3.0-<10%
CAS: 100-41-4 EINECS: 202-849-4 Reg.nr.: 01-2119489370-35	ethylbenzene ⚠ Flam. Liq. 2, H225; ⚠ STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H332	1.0-<3.0%
CAS: 4083-64-1 EINECS: 223-810-8 Reg.nr.: 01-2119980050-47	Tosylisocyanate ⚠ Resp. Sens. 1, H334; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.3-<1.0%
CAS: 26471-62-5 EINECS: 247-722-4 Reg.nr.: 01-2119454791-34	m-tolylidene diisocyanate ⚠ Acute Tox. 1, H330; ⚠ Resp. Sens. 1, H334; Carc. 2, H351; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335; Aquatic Chronic 3, H412	0.3-<1.0%

· Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information:

Personal protection for the First Aider.

Take affected persons out of danger area and lay down.

In case of irregular breathing or respiratory arrest provide artificial respiration.

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 or oxygen; call for 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: Rinse opened eye for several minutes under running water. Then consult a doctor.

· After swallowing: Do not induce vomiting; call for medical help immediately.

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- **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, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:**
Water with full jet
Water
- **5.2 Special hazards arising from the substance or mixture**
Can form explosive gas-air mixtures.
During heating or in case of fire poisonous gases are produced.
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
Hydrogen cyanide (HCN)
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
Wear fully protective suit.
- **Additional information**
Remove undamaged containers from the danger zone.
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Avoid contact with the eyes and skin.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
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.
Do not flush with water or aqueous cleansing agents
Pls. refer to section 10
Do not seal receptacle gas tight.
Danger of bursting.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

· Information about fire - and explosion protection:

Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.

Fumes can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Use explosion-proof apparatus / fittings and spark-proof tools.

Anti-explosion protection required

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage:

· Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.

Adhere to the provisions of the Law on Water Protection.

· Information about storage in one common storage facility:

Pls. refer to section 10

Keep away from foodstuffs, beverages and feed.

· Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

Store receptacle in a well ventilated area.

Protect from humidity and water.

Protect from heat and direct sunlight.

· 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:

123-86-4 n-butyl acetate

WEL (Great Britain)	Short-term value: 966 mg/m ³ , 200 ppm Long-term value: 724 mg/m ³ , 150 ppm
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108-65-6 2-methoxy-1-methylethyl acetate

WEL (Great Britain)	Short-term value: 548 mg/m ³ , 100 ppm Long-term value: 274 mg/m ³ , 50 ppm Sk
IOELV (EU)	Short-term value: 550 mg/m ³ , 100 ppm Long-term value: 275 mg/m ³ , 50 ppm Skin

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1330-20-7 xylene, mixture of isomers

WEL (Great Britain)	Short-term value: 441 mg/m ³ , 100 ppm Long-term value: 220 mg/m ³ , 50 ppm Sk; BMGV
IOELV (EU)	Short-term value: 442 mg/m ³ , 100 ppm Long-term value: 221 mg/m ³ , 50 ppm Skin

100-41-4 ethylbenzene

WEL (Great Britain)	Short-term value: 552 mg/m ³ , 125 ppm Long-term value: 441 mg/m ³ , 100 ppm Sk
IOELV (EU)	Short-term value: 884 mg/m ³ , 200 ppm Long-term value: 442 mg/m ³ , 100 ppm Skin

26471-62-5 m-tolidene diisocyanate

WEL (Great Britain)	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
---------------------	---

· DNELs

123-86-4 n-butyl acetate

Oral	Long-term exposure - systemic effects	3.4 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	3.4 mg/kg bw/day (general population) 7 mg/kg bw/day (worker)
Inhalative	Long-term exposure - systemic effects	102.34 mg/m ³ (general population) 480 mg/m ³ (worker)
	Acute/short-term exposure - systemic effects	859.7 mg/m ³ (general population) 960 mg/m ³ (worker)
	Acute/short-term exposure - local effects	859.7 mg/m ³ (general population) 960 mg/m ³ (worker)
	Long-term exposure - local effects	102.34 mg/m ³ (general population) 480 mg/m ³ (worker)

