

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

Printing date 07.03.2014

V - 1

Revision: 26.07.2013

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

- **1.1 Product identifier**
  - **Trade name:** *CARSYSTEM Polyester - Reparaturset (Harz-Komponente)*
  - **1.2 Relevant identified uses of the substance or mixture and uses advised against** *Not determined*
  - **Application of the substance / the mixture** *Polyester resin*
  - **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, +49 (0)551 383180*
- 

**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**STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure. Route of exposure:  
Inhalative.*

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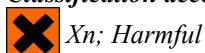
GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

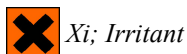
STOT SE 3 H335 May cause respiratory irritation.

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



Xn; Harmful

R20-48/20: Harmful by inhalation. Harmful: danger of serious damage to health by prolonged exposure through inhalation.



Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

R10: Flammable.

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

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

· **Classification system:**

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

· **2.2 Label elements**

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

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

· **Hazard pictograms**



GHS02

GHS07

GHS08

· **Signal word Danger**

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

styrene

· **Hazard statements**

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H372 Causes damage to organs through prolonged or repeated exposure. Route of exposure: Inhalative.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

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

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

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

P260 Do not breathe 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.

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P314 Get medical advice/attention if you feel unwell.  
 P405 Store locked up.  
 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.

### 3 Composition/information on ingredients

- **3.2 Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 100-42-5 EINECS: 202-851-5 Reg.nr.: 01-2119457861-32	styrene ☒ Xn R20-48/20-65; ☒ Xi R36/37/38 R10 ⚠ Flam. Liq. 3, H226; ⚠ STOT RE 1, H372; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	25-50%
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- **Additional information:** For the wording of the listed risk phrases refer to section 16.

### 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.  
 Call a doctor immediately.
- **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.

### 5 Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet

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- **5.2 Special hazards arising from the substance or mixture**  
*Formation of toxic gases is possible during heating or in case of fire.*
- **5.3 Advice for firefighters**
- **Protective equipment:**  
*Wear self-contained respiratory protective device.*  
*Do not inhale explosion gases or combustion gases.*
- **Additional information**  
*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.*

## 6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
*Wear protective equipment. Keep unprotected persons away.*  
*Avoid contact with the eyes and skin.*  
*Ensure adequate ventilation*  
*Keep away from ignition sources.*
- **6.2 Environmental precautions:**  
*Do not allow to enter sewers/ surface or ground water.*  
*Inform respective authorities in case of seepage into water course or sewage system.*
- **6.3 Methods and material for containment and cleaning up:**  
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).*  
*Dispose contaminated material as waste according to item 13.*  
*Ensure adequate ventilation.*
- **6.4 Reference to other sections**  
*See Section 7 for information on safe handling.*  
*See Section 8 for information on personal protection equipment.*  
*See Section 13 for disposal information.*

## 7 Handling and storage

- **7.1 Precautions for safe handling**  
*Keep receptacles tightly sealed.*  
*Ensure good ventilation/exhaustion at the workplace.*  
*Avoid contact with the eyes and skin.*  
*Do not inhale gases / fumes / aerosols.*
- **Information about fire - and explosion protection:**  
*Keep ignition sources away - Do not smoke.*  
*Protect against electrostatic charges.*  
*Use explosion-proof apparatus / fittings and spark-proof tools.*  
*Fumes can combine with air to form an explosive mixture.*  
*Ground/bond container and receiving equipment.*
- **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:**  
*Store away from oxidizing agents.*  
*Store away from foodstuffs.*
- **Further information about storage conditions:**  
*Store in cool, dry conditions in well sealed receptacles.*  
*Store receptacle in a well ventilated area.*

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- Protect from heat and direct sunlight.
- Keep ignition sources away - Do not smoke.
- **Recommended storage temperature:** < 30 °C
- **7.3 Specific end use(s)** No further relevant information available.

**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:**

**100-42-5 styrene**

WEL (Great Britain)	Short-term value: 1080 mg/m <sup>3</sup> , 250 ppm Long-term value: 430 mg/m <sup>3</sup> , 100 ppm
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- **DNELs**

**100-42-5 styrene**

Oral	Long-term exposure - systemic effects	2.1 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	343 mg/kg bw/day (general population) 406 mg/kg bw/day (worker)
Inhalative	Acute/short-term exposure - local effects	182.75 mg/m <sup>3</sup> (general population) 306 mg/m <sup>3</sup> (worker)
	Acute/short-term exposure - systemic effects	174.25 mg/m <sup>3</sup> (general population) 289 mg/m <sup>3</sup> (worker)
	Long-term exposure - systemic effects	10.2 mg/m <sup>3</sup> (general population) 85 mg/m <sup>3</sup> (worker)

- **PNECs**

**100-42-5 styrene**

PNEC STP	5 mg/l (-)
PNEC aqua	0.028 mg/l (freshwater)
	0.0028 mg/l (marine water)
	0.04 mg/l (intermittent releases)
PNEC sediment	0.614 mg/kg (freshwater)
	0.0614 mg/kg (marine water)
PNEC soil	0.2 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.
- Do not eat, drink, smoke or sniff while working.
- Store protective clothing separately.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Use skin protection cream for skin protection.
- Avoid contact with the eyes and skin.

