

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

Printing date 06.02.2015

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Revision: 06.02.2015

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

- **1.1 Product identifier**
- **Trade name:** *CARSYSTEM 2K VOC Filler AC 540*
- **1.2 Relevant identified uses of the substance or mixture and uses advised against** *Not determined*
- **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*

Distributor in New Zealand  
RA Johnstone & Co Ltd.  
33 Ha Crescent Wiri, Auckland 2104  
Ph: 09 25000 90  
Fax: 09 25000 92  
www.raj.co.nz  
Emergency Telephone in New Zealand (24 hours)  
National Poison Centre: 0800 POISON [764 766]

**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.**GHS07**Skin Irrit. 2 H315 Causes skin irritation.*

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



Xn; Harmful

R20/21: Harmful by inhalation and in contact with skin.

R10: Flammable.

· **Information concerning particular hazards for human and environment:**

In the gas volume of sealed packages vapours of flammable solvents, especially at action of heat, may accumulate. Keep away fire and ignition sources.

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

Heightened risk of fire and danger of explosion at accumulation in lower-lying or closed rooms

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.

· **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

· **Signal word** Warning

· **Hazard statements**

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

· **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.

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

P332+P313 If skin irritation occurs: Get medical advice/attention.

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.

· **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:**

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CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32	xylene, mixture of isomers ☒ Xn R20/21; ☒ Xi R38 R10 ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	10-25%
CAS: 123-86-4 EINECS: 204-658-1 Reg.nr.: 01-2119485493-29	n-butyl acetate R10-66-67 ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	10-25%
CAS: 108-65-6 EINECS: 203-603-9 Reg.nr.: 01-2119475791-29	2-methoxy-1-methylethyl acetate R10 ⚠ Flam. Liq. 3, H226	2.5-10%
CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32	xylene, mixture of isomers ☒ Xn R20/21; ☒ Xi R38 R10 ⚠ 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: 100-41-4 EINECS: 202-849-4 Reg.nr.: 01-2119489370-35	ethylbenzene ☒ Xn R20-48/20-65; ☒ F R11 ⚠ Flam. Liq. 2, H225; ⚠ STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H332	1.0-2.5%

· **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:

Personal protection for the First Aider.

Immediately remove any clothing soiled by the product.

Take affected persons out of danger area and lay down.

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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

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:

Rinse out mouth and then drink plenty of water.

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.

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**SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
*CO<sub>2</sub>, 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**  
*Carbon monoxide and carbon dioxide*  
*Formation of toxic gases is possible during heating or in case of fire.*  
*Can form explosive gas-air mixtures.*
- **5.3 Advice for firefighters**
- **Protective equipment:**  
*Wear self-contained respiratory protective device.*  
*Wear fully protective suit.*
- **Additional information**  
*Cool endangered receptacles with water spray.*  
*Collect contaminated fire fighting water separately. It must not enter the sewage system.*  
*Remove undamaged containers from the danger zone.*  
*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.*  
*Do not inhale gases / fumes / aerosols.*  
*Avoid contact with the eyes and skin.*  
*Keep people at a distance and stay on the windward side.*
- **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:**  
*Ensure adequate ventilation.*  
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).*  
*Send for recovery or disposal in suitable receptacles.*  
*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.*

**SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling**  
*Keep away from heat and direct sunlight.*  
*Open and handle receptacle with care.*  
*Ensure good ventilation/exhaustion at the workplace.*  
*Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).*  
*Use only in well ventilated areas.*  
*Do not inhale gases / fumes / aerosols.*

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Avoid contact with the eyes and skin.

· **Information about fire - and explosion protection:**

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.

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

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

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.

Provide solvent resistant, sealed floor.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Store away from oxidising agents.

· **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Store receptacle in a well ventilated area.

