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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

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

· **1.1 Product identifier**

· **Trade name: CARSYSTEM 2K Clear VOC SpeedPlus**
· **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** Coating material

· **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.

GHS09 environment

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

(Contd. on page 2)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 1)

GHS07

Eye Irrit. 2	*H319*	*Causes serious eye irritation.*
Skin Sens. 1	*H317*	*May cause an allergic skin reaction.*
STOT SE 3	*H336*	*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 GHS09

· ***Signal word*** *Warning*

· ***Hazard-determining components of labelling:***
n-butyl acetate
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate
pentaerythritol tetrakis (3-mercapto propionate)
dibutyl bis(dodecylthio)stannane
· ***Hazard statements***
H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.
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.*
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.*
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
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.*

(Contd. on page 3)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 2)

*

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	10-25%
CAS: 763-69-9 EINECS: 212-112-9 Reg.nr.: 01-2119463267-34	ethyl 3-ethoxypropionate Flam. Liq. 3, H226	5-15%
CAS: 108-10-1 EINECS: 203-550-1 Reg.nr.: 01-2119473980-30	4-methylpentan-2-one Flam. Liq. 2, H225; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	1.0-7.5%
CAS: 108-65-6 EINECS: 203-603-9 Reg.nr.: 01-2119475791-29	2-methoxy-1-methylethyl acetate Flam. Liq. 3, H226	0.1-1.0%
CAS: 110-43-0 EINECS: 203-767-1 Reg.nr.: 01-2119902391-49	heptan-2-one Flam. Liq. 3, H226; Acute Tox. 4, H302; Acute Tox. 4, H332; STOT SE 3, H336	0.1-1.0%
915-687-0 Reg.nr.: 01-2119491304-40	Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1A, H317	0.1-<1.0%
CAS: 7575-23-7 EINECS: 231-472-8	pentaerythritol tetrakis (3-mercapto propionate) Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=10); Acute Tox. 4, H302; Skin Sens. 1, H317	0.1-<0.5%
CAS: 1185-81-5 EINECS: 214-688-7 Reg.nr.: 01-2119841260-50	dibutyl bis(dodecylthio)stannane Acute Tox. 3, H311; Muta. 2, H341; Repr. 1B, H360; STOT RE 1, H372; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Skin Sens. 1, H317	0.1-<0.3%

· **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.

(Contd. on page 4)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 3)

· ***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.*
· ***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
· ***5.3 Advice for firefighters***
· ***Protective equipment:***
Wear self-contained respiratory protective device.
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:***
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Do not flush with water or aqueous cleansing agents
Dispose contaminated material as waste according to item 13.
· ***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.

(Contd. on page 5)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 4)

*
SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Keep receptacles tightly sealed.
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.
Use respiratory protective device against the effects of fumes/dust/aerosol.
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.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Store in a cool location.
Adhere to the provisions of the Law on Water Protection.
· **Information about storage in one common storage facility:**
Pls. refer to section 10
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:**	
123-86-4 n-butyl acetate	
WEL (Great Britain)	Short-term value: 966 mg/m³, 200 ppm Long-term value: 724 mg/m³, 150 ppm
108-10-1 4-methylpentan-2-one	
WEL (Great Britain)	Short-term value: 416 mg/m³, 100 ppm Long-term value: 208 mg/m³, 50 ppm Sk, BMGV
IOELV (EU)	Short-term value: 208 mg/m³, 50 ppm Long-term value: 83 mg/m³, 20 ppm

(Contd. on page 6)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 5)

108-65-6 2-methoxy-1-methylethyl acetate	
WEL (Great Britain)	Short-term value: 548 mg/m³, 100 ppm Long-term value: 274 mg/m³, 50 ppm Sk
IOELV (EU)	Short-term value: 550 mg/m³, 100 ppm Long-term value: 275 mg/m³, 50 ppm Skin
110-43-0 heptan-2-one	
WEL (Great Britain)	Short-term value: 475 mg/m³, 100 ppm Long-term value: 237 mg/m³, 50 ppm Sk
IOELV (EU)	Short-term value: 475 mg/m³, 100 ppm Long-term value: 238 mg/m³, 50 ppm Skin