Hexamethylene diisocyanate homopolymer

Inhalative	Acute/short-term exposure - local effects	1.0 mg/m ³ (worker)
	Long-term exposure - local effects	0.5 mg/m ³ (worker)

108-65-6 2-methoxy-1-methylethyl acetate

Oral	Long-term exposure - systemic effects	1.67 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	54.8 mg/kg bw/day (general population) 153.5 mg/kg bw/day (worker)
	Inhalative	Long-term exposure - systemic effects

1330-20-7 xylene, mixture of isomers

Oral	Long-term exposure - systemic effects	1.6 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	108 mg/kg bw/day (general population) 180 mg/kg bw/day (worker)

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<i>Inhalative</i>	<i>Long-term exposure - systemic effects</i>	14.8 mg/m ³ (general population) 77 mg/m ³ (worker)
	<i>Acute/short-term exposure - systemic effects</i>	174 mg/m ³ (general population) 289 mg/m ³ (worker)
	<i>Acute/short-term exposure - local effects</i>	174 mg/m ³ (general population) 289 mg/m ³ (worker)
100-41-4 ethylbenzene		
<i>Oral</i>	<i>Long-term exposure - systemic effects</i>	1.6 mg/kg bw/day (general population)
<i>Dermal</i>	<i>Long-term exposure - systemic effects</i>	180 mg/kg bw/day (worker)
<i>Inhalative</i>	<i>Long-term exposure - systemic effects</i>	15 mg/m ³ (general population) 77 mg/m ³ (worker)
	<i>Acute/short-term exposure - local effects</i>	293 mg/m ³ (worker)
4083-64-1 Tosylisocyanate		
<i>Dermal</i>	<i>Long-term exposure - systemic effects</i>	0.92 mg/kg bw/day (worker)
<i>Inhalative</i>	<i>Long-term exposure - systemic effects</i>	3.24 mg/m ³ (worker)
26471-62-5 m-tolyldiene diisocyanate		
<i>Inhalative</i>	<i>Long-term exposure - systemic effects</i>	0.035 mg/m ³ (worker)
	<i>Acute/short-term exposure - systemic effects</i>	0.14 mg/m ³ (worker)
	<i>Acute/short-term exposure - local effects</i>	0.14 mg/m ³ (worker)
	<i>Long-term exposure - local effects</i>	0.035 mg/m ³ (worker)

· PNECs
123-86-4 n-butyl acetate

<i>PNEC aqua</i>	0.18 mg/l (freshwater) 0.018 mg/l (marine water) 0.36 mg/l (intermittent releases)
<i>PNEC sediment</i>	0.981 mg/kg (freshwater) 0.0981 mg/kg (marine water)
<i>PNEC STP</i>	35.6 mg/l
<i>PNEC soil</i>	0.0903 mg/kg (soil dw)

Hexamethylene diisocyanate homopolymer

<i>PNEC aqua</i>	0.127 mg/l (freshwater) 0.0127 mg/l (marine water)
<i>PNEC sediment</i>	266700 mg/kg
<i>PNEC STP</i>	38.28 mg/l
<i>PNEC soil</i>	53182 mg/kg (soil dw)

108-65-6 2-methoxy-1-methylethyl acetate

<i>PNEC aqua</i>	0.635 mg/l (freshwater) 0.0635 mg/l (marine water) 6.35 mg/l (intermittent releases)
<i>PNEC sediment</i>	3.29 mg/kg (freshwater) 0.329 mg/kg (marine water)
<i>PNEC STP</i>	100 mg/l