· **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 <sup>3</sup> , 100 ppm Long-term value: 220 mg/m <sup>3</sup> , 50 ppm Sk; BMGV
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IOELV (EU)	Short-term value: 442 mg/m <sup>3</sup> , 100 ppm Long-term value: 221 mg/m <sup>3</sup> , 50 ppm Skin
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**123-86-4 n-butyl acetate**

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

WEL (Great Britain)	Short-term value: 548 mg/m <sup>3</sup> , 100 ppm Long-term value: 274 mg/m <sup>3</sup> , 50 ppm Sk
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IOELV (EU)	Short-term value: 550 mg/m <sup>3</sup> , 100 ppm Long-term value: 275 mg/m <sup>3</sup> , 50 ppm Skin
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**1330-20-7 xylene, mixture of isomers**

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

**100-41-4 ethylbenzene**

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

**· DNELs****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	Acute/short-term exposure - local effects	174 mg/m <sup>3</sup> (general population) 289 mg/m <sup>3</sup> (worker)
	Acute/short-term exposure - systemic effects	174 mg/m <sup>3</sup> (general population) 289 mg/m <sup>3</sup> (worker)
	Long-term exposure - systemic effects	14.8 mg/m <sup>3</sup> (general population) 77 mg/m <sup>3</sup> (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	Acute/short-term exposure - local effects	859.7 mg/m <sup>3</sup> (general population) 960 mg/m <sup>3</sup> (worker)
	Acute/short-term exposure - systemic effects	859.7 mg/m <sup>3</sup> (general population) 960 mg/m <sup>3</sup> (worker)
	Long-term exposure - local effects	102.34 mg/m <sup>3</sup> (general population) 480 mg/m <sup>3</sup> (worker)
	Long-term exposure - systemic effects	102.34 mg/m <sup>3</sup> (general population) 480 mg/m <sup>3</sup> (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	33 mg/m <sup>3</sup> (general population) 275 mg/m <sup>3</sup> (worker)

**1330-20-7 xylene, mixture of isomers**

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

**· PNECs**
**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)

**123-86-4 n-butyl acetate**

<i>PNEC STP</i>	35.6 mg/l (-)	
<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 soil</i>	0.0903 mg/kg (soil dw)

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

<i>PNEC STP</i>	100 mg/l (-)	
<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 soil</i>	0.29 mg/kg (soil dw)

**1330-20-7 xylene, mixture of isomers**

<i>PNEC STP</i>	6.58 mg/l (-)	
<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)

**· 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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**1330-20-7 xylene, mixture of isomers**

<b>BMGV (Great Britain)</b>	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.

Immediately remove all soiled and contaminated clothing

Do not eat, drink, smoke or sniff while working.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes.

Avoid close or long term contact with the skin.

Use skin protection cream for skin protection.

Wash hands before breaks and at the end of work.

· **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 A/P2

· **Protection of hands:**



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.

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**

Fluorocarbon rubber (Viton)

Recommended thickness of the material:  $\geq 0.7$  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  $\leq 6$  ( $\geq 480$  min.)

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

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· **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:** Different according to colouring· **Odour:** Characteristic· **Change in condition**· **Melting point/Melting range:** Undetermined.· **Boiling point/Boiling range:** 124 °C· **Flash point:** > 23 °C· **Ignition temperature:** Not determined· **Self-igniting:** Product is not selfigniting.· **Danger of explosion:** 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:** 1.4 - 1.6 g/cm<sup>3</sup>· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Viscosity:**· **Dynamic:** Not determined.· **Kinematic at 40 °C:** > 20.5 mm<sup>2</sup>/s· **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**

Reacts with alkali, amines and strong acids.

Reacts with oxidising agents.

Fumes can combine with air to form an explosive mixture.

Used empty containers may contain product gases which form explosive mixtures with air.

· **10.4 Conditions to avoid**

Protect from heat and direct sunlight.

Avoid naked flames, sparks, other ignition sources and sunlight.

· **10.5 Incompatible materials:**

Reacts with oxidising agents.

Reacts with alcohols, amines, aqueous acids and alkalis.