· **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/m³ (general population)
		480 mg/m³ (worker)
	Acute/short-term exposure - systemic effects	859.7 mg/m³ (general population)
		960 mg/m³ (worker)
	Acute/short-term exposure - local effects	859.7 mg/m³ (general population)
		960 mg/m³ (worker)
	Long-term exposure - local effects	102.34 mg/m³ (general population)
		480 mg/m³ (worker)
763-69-9 ethyl 3-ethoxypropionate		
Oral	Long-term exposure - systemic effects	1.2 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	24.2 mg/kg bw/day (general population)
		102 mg/kg bw/day (worker)
	Long-term exposure - local effects	102 mg/cm² (worker)
Inhalative	Long-term exposure - systemic effects	72.6 mg/m³ (general population)
		610 mg/m³ (worker)
	Long-term exposure - local effects	72.6 mg/m³ (general population)
		610 mg/m³ (worker)
108-10-1 4-methylpentan-2-one		
Oral	Long-term exposure - systemic effects	4.2 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	4.2 mg/kg bw/day (general population)
		11.8 mg/kg bw/day (worker)
Inhalative	Long-term exposure - systemic effects	14.7 mg/m³ (general population)
		83 mg/m³ (worker)
	Acute/short-term exposure - systemic effects	155.2 mg/m³ (general population)

(Contd. on page 7)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 6)

		208 mg/m³ (worker)
	Acute/short-term exposure - local effects	*155.2 mg/m³ (general population)*
		208 mg/m³ (worker)
	Long-term exposure - local effects	*14.7 mg/m³ (general population)*
		83 mg/m³ (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/m³ (general population)*
		275 mg/m³ (worker)
110-43-0 heptan-2-one		
Dermal	*Long-term exposure - systemic effects*	*54.27 mg/kg bw/day (worker)*
Inhalative	*Long-term exposure - systemic effects*	*394.25 mg/m³ (worker)*
	Acute/short-term exposure - systemic effects	*1516 mg/m³ (worker)*
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate		
Oral	*Acute/short-term exposure - systemic effects*	*1.25 mg/kg bw/day (general population)*
	Long-term exposure - systemic effects	*1.25 mg/kg bw/day (general population)*
Dermal	*Long-term exposure - systemic effects*	*1.25 mg/kg bw/day (general population)*
		2.5 mg/kg bw/day (worker)
	Acute/short-term exposure - systemic effects	*1.25 mg/kg bw/day (general population)*
		2.5 mg/kg bw/day (worker)
Inhalative	*Long-term exposure - systemic effects*	*0.58 mg/m³ (general population)*
		2.35 mg/m³ (worker)
	Acute/short-term exposure - systemic effects	*0.58 mg/m³ (general population)*
		2.35 mg/m³ (worker)
7575-23-7 pentaerythritol tetrakis (3-mercapto propionate)		
Dermal	*Long-term exposure - systemic effects*	*3.4 mg/kg bw/day (worker)*
Inhalative	*Long-term exposure - systemic effects*	*2.39 mg/m³ (worker)*
	Acute/short-term exposure - local effects	*40.13 mg/m³ (worker)*
	Long-term exposure - local effects	*40.13 mg/m³ (worker)*

· ***PNECs***	
123-86-4 n-butyl acetate	
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 STP	*35.6 mg/l*
PNEC soil	*0.0903 mg/kg (soil dw)*

(Contd. on page 8)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 7)

763-69-9 ethyl 3-ethoxypropionate	
PNEC aqua	0.0609 mg/l (freshwater)
	0.00609 mg/l (marine water)
	0.609 mg/l (intermittent releases)
PNEC sediment	0.419 mg/kg (freshwater)
	0.0419 mg/kg (marine water)
PNEC STP	50 mg/l
PNEC soil	0.048 mg/kg
108-10-1 4-methylpentan-2-one	
PNEC aqua	0.6 mg/l (freshwater)
	0.06 mg/l (marine water)
	1.5 mg/l (intermittent releases)
PNEC sediment	8.27 mg/kg (freshwater)
	0.83 mg/kg (marine water)
PNEC STP	27.5 mg/l
PNEC soil	1.3 mg/kg
108-65-6 2-methoxy-1-methylethyl acetate	
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 STP	100 mg/l
PNEC soil	0.29 mg/kg (soil dw)
110-43-0 heptan-2-one	
PNEC aqua	0.0982 mg/l (freshwater)
	0.00982 mg/l (marine water)
	0.982 mg/l (intermittent releases)
PNEC sediment	1.89 mg/kg (freshwater)
	0.189 mg/kg (marine water)
PNEC STP	12.5 mg/l
PNEC soil	0.321 mg/kg (soil dw)
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	
PNEC aqua	0.0022 mg/l (freshwater)
	0.00022 mg/l (marine water)
	0.009 mg/l (intermittent releases)
PNEC sediment	1.05 mg/kg (freshwater)
	0.11 mg/kg (marine water)
PNEC STP	1 mg/l
PNEC soil	0.21 mg/kg (soil dw)