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<i>PNEC soil</i>	0.29 mg/kg (soil dw)
1330-20-7 xylene, mixture of isomers	
<i>PNEC aqua</i>	0.327 mg/l (freshwater) 0.327 mg/l (marine water) 0.327 mg/l (intermittent releases)
<i>PNEC sediment</i>	12.46 mg/kg (freshwater) 12.46 mg/kg (marine water)
<i>PNEC STP</i>	6.58 mg/l
100-41-4 ethylbenzene	
<i>PNEC aqua</i>	0.1 mg/l (freshwater) 0.01 mg/l (marine water) 0.1 mg/l (intermittent releases)
<i>PNEC sediment</i>	13.7 mg/kg (freshwater) 2.68 mg/kg (marine water)
<i>PNEC STP</i>	9.6 mg/l
<i>PNEC soil</i>	2.68 mg/kg (soil dw)
<i>PNEC oral</i>	0.02 mg/kg
4083-64-1 Tosylisocyanate	
<i>PNEC aqua</i>	0.03 mg/l (freshwater) 0.003 mg/l (marine water) 0.3 mg/l (intermittent releases)
<i>PNEC sediment</i>	0.172 mg/kg (freshwater) 0.0172 mg/kg (marine water)
<i>PNEC STP</i>	0.4 mg/l
<i>PNEC soil</i>	0.0168 mg/kg (soil dw)
26471-62-5 m-tolyldene diisocyanate	
<i>PNEC aqua</i>	0.0125 mg/l (freshwater) 0.00125 mg/l (marine water) 0.125 mg/l (intermittent releases)
<i>PNEC STP</i>	1 mg/l
<i>PNEC soil</i>	1 mg/kg

· Ingredients with biological limit values:

1330-20-7 xylene, mixture of isomers

<i>BMGV (Great Britain)</i>	650 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: methyl hippuric acid
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· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Do not eat, drink, smoke or sniff while working.

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Do not inhale gases / fumes / aerosols.

Wash hands before breaks and at the end of work.

Immediately remove all soiled and contaminated clothing

Wash contaminated clothing before reuse.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Use skin protection cream for skin protection.

· **Respiratory protection:**

Adhere to the workplace limit values and / or other threshold values.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Use suitable respiratory protective device in case of insufficient ventilation.

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/P2

· **Protection of hands:**

Preventive skin protection by use of skin-protecting agents is recommended.



Protective gloves

To avoid skin problems reduce the wearing of gloves to the required minimum.

Check the permeability prior to each anewed use of the glove.

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Butyl rubber, BR

Nitrile rubber, NBR

PVA gloves

Recommended thickness of the material: ≥ 0.7 mm

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**

Value for the permeation: Level ≤ 6 (≥ 480 min.)

The exact break trough 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: Protective work clothing**

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SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:	Fluid
Colour:	Colourless
Odour:	Characteristic

· **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.

· **Flash point:** 24°C

· **Ignition temperature:** Not determined

· **Auto-ignition temperature:** Not determined

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower:	1.0 Vol %
Upper:	15.0 Vol %

· **Vapour pressure at 20°C:** 10.7 hPa

· **Density at 20°C:** 1 g/cm³

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.
Reacts with water.

· **Partition coefficient: n-octanol/water:** Not determined

· **Viscosity:**

Dynamic:	Not determined
Kinematic:	Not determined

· **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No decomposition if used according to specifications.

· **10.2 Chemical stability** No decomposition if used and stored according to specifications.

· **10.3 Possibility of hazardous reactions**

Fumes can combine with air to form an explosive mixture.

Reacts with acids, alkalis and oxidising agents.

Reacts with water.

Reacts with alkali, amines and strong acids.

Reacts with oxidising agents.

· **10.4 Conditions to avoid** Protect from heat and direct sunlight.

· **10.5 Incompatible materials:** No further relevant information available.

· **10.6 Hazardous decomposition products:**

Formation of toxic gases is possible during heating or in case of fire.

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Pls. see additionally section 5.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**

123-86-4 n-butyl acetate

Oral	LD50	10760 mg/kg (rat) (OECD 423)
Dermal	LD 50	> 5000 mg/kg (rabbit)
Inhalative	LC50 /4h	> 21 mg/l (rat) (OECD 403, vapour)
	LC 50 / 4h	23.4 mg/l (rat) (OECD 403, aerosol)

Hexamethylene diisocyanate homopolymer

Oral	LD 50	> 738 mg/kg (rat)
Dermal	LD 50	> 593 mg/kg (rat)

108-65-6 2-methoxy-1-methylethyl acetate

Oral	LD 50	> 5000 mg/kg (rat)
Dermal	LD 50	> 2000 mg/kg (rat)
		> 5000 mg/kg (rabbit)
Inhalative	LC50 /4h	35.7 mg/l (rat)
	LC50 /6h	4345 mg/l (rat)