· **10.6 Hazardous decomposition products:**

Carbon monoxide and carbon dioxide

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

**SECTION 11: Toxicological information**· **11.1 Information on toxicological effects**· **Acute toxicity:**· **LD/LC50 values relevant for classification:****1330-20-7 xylene, mixture of isomers**

Oral	LD 50	> 4000 mg/kg (rat)
Dermal	LD 50	> 1700 mg/kg (rabbit)
Inhalative	LC 50 / 4h	21.7 mg/l (rat) (Vapour)
	LC50 /4h	6350 ppm (rat) (vapour)

**123-86-4 n-butyl acetate**

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

**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	>23.8 mg/l (rat) (Dust/Mist)

**1330-20-7 xylene, mixture of isomers**

Oral	LD 50	> 4000 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)

· **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Subacute to chronic toxicity:** No further relevant information available.
- **Sensitisation** No sensitising effects known.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
No further relevant information available.

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## SECTION 12: Ecological information

### · 12.1 Toxicity

#### · Aquatic toxicity:

##### **1330-20-7 xylene, mixture of isomers**

EC50	> 175 mg/l (activated slugde)
EC50/48h	3.82 mg/l (daphnia magna)
	8.5 mg/l (palaemonetes pugio) (marine water)
EC50/72h	4.7 mg/l (Pseudokirchneriella subcapitata)
LC50/96h	> 780 mg/l (Cyprinus carpio)
	13.1 - 16.5 mg/l (Lepomis macrochirus)
	7.6 mg/l (oncorhynchus mykiss)
	13.4 mg/l (pimephales promelas)
NOEC	> 1.3 mg/l (oncorhynchus mykiss) (56 d)

##### **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	64 mg/l (danio rerio) (48h)
LC50/96h	18 mg/l (pimephales promelas) (OECD 203)
NOEC	200 mg/l (desmodesmus subspicatus)

##### **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)
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)

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<b>· 12.2 Persistence and degradability</b>	
<b>1330-20-7 xylene, mixture of isomers</b>	
Biodegradation	87.8 % (-) (28d)
<b>123-86-4 n-butyl acetate</b>	
Biodegradation	83 % (-) (OECD 301 D 28d)
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>	
BSB	83 % (activated sludge) (28d, OECD 301 F)
Biodegradation	100 % (-) (OECD 302 B, 8d)
<b>1330-20-7 xylene, mixture of isomers</b>	
Biodegradation	87.8 % (-) (28d)
<b>100-41-4 ethylbenzene</b>	
Biodegradation	> 70 % (-) (28 d)
<b>· 12.3 Bioaccumulative potential</b>	
<b>1330-20-7 xylene, mixture of isomers</b>	
BCF	6 - 23.4 (oncorhynchus mykiss)
log Pow	> 3 (-)
<b>123-86-4 n-butyl acetate</b>	
BCF	15.3 (-)
log Pow	2.3 (-) (OECD 117)
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>	
log Pow	0.43 (-)
<b>1330-20-7 xylene, mixture of isomers</b>	
BCF	6 - 23.4 (-)
log Pow	> 3 (-)
<b>100-41-4 ethylbenzene</b>	
log Pow	3.1 (-)

**· Behaviour in environmental systems:**· **12.4 Mobility in soil** No further relevant information available.**· 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.

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· **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** 1263· **14.2 UN proper shipping name**· **ADR** 1263 PAINT  
· **IMDG, IATA** PAINT· **14.3 Transport hazard class(es)**· **ADR, IMDG, IATA**· **Class** 3 Flammable liquids.· **Label** 3· **14.4 Packing group**· **ADR, IMDG, IATA** III· **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****MARPOL73/78 and the IBC Code** Not applicable.· **Transport/Additional information:**· **ADR**· **Limited quantities (LQ)** LQ7· **Transport category** 3· **Tunnel restriction code** D/E· **Remarks:** ADR 2.2.3.1.5· **IMDG**· **Remarks:** IMDG-Code 2.3.2.5**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**

The HSN0 Approval Number for this Group Standard is HSR002662.