(Contd. on page 9)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 8)

7575-23-7 pentaerythritol tetrakis (3-mercapto propionate)	
PNEC aqua	0.00003 mg/l (freshwater)
	0.0000034 mg/l (marine water)
	0.00034 mg/l (intermittent releases)
PNEC sediment	0.00102 mg/kg (freshwater)
	0.000102 mg/kg (marine water)
PNEC STP	2.39 mg/l
PNEC soil	0.000184 mg/kg (soil dw)

· **Ingredients with biological limit values:**	
108-10-1 4-methylpentan-2-one	
BMGV (Great Britain)	20 µmol/L Medium: urine Sampling time: post shift Parameter: 4-methylpentan-2-one

· **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
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.
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.
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

(Contd. on page 10)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 9)

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*

*

SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***	
· ***General Information***	
· ***Appearance:***	
Form:	*Fluid*
Colour:	*Yellowish*
· ***Odour:***	*Characteristic*
· ***pH-value:***	*Not determined*
· ***Change in condition***	
Melting point/Melting range:	*Undetermined.*
Boiling point/Boiling range:	*Undetermined.*
· ***Flash point:***	*25 °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:	*1.2 Vol %*
Upper:	*15.0 Vol %*
· ***Density at 20 °C:***	*1 g/cm³*
· ***Vapour density at 20 °C***	*10.7 hPa*
· ***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.*

(Contd. on page 11)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 10)

· **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** 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.
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:**		
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)
763-69-9 ethyl 3-ethoxypropionate		
Oral	LD50	4309 mg/kg (rat) (OECD 401)
Dermal	LD50	4080 mg/kg (rabbit) (OECD 402)
108-10-1 4-methylpentan-2-one		
Oral	LD50	2080 mg/kg (rat)
Dermal	LD 50	16000 mg/kg (rab)
Inhalative	LC 50 / 4h	10-20 mg/l (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)
110-43-0 heptan-2-one		
Oral	LD50	1600 mg/kg (rat)
Dermal	LD50	10206 mg/kg (rabbit)

(Contd. on page 12)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 11)

Inhalative	*LC 50 / 4h*	*> 16.7 mg/l (rat) (OECD 403, EU Method B.2, Vapour)*
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate		
Oral	*LD50*	*3230 mg/kg (rat)*
Dermal	*LD50*	*>3170 mg/kg (rat)*
65-85-0 Benzoic acid		
Oral	*LD50*	*1700 mg/kg (rat)*
7575-23-7 pentaerythritol tetrakis (3-mercapto propionate)		
Oral	*LD50*	*1000-2000 mg/kg (rat)*
Inhalative	*LC50 /4h*	*>3363 mg/l (rat)*
1185-81-5 dibutyl bis(dodecylthio)stannane		
Oral	*LD50*	*>2000 mg/kg (rat)*
Dermal	*LD50*	*1000-2000 mg/kg (rabbit)*

· ***Primary irritant effect:***
· ***Skin corrosion/irritation*** *Repeated exposure may cause skin dryness or cracking.*
· ***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*** *Sensitisation possible through skin contact.*
· ***CMR effects (carcinogenity, 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 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)*
763-69-9 ethyl 3-ethoxypropionate	
EC50/48h	*785 mg/l (daphnia magna) (OECD 202, EU Method C.2)*
EC50/72h	*> 114.86 mg/l (Pseudokirchneriella subcapitata) (OECD 201, EEC/Annex V C.3)*

(Contd. on page 13)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 12)