1330-20-7 xylene, mixture of isomers

Oral	LD 50	> 2000 mg/kg (rat)
Dermal	LD 50	> 1700 mg/kg (rabbit)
Inhalative	LC 50 / 4h	21.7 mg/l (rat) (Vapour)
	LC50 /4h	5000 ppm (rat) (Gas)

100-41-4 ethylbenzene

Oral	LD50	3500 mg/kg (rat)
Dermal	LD 50	> 5000 mg/kg (rabbit)
Inhalative	LC50 /4h	17.2 mg/l (rat)

4083-64-1 Tosylisocyanate

Oral	LD50	2330 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)

26471-62-5 m-tolyldene diisocyanate

Oral	LD50	4130 mg/kg (rat) (OECD-401)
Dermal	LD 50	> 9400 mg/kg (rabbit) (OECD-402)
Inhalative	LC50 /4h	0.235 mg/l (rat) (OECD-403, Vapour)
	LC50 /4h	107 mg/m ³ (rat) (OECD 403, Dust)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.

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· **Subacute to chronic toxicity:****26471-62-5 m-tolylidene diisocyanate**

Inhalative | LOAEL | 0.05 mg/l (rat) (OECD 453, 2a, 6h/day, Vapour)

· **Additional toxicological information:** Has a narcotising effect.· **Sensitisation**

Sensitisation possible through inhalation.

No sensitising effects known.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**· **Carcinogenicity****26471-62-5 m-tolylidene diisocyanate**

Inhalative | NOAEL (carcinogenicity) | 0.15 mg/l (rat) (OECD 453, 2a, 6h/day, Vapour)

· **Reproductive toxicity/Fertility** No further relevant information available.· **Reproductive toxicity/Teratogenicity****26471-62-5 m-tolylidene diisocyanate**

Inhalative | NOAEL (teratogenicity) | 0.5 mg/l (rat) (OECD 414, 21d, 6h/day)

NOAEL (maternally) | 0.1 mg/l (rat) (OECD 414, 21d, 6h/day, Vapour, Inhalativ)

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.· **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**

May cause respiratory irritation. May cause drowsiness or dizziness.

· **STOT-repeated exposure** Based on available data, the classification criteria are not met.· **Aspiration hazard** Based on available data, the classification criteria are not met.**SECTION 12: Ecological information**· **12.1 Toxicity**· **Aquatic toxicity:****123-86-4 n-butyl acetate**

EC50 | 356 mg/l (bacteria) (Tetrahymena, 40h)

EC50/48h | 44 mg/l (daphnia magna)

EC50/72h | 674.7 mg/l (scenedesmus subspicatus)

647.7 mg/l (desmodesmus subspicatus)

LC50/96h | 18 mg/l (pimephales promelas) (OECD 203)

LC50 | 64 mg/l (danio rerio) (48h)

NOEC | 200 mg/l (desmodesmus subspicatus)

Hexamethylene diisocyanate homopolymer

EC50/72h | > 1000 mg/l (desmodesmus subspicatus) (OECD 201)

EL50/48h | 127 mg/l (daphnia magna) (EU Method C.2)

LC50/96h | 8.9 mg/l (danio rerio) (OECD 203)

108-65-6 2-methoxy-1-methylethyl acetate

EC10/0,5h | >1000 mg/l (activated slugde) (OECD 209)

EC50/48h | >500 mg/l (daphnia magna) (67/548/EWG Apendix V, C.2.)

EC50/72h | > 1000 mg/l (Pseudokirchneriella subcapitata) (OECD- 201)