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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 organs through prolonged or repeated exposure.
- R10 Flammable.
- R11 Highly flammable.
- R20 Harmful by inhalation.
- R20/21 Harmful by inhalation and in contact with skin.
- R38 Irritating to skin.
- R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- R65 Harmful: may cause lung damage if swallowed.
- R66 Repeated exposure may cause skin dryness or cracking.
- R67 Vapours may cause drowsiness and dizziness.

- **Department issuing MSDS:** Abteilung Labor

- **Contact:** Frau S. Schaller

- **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 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
- 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
- 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



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

- **1.1 Product identifier**
- **Trade name: CARSYSTEM VOC-Hardener Very Fast 541**
- **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*

Distributor in New Zealand  
RA Johnstone & Co Ltd.  
33 Ha Crescent Wiri, Auckland 2104  
Ph: 09 25000 90  
Fax: 09 25000 92  
www.raj.co.nz  
Emergency Telephone in New Zealand (24 hours)  
National Poison Centre: 0800 POISON [764 766]

**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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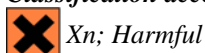
GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

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

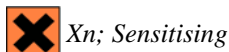
STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

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



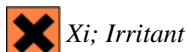
Xn; Harmful

R20: Harmful by inhalation.



Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.



Xi; Irritant

R36: Irritating to eyes.

R10-66: Flammable. Repeated exposure may cause skin dryness or cracking.

· **Information concerning particular hazards for human and environment:**

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

Heightened risk of fire and danger of explosion at accumulation in lower-lying or closed rooms

Contact with skin and inhalation of aerosols/ vapours of the preparation should be avoided.

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

Has a narcotising effect.

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.

· **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.

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· **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.  
 P271 Use only outdoors or in a well-ventilated area.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P261 Avoid breathing mist/vapours/spray.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**

EUH066 Repeated exposure may cause skin dryness or cracking.  
 Contains isocyanates. May produce an allergic reaction.

· **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: 123-86-4 EINECS: 204-658-1 Reg.nr.: 01-2119485493-29	n-butyl acetate R10-66-67 ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	25-50%
CAS: 28182-81-2 EC number: 931-274-8 Reg.nr.: 01-2119485796-17	Hexamethylene diisocyanate homopolymer ⚠ Xn R20; ⚠ Xi R37; ⚠ Xi R43 ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	10-25%
CAS: 53317-61-6 NLP: 500-120-8	aromatic polyisocyanate ⚠ Xi R36; ⚠ Xi R43 ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317	10-25%
CAS: 108-65-6 EINECS: 203-603-9 Reg.nr.: 01-2119475791-29	2-methoxy-1-methylethyl acetate R10 ⚠ Flam. Liq. 3, H226	10-25%
CAS: 141-78-6 EINECS: 205-500-4 Reg.nr.: 01-2119475103-46	ethyl acetate ⚠ Xi R36; ⚠ F R11 R66-67 ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	2.5-10%

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CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32	xylene, mixture of isomers ☒ Xn R20/21; ☒ Xi R38 R10 ☒ 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: 100-41-4 EINECS: 202-849-4 Reg.nr.: 01-2119489370-35	ethylbenzene ☒ Xn R20-48/20-65; ☒ F R11 ☒ Flam. Liq. 2, H225; ☒ STOT RE 2, H373; Asp. Tox. 1, H304; ☒ Acute Tox. 4, H332	1.0-2.5%
CAS: 4083-64-1 EINECS: 223-810-8 Reg.nr.: 01-2119980050-47	Tosylisocyanate ☒ Xi R36/37/38; ☒ Xn R42 R14 ☒ Resp. Sens. 1, H334; ☒ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.1-1.0%
CAS: 26471-62-5 EINECS: 247-722-4 Reg.nr.: 01-2119454791-34	m-tolylidene diisocyanate ☒ T+ R26; ☒ Xn R40; ☒ Xn R42/43; ☒ Xi R36/37/38 R52/53 Carc. Cat. 3 ☒ 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	0.1-1.0%

· **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:

Personal protection for the First Aider.

Take affected persons out of danger area and lay down.

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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

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.