LC50/96h	*45.3 mg/l (pimephales promelas) (OECD 203, EU Method C.1)*
108-10-1 4-methylpentan-2-one	
EC50/48h	*> 200 mg/l (daphnia magna) (OECD 202)*
LC50/96h	*> 179 mg/l (danio rerio)*
	> 505 mg/l (pimephales promelas)
NOEC	*78 mg/l (daphnia magna) (OECD 211, 21d)*
NOEC (aqua chron.)	*7.8 - 38 mg/l (daphnia magna) (21d)*
	168 mg/l (pimephales promelas) (33d)
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)
110-43-0 heptan-2-one	
EC50/48h	*> 90.1 mg/l (daphnia magna) (OECD 202)*
EC50/72h (static)	*98.2 mg/l (Pseudokirchneriella subcapitata) (OECD 201)*
LC50/96h	*131 mg/l (pimephales promelas) (EPA OPP 72-1)*
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	
EC50	*20 mg/l (daphnia magna) (OECD 202, 24h)*
EC50/72h (static)	*1.68 mg/l (desmodesmus subspicatus) (OECD 201)*
EC50/3h	*> 100 mg/l (activated slugde) (OECD 209, aerob)*
LC50/96h	*0.9 mg/l (danio rerio) (OECD 203, semistatic)*
	0.97 mg/l (Lepomis macrochirus) (OECD 203)
	7.9 mg/l (oncorhynchus mykiss) (OECD 203)
NOEC (aqua chron.)	*1 mg/l (daphnia magna) (OECD 211, semistatic, 21d)*
7575-23-7 pentaerythritol tetrakis (3-mercapto propionate)	
EC50	*>0.65 mg/l (desmodesmus subspicatus)*
EL50/48h	*>0.35 mg/l (daphnia magna)*
LC50/96h	*0.034 mg/l (oncorhynchus mykiss) (OECD 203)*
1185-81-5 dibutyl bis(dodecylthio)stannane	
EC50/48h	*0.11 mg/l (daphnia magna)*
EC50/72h	*≥1.6 mg/l (scenedesmus subspicatus)*

· ***12.2 Persistence and degradability***

123-86-4 n-butyl acetate	
Biodegradation	*83 % (OECD 301 D 28d)*
763-69-9 ethyl 3-ethoxypropionate	
Biodegradation	*100 % (28d)*

(Contd. on page 14)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 13)

108-65-6 2-methoxy-1-methylethyl acetate	
BSB	83 % (activated slugde) (28d, OECD 301 F)
Biodegradation	100 % (OECD 302 B, 8d)
110-43-0 heptan-2-one	
Biodegradation	69 % (OECD 310, 28d, aerobic)
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	
Biodegradation	38 % (OECD 301F)
7575-23-7 pentaerythritol tetrakis (3-mercapto propionate)	
Biodegradation	26 % (OECD 301 B, 28d, aerobic)
1185-81-5 dibutyl bis(dodecylthio)stannane	
Biodegradation	0 % (OECD 301 F, 28d, aerobic)

· **12.3 Bioaccumulative potential**

123-86-4 n-butyl acetate	
log Pow	2.3 (OECD 117)
BCF	15.3
763-69-9 ethyl 3-ethoxypropionate	
log Pow	1.35
BCF	3.05
108-10-1 4-methylpentan-2-one	
log Pow	1.38
log Kow	1.31
108-65-6 2-methoxy-1-methylethyl acetate	
log Pow	0.56
110-43-0 heptan-2-one	
Kow	2.26
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	
log Kow	2.37-2.77 (OECD 107)
BCF	<9.7
7575-23-7 pentaerythritol tetrakis (3-mercapto propionate)	
log Pow	3.03
BCF	23.7

· **Behaviour in environmental systems:**

· **12.4 Mobility in soil**

123-86-4 n-butyl acetate	
log Koc	1.27
763-69-9 ethyl 3-ethoxypropionate	
log Koc	1.52
Koc	32.78

(Contd. on page 15)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 14)

108-65-6 2-methoxy-1-methylethyl acetate	
Koc	1.7
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	
log Koc	5.31
Koc	204400
7575-23-7 pentaerythritol tetrakis (3-mercapto propionate)	
log Koc	2.54
Koc	347