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LC50/96h	134 mg/l (oncorhynchus mykiss) (OECD- 203)
	> 100 mg/l (Oryzias latipes) (OECD 203)
NOEC	≥ 100 mg/l (daphnia magna) (21d, OECD 202)
	47.5 mg/l (Oryzias latipes) (14d, OECD 204)
1330-20-7 xylene, mixture of isomers	
EC50	> 175 mg/l (activated slugde)
EC50/48h	3.82 mg/l (daphnia magna)
EC50/72h	4.7 mg/l (Pseudokirchneriella subcapitata)
LC50/96h	7.6 mg/l (oncorhynchus mykiss)
NOEC	> 1.3 mg/l (oncorhynchus mykiss) (56 d)
100-41-4 ethylbenzene	
EC50/48h	2.4 mg/l (daphnia magna)
	> 5.2 mg/l (americamysis bahia)
EC50/72h	4.6 mg/l (Pseudokirchneriella subcapitata)
LC50/96h	4.2 mg/l (oncorhynchus mykiss)
4083-64-1 Tosylisocyanate	
EC50/48h	>100 mg/l (daphnia magna)
EC50/72h	30 mg/l (Pseudokirchneriella subcapitata)
LC50	>45 mg/l (fish) (48h)
26471-62-5 m-tolyldiene diisocyanate	
EC50/48h (static)	12.5 mg/l (daphnia magna) (OECD-202)
EC50/96h (static)	4300 mg/l (Chlorella vulgaris) (OECD 201)
	133 mg/l (oncorhynchus mykiss) (OECD-203)
	3230 mg/l (Skeletonema costatum) (OECD-201)
NOEC	> 1000 mg/l (Eisenia fetida) (OECD 207, 14d)
	1.1 mg/l (daphnia magna)
· 12.2 Persistence and degradability	
123-86-4 n-butyl acetate	
Biodegradation	83 % (OECD 301 D 28d)
108-65-6 2-methoxy-1-methylethyl acetate	
BSB	83 % (activated slugde) (28d, OECD 301 F)
Biodegradation	100 % (OECD 302 B, 8d)
1330-20-7 xylene, mixture of isomers	
Biodegradation	87.8 % (28d)
100-41-4 ethylbenzene	
Biodegradation	> 70 % (28 d)
4083-64-1 Tosylisocyanate	
Biodegradation	86 % (OECD 301 D, 28d, aerobic)
· 12.3 Bioaccumulative potential	
123-86-4 n-butyl acetate	
log Pow	2.3 (OECD 117)
BCF	15.3

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Hexamethylene diisocyanate homopolymer

log Pow 9.81

BCF 3.2

108-65-6 2-methoxy-1-methylethyl acetate

log Pow 0.56

1330-20-7 xylene, mixture of isomers

log Pow > 3

BCF 6 - 23.4

100-41-4 ethylbenzene

log Pow 3.1

· **Behaviour in environmental systems:**· **12.4 Mobility in soil****123-86-4 n-butyl acetate**

log Koc 1.27

108-65-6 2-methoxy-1-methylethyl acetate

Koc 1.7

· **Additional ecological information:**· **General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **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. Disposal must be made according to official regulations.

· **Waste disposal key:**

The waste codes given above are to be considered recommendations; because of regional and industrial sector specific features, application of different waste codes is possible.

· **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, IMDG, IATA**

UN1263

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· 14.2 UN proper shipping name	1263 PAINT
· ADR	PAINT
· IMDG, IATA	
· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· 14.4 Packing group	III
· ADR, IMDG, IATA	
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E,S-D
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- European regulations
- Directive 2004/42/EC 2004/42/IIB (c) (540) <540
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- Seveso category P5c FLAMMABLE LIQUIDS
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

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- **National regulations:**
- **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
- **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.
- H330 Fatal if inhaled.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H351 Suspected of causing cancer.
- H373 May cause damage to the hearing organs through prolonged or repeated exposure.
- H412 Harmful to aquatic life with long lasting effects.

- **Department issuing SDS:** Abteilung Labor

- **Contact:** Frau S. Schaller

- **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)
- DNEL: Derived No-Effect Level (REACH)
- PNEC: Predicted No-Effect Concentration (REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Flammable liquids – Category 2
- Flam. Liq. 3: Flammable liquids – Category 3
- Acute Tox. 1: Acute toxicity – Category 1
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Resp. Sens. 1: Respiratory sensitisation – Category 1
- Skin Sens. 1: Skin sensitisation – Category 1
- Carc. 2: Carcinogenicity – Category 2

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*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2**Asp. Tox. 1: Aspiration hazard – Category 1**Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3**· * Data compared to the previous version altered.*

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