Use skin protection cream for skin protection.

#### · After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

#### · After swallowing:

Rinse out mouth and then drink plenty of water.

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.

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**SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, 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**  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide and carbon dioxide  
Hydrogen cyanide (HCN)  
Formation of toxic gases is possible during heating or in case of fire.  
Can form explosive gas-air mixtures.
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.
- **Additional information**  
Cool endangered receptacles with water spray.  
Remove undamaged containers from the danger zone.  
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**  
Keep away from ignition sources.  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Do not inhale gases / fumes / aerosols.  
Use respiratory protective device against the effects of fumes/dust/aerosol.  
Avoid contact with the eyes and skin.
- **6.2 Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.
- **6.3 Methods and material for containment and cleaning up:**  
Do not flush with water or aqueous cleansing agents  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.  
Do not seal receptacle gas tight.  
Danger of bursting.  
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.

**SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling**  
Keep away from heat and direct sunlight.  
Ensure good ventilation/exhaustion at the workplace.  
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

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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.

Highly volatile, flammable constituents are released during processing.

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:**

Provide solvent resistant, sealed floor.

Store only in the original receptacle.

Store in a cool location.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Pls. refer to section 10

· **Further information about storage conditions:**

Store receptacle in a well ventilated area.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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 <sup>3</sup> , 200 ppm
	Long-term value: 724 mg/m <sup>3</sup> , 150 ppm

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

WEL (Great Britain)	Short-term value: 548 mg/m <sup>3</sup> , 100 ppm
	Long-term value: 274 mg/m <sup>3</sup> , 50 ppm
	Sk

IOELV (EU)	Short-term value: 550 mg/m <sup>3</sup> , 100 ppm
	Long-term value: 275 mg/m <sup>3</sup> , 50 ppm
	Skin

**141-78-6 ethyl acetate**

WEL (Great Britain)	Short-term value: 400 ppm
	Long-term value: 200 ppm

**1330-20-7 xylene, mixture of isomers**

WEL (Great Britain)	Short-term value: 441 mg/m <sup>3</sup> , 100 ppm
	Long-term value: 220 mg/m <sup>3</sup> , 50 ppm
	Sk; BMGV

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IOELV (EU)	Short-term value: 442 mg/m <sup>3</sup> , 100 ppm Long-term value: 221 mg/m <sup>3</sup> , 50 ppm Skin
<b>100-41-4 ethylbenzene</b>	
WEL (Great Britain)	Short-term value: 552 mg/m <sup>3</sup> , 125 ppm Long-term value: 441 mg/m <sup>3</sup> , 100 ppm Sk
IOELV (EU)	Short-term value: 884 mg/m <sup>3</sup> , 200 ppm Long-term value: 442 mg/m <sup>3</sup> , 100 ppm Skin
<b>26471-62-5 m-tolylidene diisocyanate</b>	
WEL (Great Britain)	Short-term value: 0.07 mg/m <sup>3</sup> Long-term value: 0.02 mg/m <sup>3</sup> Sen; as -NCO

**· DNELs**

<b>123-86-4 n-butyl acetate</b>		
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	Acute/short-term exposure - local effects	859.7 mg/m <sup>3</sup> (general population) 960 mg/m <sup>3</sup> (worker)
	Acute/short-term exposure - systemic effects	859.7 mg/m <sup>3</sup> (general population) 960 mg/m <sup>3</sup> (worker)
	Long-term exposure - local effects	102.34 mg/m <sup>3</sup> (general population) 480 mg/m <sup>3</sup> (worker)
	Long-term exposure - systemic effects	102.34 mg/m <sup>3</sup> (general population) 480 mg/m <sup>3</sup> (worker)
<b>28182-81-2 Hexamethylene diisocyanate homopolymer</b>		
Inhalative	Acute/short-term exposure - local effects	1.0 mg/m <sup>3</sup> (worker)
	Long-term exposure - local effects	0.5 mg/m <sup>3</sup> (worker)
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
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	33 mg/m <sup>3</sup> (general population) 275 mg/m <sup>3</sup> (worker)
<b>141-78-6 ethyl acetate</b>		
Oral	Long-term exposure - systemic effects	4.5 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	37 mg/kg bw/day (general population) 63 mg/kg bw/day (worker)
Inhalative	Acute/short-term exposure - local effects	734 mg/m <sup>3</sup> (general population) 1468 mg/m <sup>3</sup> (worker)
	Acute/short-term exposure - systemic effects	734 mg/m <sup>3</sup> (general population) 1468 mg/m <sup>3</sup> (worker)
	Long-term exposure - local effects	367 mg/m <sup>3</sup> (general population)