· **Ecotoxical effects:**
· **Remark:** Harmful to aquatic organisms
· **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:**
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
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, IATA**	PAINT

(Contd. on page 16)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 15)

· **14.3 Transport hazard class(es)**

· **ADR**

· **Class**	3 Flammable liquids.
· **Label**	3

· **IMDG, IATA**

· **Class**	3 Flammable liquids.
· **Label**	3
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	
· **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**	B
· **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**	2
· **Tunnel restriction code**	D/E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

*

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

(Contd. on page 17)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 16)

· ***Seveso category***
E2 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS

· ***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.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H341 Suspected of causing genetic defects.
H360 May damage fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic 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
SVHC: Substances of Very High Concern
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4

(Contd. on page 18)

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

Printing date 14.06.2016 *V - 2* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Clear VOC SpeedPlus

(Contd. of page 17)

Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1A: Skin sensitisation – Category 1A
Muta. 2: Germ cell mutagenicity – Category 2
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – 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.***

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

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

· **1.1 Product identifier**

· **Trade name: CARSYSTEM 2K Hardener SpeedPlus**

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
The product is intended for professional use.
Uses advised against:
Not suitable for use in homeworker (DIY) applications.

· **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.

(Contd. on page 2)

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Hardener SpeedPlus

(Contd. of page 1)

GHS07

Acute Tox. 4	*H332*	*Harmful if inhaled.*
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

· ***Signal word*** *Warning*

· ***Hazard-determining components of labelling:***
Hexamethylene diisocyanate homopolymer
n-butyl acetate
heptan-2-one
Tosylisocyanate
· ***Hazard statements***
H226 *Flammable liquid and vapour.*
H332 *Harmful if inhaled.*
H317 *May cause an allergic skin reaction.*
H335-H336 *May cause respiratory irritation. May cause drowsiness or dizziness.*
· ***Precautionary statements***
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.*
P403+P233 *Store in a well-ventilated place. Keep container tightly closed.*
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.*

(Contd. on page 3)

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Hardener SpeedPlus

(Contd. of page 2)

· ***Dangerous components:***

CAS: 28182-81-2 *NLP: 500-060-2* *Reg.nr.: 01-2119488934-20* *01-2119485796-17*	*Hexamethylene diisocyanate homopolymer* *Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335*	*25-50%*
CAS: 123-86-4 *EINECS: 204-658-1* *Reg.nr.: 01-2119485493-29*	*n-butyl acetate* *Flam. Liq. 3, H226; STOT SE 3, H336*	*10-25%*
CAS: 110-43-0 *EINECS: 203-767-1* *Reg.nr.: 01-2119902391-49*	*heptan-2-one* *Flam. Liq. 3, H226; Acute Tox. 4, H302; Acute Tox. 4, H332; STOT SE 3, H336*	*10-25%*
CAS: 28182-81-2	*Hexamethylene diisocyanate homopolymer* *Acute Tox. 4, H332; Skin Sens. 1, H317*	*10-25%*
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*	*0.1-<0.5%*
CAS: 822-06-0 *EINECS: 212-485-8* *Reg.nr.: 01-2119457571-37*	*hexamethylene-di-isocyanate* *Acute Tox. 1, H330; Resp. Sens. 1, H334; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335*	*0.1-<0.5%*

· ***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:***
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
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.
· ***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.*
· ***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.*

(Contd. on page 4)

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Hardener SpeedPlus

(Contd. of page 3)

· ***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
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***
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***
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:*** *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).
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.

*
SECTION 7: Handling and storage

· ***7.1 Precautions for safe handling***
Keep receptacles tightly sealed.
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.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Avoid contact with the eyes and skin.
· ***Information about fire - and explosion protection:***
Fumes can combine with air to form an explosive mixture.
Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.
Keep ignition sources away - Do not smoke.

(Contd. on page 5)

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Hardener SpeedPlus

(Contd. of page 4)

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.*
· ***Information about storage in one common storage facility:***
Keep away from foodstuffs, beverages and feed.
Store away from oxidising agents.
· ***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:***	
123-86-4 n-butyl acetate	
WEL (Great Britain)	*Short-term value: 966 mg/m³, 200 ppm* *Long-term value: 724 mg/m³, 150 ppm*
110-43-0 heptan-2-one	
WEL (Great Britain)	*Short-term value: 475 mg/m³, 100 ppm* *Long-term value: 237 mg/m³, 50 ppm* *Sk*
IOELV (EU)	*Short-term value: 475 mg/m³, 100 ppm* *Long-term value: 238 mg/m³, 50 ppm* *Skin*
822-06-0 hexamethylene-di-isocyanate	
WEL (Great Britain)	*Short-term value: 0.07 mg/m³* *Long-term value: 0.02 mg/m³* *Sen; as -NCO*

· ***DNELs***		
28182-81-2 Hexamethylene diisocyanate homopolymer		
Inhalative	*Acute/short-term exposure - local effects*	*1.0 mg/m³ (worker)*
	Long-term exposure - local effects	*0.5 mg/m³ (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/m³ (general population)*
		480 mg/m³ (worker)
	Acute/short-term exposure - systemic effects	*859.7 mg/m³ (general population)*
		960 mg/m³ (worker)

(Contd. on page 6)

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Hardener SpeedPlus

(Contd. of page 5)

	Acute/short-term exposure - local effects	*859.7 mg/m³ (general population)*
		960 mg/m³ (worker)
	Long-term exposure - local effects	*102.34 mg/m³ (general population)*
		480 mg/m³ (worker)
110-43-0 heptan-2-one		
Dermal	*Long-term exposure - systemic effects*	*54.27 mg/kg bw/day (worker)*
Inhalative	*Long-term exposure - systemic effects*	*394.25 mg/m³ (worker)*
	Acute/short-term exposure - systemic effects	*1516 mg/m³ (worker)*
4083-64-1 Tosylisocyanate		
Dermal	*Long-term exposure - systemic effects*	*0.92 mg/kg bw/day (worker)*
Inhalative	*Long-term exposure - systemic effects*	*3.24 mg/m³ (worker)*
822-06-0 hexamethylene-di-isocyanate		
Inhalative	*Long-term exposure - systemic effects*	*0.035 mg/m³ (worker)*
	Acute/short-term exposure - systemic effects	*0.07 mg/m³ (worker)*
	Acute/short-term exposure - local effects	*0.07 mg/m³ (worker)*
	Long-term exposure - local effects	*0.035 mg/m³ (worker)*

· ***PNECs***

28182-81-2 Hexamethylene diisocyanate homopolymer	
PNEC aqua	*0.199 mg/l (freshwater)*
	0.0199 mg/l (marine water)
	1.99 mg/l (intermittent releases)
PNEC sediment	*44551 mg/kg (freshwater)*
	4455 mg/kg (marine water)
PNEC STP	*100 mg/l*
PNEC soil	*8884 mg/kg (soil dw)*
123-86-4 n-butyl acetate	
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 STP	*35.6 mg/l*
PNEC soil	*0.0903 mg/kg (soil dw)*
110-43-0 heptan-2-one	
PNEC aqua	*0.0982 mg/l (freshwater)*
	0.00982 mg/l (marine water)
	0.982 mg/l (intermittent releases)
PNEC sediment	*1.89 mg/kg (freshwater)*
	0.189 mg/kg (marine water)
PNEC STP	*12.5 mg/l*
PNEC soil	*0.321 mg/kg (soil dw)*

(Contd. on page 7)

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Hardener SpeedPlus

(Contd. of page 6)

4083-64-1 Tosylisocyanate	
PNEC aqua	*0.03 mg/l (freshwater)*
	0.003 mg/l (marine water)
	0.3 mg/l (intermittent releases)
PNEC sediment	*0.172 mg/kg (freshwater)*
	0.0172 mg/kg (marine water)
PNEC STP	*0.4 mg/l*
PNEC soil	*0.0168 mg/kg (soil dw)*
822-06-0 hexamethylene-di-isocyanate	
PNEC aqua	*0.0774 mg/l (freshwater)*
	0.00774 mg/l (marine water)
	0.774 mg/l (intermittent releases)
PNEC sediment	*0.01334 mg/kg (freshwater)*
	0.001344 mg/kg (marine water)
PNEC STP	*8.42 mg/l*
PNEC soil	*0.0026 mg/kg (soil dw)*