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	Long-term exposure - systemic effects	734 mg/m <sup>3</sup> (worker) 367 mg/m <sup>3</sup> (general population) 734 mg/m <sup>3</sup> (worker)
<b>1330-20-7 xylene, mixture of isomers</b>		
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	Acute/short-term exposure - local effects	174 mg/m <sup>3</sup> (general population) 289 mg/m <sup>3</sup> (worker)
	Acute/short-term exposure - systemic effects	174 mg/m <sup>3</sup> (general population) 289 mg/m <sup>3</sup> (worker)
	Long-term exposure - systemic effects	14.8 mg/m <sup>3</sup> (general population) 77 mg/m <sup>3</sup> (worker)
<b>26471-62-5 m-tolylidene diisocyanate</b>		
Inhalative	Acute/short-term exposure - local effects	0.14 mg/m <sup>3</sup> (worker)
	Acute/short-term exposure - systemic effects	0.14 mg/m <sup>3</sup> (worker)
	Long-term exposure - local effects	0.035 mg/m <sup>3</sup> (worker)
	Long-term exposure - systemic effects	0.035 mg/m <sup>3</sup> (worker)

## · PNECs

**123-86-4 n-butyl acetate**

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

**28182-81-2 Hexamethylene diisocyanate homopolymer**

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

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

PNEC STP	100 mg/l (-)
PNEC aqua	0.635 mg/l (freshwater)
	0.0635 mg/l (marine water)
	6.35 mg/l (intermittent releases)
PNEC sediment	3.29 mg/kg (freshwater)
	0.329 mg/kg (marine water)
PNEC soil	0.29 mg/kg (soil dw)

**141-78-6 ethyl acetate**

PNEC STP	650 mg/l (-)
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PNEC aqua	0.26 mg/l (freshwater) 0.026 mg/l (marine water) 1.65 mg/l (intermittent releases)
PNEC sediment	1.25 mg/kg (freshwater) 0.125 mg/kg (marine water)
PNEC soil	0.24 mg/kg (soil dw)

**1330-20-7 xylene, mixture of isomers**

PNEC STP	6.58 mg/l (-)
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)

**26471-62-5 m-tolyldiene diisocyanate**

PNEC STP	1 mg/l (-)
PNEC aqua	0.0125 mg/l (freshwater) 0.00125 mg/l (marine water) 0.125 mg/l (intermittent releases)
PNEC soil	1 mg/kg (-)

**· Ingredients with biological limit values:****1330-20-7 xylene, mixture of isomers**

BMGV (Great Britain)	650 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: methyl hippuric acid
----------------------	--

· **Additional information:** The lists valid during the making were used as basis.

**· 8.2 Exposure controls****· Personal protective equipment:****· General protective and hygienic measures:**

- Do not eat, drink, smoke or sniff while working.
- 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 eyes and skin.
- Pregnant women should strictly avoid inhalation or skin contact.

**· Respiratory protection:**

- Ensure good ventilation/exhaustion at the workplace.
- 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 A/P2

**· Protection of hands:**

Protective gloves

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

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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

Fluorocarbon rubber (Viton)

Nitrile rubber, NBR

PVA gloves

Recommended thickness of the material:  $\geq 0.7$  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  $\leq 6$  ( $\geq 480$  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

### 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/Melting range:	Undetermined.
Boiling point/Boiling range:	77 °C

· **Flash point:**  $> 23$  °C

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

· **Danger of explosion:** 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:** 98 hPa

· **Density at 20 °C:**  $\sim 1$  g/cm<sup>3</sup>

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- |   |  |
|---|--|
| · <b>Solubility in / Miscibility with water:</b>  | Reacts with water.                         |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined                             |
| · <b>Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | Not determined                             |
| <b>Kinematic:</b>                                 | Not determined                             |
| · <b>9.2 Other information</b>                    | 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**  
Reacts with water.  
Reacts with alkali, amines and strong acids.  
Reacts with oxidising agents.  
Fumes can combine with air to form an explosive mixture.  
Used empty containers may contain product gases which form explosive mixtures with air.
- **10.4 Conditions to avoid**  
Protect from heat and direct sunlight.  
Avoid naked flames, sparks, other ignition sources and 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.  
Hydrogen cyanide (prussic acid)  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide and carbon dioxide

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

· **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	LC 50 / 4h	23.4 mg/l (rat) (OECD 403, aerosol)
	LC50 /4h	> 21 mg/l (rat) (OECD 403, vapour)

**28182-81-2 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)

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	LC50 /6h	>23.8 mg/l (rat) (Dust/Mist)
<b>141-78-6 ethyl acetate</b>		
Oral	LD50	5620 mg/kg (rat) 4934 mg/kg (rabbit)
Dermal	LD 50	> 18000 mg/kg (rabbit)
Inhalative	LC50 /4h	56 mg/l (rat)
<b>1330-20-7 xylene, mixture of isomers</b>		
Oral	LD 50	> 4000 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)
<b>100-41-4 ethylbenzene</b>		
Oral	LD50	3500 mg/kg (rat)
Dermal	LD 50	> 5000 mg/kg (rabbit)
Inhalative	LC50 /4h	17.2 mg/l (rat)
<b>26471-62-5 m-tolyldiene diisocyanate</b>		
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) 107 mg/m <sup>3</sup> (rat) (OECD 403, Dust)

- **Primary irritant effect:**

- **on the skin:**

Repeated exposure may cause skin dryness or cracking.

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

- **on the eye: Irritating effect.**

- **Subacute to chronic toxicity:**

- **26471-62-5 m-tolyldiene diisocyanate**

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

- **Additional toxicological information:**

Vapours may cause drowsiness and dizziness.

Has a narcotising effect.

Danger through skin adsorption.

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:

Irritant

Harmful

- **Sensitisation** May cause sensitisation by inhalation and skin contact.

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

- **Carcinogenicity**

- **26471-62-5 m-tolyldiene 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-tolyldiene diisocyanate**

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

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

**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	64 mg/l (danio rerio) (48h)
LC50/96h	18 mg/l (pimephales promelas) (OECD 203)
NOEC	200 mg/l (desmodesmus subspicatus)

**28182-81-2 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)
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)

**141-78-6 ethyl acetate**

EC10	3300 mg/l (bacteria) (48h)
EC50	3090 mg/l (daphnia magna) (24h, DIN 38412, Part 11)
EC50/48h	3300 mg/l (scenedesmus subspicatus)
LC50/96h	230 mg/l (pimephales promelas)
NOEC	> 100 mg/l (algae) (71h, OECD 201)
	< 9.65 mg/l (pimephales promelas) (OECD 212)
NOEC (aqua chron.)	2.4 mg/l (daphnia magna) (21d)

**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)

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EC50/72h	4.6 mg/l ( <i>Pseudokirchneriella subcapitata</i> )
LC50/96h	4.2 mg/l ( <i>oncorhynchus mykiss</i> )
<b>26471-62-5 m-tolyldiene diisocyanate</b>	
EC50/48h (static)	12.5 mg/l ( <i>daphnia magna</i> ) (OECD-202)
EC50/96h (static)	4300 mg/l ( <i>Chlorella vulgaris</i> ) (OECD 201)
	133 mg/l ( <i>oncorhynchus mykiss</i> ) (OECD-203)
	3230 mg/l ( <i>Skeletonema costatum</i> ) (OECD-201)
NOEC	> 1000 mg/l ( <i>Eisenia fetida</i> ) (OECD 207, 14d)
	1.1 mg/l ( <i>daphnia magna</i> )

· **12.2 Persistence and degradability**

A part of the components is biodegradable.