· ***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 and skin.
Wash hands before breaks and at the end of work.
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 A/P2
Use suitable respiratory protective device in case of insufficient ventilation.
· ***Protection of hands:***

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.
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

(Contd. on page 8)

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Hardener SpeedPlus

(Contd. of page 7)

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*

*

SECTION 9: Physical and chemical properties

· ***9.1 Information on basic physical and chemical properties***	
· ***General Information***	
· ***Appearance:***	
Form:	*Fluid*
Colour:	*Yellowish*
· ***Odour:***	*Characteristic*
· ***Change in condition***	
Melting point/Melting range:	*Undetermined.*
Boiling point/Boiling range:	*124 °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:	*1.2 Vol %*
Upper:	*15.0 Vol %*
· ***Density at 20 °C:***	*1 g/cm³*
· ***Vapour density***	*Not determined.*
· ***Solubility in / Miscibility with water:***	*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.*

(Contd. on page 9)

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Hardener SpeedPlus

(Contd. of page 8)

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 oxidising agents.
Reacts with alkali, amines and strong acids.
Reacts with water.
· ***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
Pls. see additionally section 5.

*

SECTION 11: Toxicological information

· ***11.1 Information on toxicological effects***
· ***Acute toxicity***
Harmful if inhaled.

· ***LD/LC50 values relevant for classification:***		
28182-81-2 Hexamethylene diisocyanate homopolymer		
Oral	*LD 50*	*> 5000 mg/kg (rat) (OECD 423)*
Dermal	*LD 50*	*> 2000 mg/kg (rat) (OECD 402)*
		> 2000 mg/kg (rabbit)
Inhalative	*ATE*	*11 mg/l (mix)*
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)*
110-43-0 heptan-2-one		
Oral	*LD50*	*1600 mg/kg (rat)*
Dermal	*LD50*	*10206 mg/kg (rabbit)*
Inhalative	*LC 50 / 4h*	*> 16.7 mg/l (rat) (OECD 403, EU Method B.2, Vapour)*
4083-64-1 Tosylisocyanate		
Oral	*LD50*	*2330 mg/kg (rat)*
Dermal	*LD50*	*>2000 mg/kg (rat)*
822-06-0 hexamethylene-di-isocyanate		
Oral	*LD50*	*746 mg/kg (rat) (OECD 401)*
Dermal	*LD50*	*593 mg/kg (rat)*
	LD 50	*> 7000 mg/kg (rabbit) (OECD 402)*
Inhalative	*LC50 /4h*	*0.124 mg/l (rat) (OECD 403, Vapour)*
	LC50 /4h	*124 mg/m³ (rat) (OECD 403, Vapour)*

(Contd. on page 10)

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Hardener SpeedPlus

(Contd. of page 9)

· ***Primary irritant effect:***
· ***Skin corrosion/irritation*** *Repeated exposure may cause skin dryness or cracking.*
· ***Serious eye damage/irritation*** *Based on available data, the classification criteria are not met.*

· **Subacute to chronic toxicity:**		
28182-81-2 Hexamethylene diisocyanate homopolymer		
Inhalative	NOAEL	3.3 mg/m³ (rat) (OECD 413, 90d)
822-06-0 hexamethylene-di-isocyanate		
Inhalative	LOAEL	0.175 mg/m³ (rat) (OECD453, 2a, 6h/day)
	NOAEL	0.035 mg/m³ (rat) (OECD 453, 2a, 6h/day)
	NOAEL	0.005 mg/l (rat) (OECD 453, Vapour, 2a, 6h/day)
	LOAEL	0.025 mg/l (rat) (OECD 453, Vapour, 2a, 6h/day)

· ***Additional toxicological information:***
May cause respiratory irritation.
Has a narcotising effect.
· ***Sensitisation*** *Sensitisation possible through skin contact.*
· ***CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)***
· ***Carcinogenicity*** *No further relevant information available.*

· **Reproductive toxicity/Fertility**		
822-06-0 hexamethylene-di-isocyanate		
Inhalative	NOAEL (fertility)	0.005 mg/l (rat, parents) (OECD 422, 6h/day, 28-50d)
		0.3 mg/l (rat, F1) (OECD 422, 6h/day, 28-50d)
		0.3 mg/l (rat) (OECD 422, 6h/day, fertility)