<b>123-86-4 n-butyl acetate</b>	
Biodegradation	83 % (-) (OECD 301 D 28d)
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>	
BSB	83 % (activated sludge) (28d, OECD 301 F)
Biodegradation	100 % (-) (OECD 302 B, 8d)
<b>141-78-6 ethyl acetate</b>	
Biodegradation	100 % (-) (28d, OECD 301 D)
<b>1330-20-7 xylene, mixture of isomers</b>	
Biodegradation	87.8 % (-) (28d)
<b>100-41-4 ethylbenzene</b>	
Biodegradation	> 70 % (-) (28 d)

· **12.3 Bioaccumulative potential**

<b>123-86-4 n-butyl acetate</b>	
BCF	15.3 (-)
log Pow	2.3 (-) (OECD 117)
<b>28182-81-2 Hexamethylene diisocyanate homopolymer</b>	
BCF	3.2 (-)
log Pow	9.81 (-)
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>	
log Pow	0.43 (-)
<b>141-78-6 ethyl acetate</b>	
BCF	30 (-)
log Pow	0.66 - 0.68 (-) (25 °C)
<b>1330-20-7 xylene, mixture of isomers</b>	
BCF	6 - 23.4 (-)
log Pow	> 3 (-)
<b>100-41-4 ethylbenzene</b>	
log Pow	3.1 (-)

· **Behaviour in environmental systems:**

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

· **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.

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- **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**  
Disposal must be made according to official regulations.  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **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

- |   |                             |
|---|-----------------------------|
| · <b>14.1 UN-Number</b>   | UN1263                      |
| · <b>ADR, IMDG, IATA</b>  |                             |
| · <b>14.2 UN proper shipping name</b>   | 1263 PAINT RELATED MATERIAL |
| · <b>ADR</b>  | 1263 PAINT RELATED MATERIAL |
| · <b>IMDG, IATA</b>   | PAINT RELATED MATERIAL      |
| · <b>14.3 Transport hazard class(es)</b>  |                             |
| · <b>ADR, IMDG, IATA</b>  |                             |
|    |                             |
| · <b>Class</b>  | 3 Flammable liquids.        |
| · <b>Label</b>  | 3                           |
| · <b>14.4 Packing group</b>   | III                         |
| · <b>ADR, IMDG, IATA</b>  |                             |
| · <b>14.5 Environmental hazards:</b>  |                             |
| · <b>Marine pollutant:</b>  | No                          |
| · <b>14.6 Special precautions for user</b>  | Warning: Flammable liquids. |
| · <b>Danger code (Kemler):</b>  | 30                          |
| · <b>EMS Number:</b>  | F-E,S-E                     |
| · <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.             |

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· **Transport/Additional information:**

· ADR	
· Limited quantities (LQ)	5L
· Transport category	3
· Tunnel restriction code	D/E

**SECTION 15: Regulatory information**· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**· **National regulations:** The HSN0 Approval Number for this Group Standard is HSR002662.· **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 organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
R10	Flammable.
R11	Highly flammable.
R14	Reacts violently with water.
R20	Harmful by inhalation.
R20/21	Harmful by inhalation and in contact with skin.
R26	Very toxic by inhalation.
R36	Irritating to eyes.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R40	Limited evidence of a carcinogenic effect.
R42	May cause sensitisation by inhalation.
R42/43	May cause sensitisation by inhalation and skin contact.
R43	May cause sensitisation by skin contact.

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- R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.  
R52/53 Harmful 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.

· **Department issuing MSDS:** 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

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

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

Acute Tox. 1: Acute toxicity, Hazard Category 1

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

Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1

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

Carc. 2: Carcinogenicity, Hazard Category 2

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

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