· **Reproductive toxicity/Teratogenicity**		
822-06-0 hexamethylene-di-isocyanate		
Inhalative	NOAEL (developmental toxicity)	0.3 mg/l (rat) (OECD 414, 6h/day)
	NOAEL (teratogenicity)	0.3 mg/l (rat) (OECD 414, 6h/day)
	LOAEL (maternally)	0.005 mg/l (rat) (OECD 414, 6h/day)

· ***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:**	
28182-81-2 Hexamethylene diisocyanate homopolymer	
EC50/48h	> 100 mg/l (daphnia magna) (67/548/EWG, Apendix V, C.2.)
EC50/72h	199 mg/l (scenedesmus subspicatus) (67/548/EWG, Apendix V, C.3.)
EC50/3h	> 10000 mg/l (activated slugde) (EG-RL 88/302/EEC)
LC50/96h	> 100 mg/l (danio rerio) (67/548/EWG, Apendix V, C.1.)

(Contd. on page 11)

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Hardener SpeedPlus

(Contd. of page 10)

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)*
110-43-0 heptan-2-one	
EC50/48h	*> 90.1 mg/l (daphnia magna) (OECD 202)*
EC50/72h (static)	*75.5 mg/l (Pseudokirchneriella subcapitata) (OECD 201)*
LC50/96h	*131 mg/l (pimephales promelas) (EPA OPP 72-1)*
4083-64-1 Tosylisocyanate	
EC50/48h	*>100 mg/l (daphnia magna)*
EC50/72h	*30 mg/l (Pseudokirchneriella subcapitata)*
LC50	*>45 mg/l (fish) (48h)*
822-06-0 hexamethylene-di-isocyanate	
EC0/48h	*≥89.1 mg/l (daphnia magna) (67/548/EWG, Apendix V, C.2.)*
EC50/72h	*>77.4 mg/l (scenedesmus subspicatus) (67/548/EWG, Apendix V, C.3.)*
EC50/3h	*842 mg/l (activated slugde) (EG-RL 88/302/EEC)*
LC0/96h	*≥82.8 mg/l (danio rerio) (67/548/EWG,Apendix V, C.1.)*

· ***12.2 Persistence and degradability***

28182-81-2 Hexamethylene diisocyanate homopolymer	
Biodegradation	*2 % (aerob, 28d, 67/548/EWG, Apendix V, C.4.E.)*
123-86-4 n-butyl acetate	
Biodegradation	*83 % (OECD 301 D 28d)*
110-43-0 heptan-2-one	
Biodegradation	*69 % (OECD 310, 28d)*
4083-64-1 Tosylisocyanate	
Biodegradation	*86 % (OECD 301 D, 28d, aerobic)*
822-06-0 hexamethylene-di-isocyanate	
Biodegradation	*42 % (OECD 301, 28d)*

· ***12.3 Bioaccumulative potential***

28182-81-2 Hexamethylene diisocyanate homopolymer	
log Kow	*8.38*
BCF	*10.11*
123-86-4 n-butyl acetate	
log Pow	*2.3 (OECD 117)*
BCF	*15.3*
110-43-0 heptan-2-one	
Kow	*2.26*

(Contd. on page 12)

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Hardener SpeedPlus

(Contd. of page 11)

822-06-0 hexamethylene-di-isocyanate	
log Kow	3.2
BCF	57.6 (calculated)

· **Behaviour in environmental systems:**

· **12.4 Mobility in soil**	
123-86-4 n-butyl acetate	
log Koc	1.27
822-06-0 hexamethylene-di-isocyanate	
log Koc	0.679

· **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:**
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
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, IATA**	PAINT

(Contd. on page 13)

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

Printing date 14.06.2016 *V - 3* *Revision: 14.06.2016*

Trade name: CARSYSTEM 2K Hardener SpeedPlus

(Contd. of page 12)

· **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-E
· **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

*
SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category** P5c FLAMMABLE LIQUIDS

· **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**
H226 Flammable liquid and vapour.

(Contd. on page 14)

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

(Contd. of page 13)

H302 Harmful if swallowed.
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.

· ***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
SVHC: Substances of Very High Concern
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
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
· **** Data compared to the previous version altered.***