- **Respiratory protection:**

- Ensure good ventilation/exhaustion at the workplace.

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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

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

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

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

· **Material of gloves**

Fluorocarbon rubber (Viton)

Empfohlene Materialstärke:  $\geq 0.7$  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.

· **Not suitable are gloves made of the following materials:**

Natural rubber, NR

Chloroprene rubber, CR

Nitrile rubber, NBR

Butyl rubber, BR

PVC gloves

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

## 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:** 145 °C

· **Flash point:** 31 °C

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· <b>Ignition temperature:</b>	480 °C
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· <b>Explosion limits:</b>	
Lower:	1.2 Vol %
Upper:	8.9 Vol %
· <b>Vapour pressure at 20 °C:</b>	6 hPa
· <b>Density at 20 °C:</b>	1.1 g/cm <sup>3</sup>
· <b>Solubility in / Miscibility with water:</b>	Not miscible or difficult to mix.
· <b>Viscosity:</b>	
Dynamic at 25 °C:	~ 650 mPas
· <b>9.2 Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **10.1 Reactivity** No decomposition if used and stored according to specifications.
- **10.2 Chemical stability** No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** Exothermic polymerization.
- **10.4 Conditions to avoid**  
Avoid naked flames, sparks, other ignition sources and sunlight.  
Protect from heat.
- **10.5 Incompatible materials:**  
Reacts with strong oxidizing agents.  
Reacts with peroxides and other radical forming substances.
- **10.6 Hazardous decomposition products:**  
Formation of toxic gases is possible during heating or in case of fire.

## 11 Toxicological information

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

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

**100-42-5 styrene**

Oral	LD50	5000 mg/kg (rat)
Dermal	LD 50	>2000 mg/kg (rat) (OECD 402)
Inhalative	LC50 /4h	11.8 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.

- **Subacute to chronic toxicity:**

**100-42-5 styrene**

Inhalative	NOAEL (subacute)	0.85 mg/l (rat) (13w, 6h/day, Vapour)
	NOAEL (subchronic)	0.8 mg/l (rat) (OECD 453, 2a, 6h/day, Vapour)

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· **Additional toxicological information:**

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

Harmful

Irritant

· **Sensitisation** No sensitizing effects known.· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**· **Carcinogenicity****100-42-5 styrene**

Inhalative	NOAEL (carcinogenicity)	4.34 mg/l (rat) (OECD 453, 2a, 6h/day, 5d/week, Vapour)
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· **Reproductive toxicity/Fertility****100-42-5 styrene**

Inhalative	NOAEL (fertility)	0.65 mg/l (rat, parents) (OECD 416, Vapour)
		0.22 mg/l (rat, F2) (OECD 416, Vapour)
		2.2 mg/l (rat) (OECD 416, Parents, Vapour)

· **Reproductive toxicity/Teratogenicity****100-42-5 styrene**

Inhalative	NOAEL (developmental toxicity)	2.6 mg/l (rat)
	NOAEL (teratogenicity)	2.6 mg/l (rat)
	LOAEL (maternally)	1.3 mg/l (rat)

**12 Ecological information**· **12.1 Toxicity**· **Aquatic toxicity:****100-42-5 styrene**

EC10/96h	0.28 mg/l (Pseudokirchneriella subcapitata) (EPA OTS 797.1050)
EC50/0.5h	≈ 500 mg/l (activated slugde) (OECD 209)
EC50/48h	4.7 mg/l (daphnia magna) (OECD 202)
EC50/72h	4.9 mg/l (Pseudokirchneriella subcapitata) (EPA OTS 797.1050)
LC50/96h	4.02 mg/l (pimephales promelas)
NOEC	1.01 mg/l (daphnia magna) (OECD-211 21d)

· **12.2 Persistence and degradability****100-42-5 styrene**

Biodegradation	70.9 % (activated slugde) (ISO DIN 9408, 28d, aerob)
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· **12.3 Bioaccumulative potential****100-42-5 styrene**

BCF	74 (-) (calculated)
	13.5 (fish)
log Kow	2.95 (-)

· **Behaviour in environmental systems:**· **12.4 Mobility in soil****100-42-5 styrene**

Koc	352 (-)
log Koc	2.55 (-)

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- **Additional ecological information:**
- **General notes:**  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### 13 Disposal considerations


- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **European waste catalogue**

07 02 08	other still bottoms and reaction residues
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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- |  |   |
|--|---|
| · <b>14.1 UN-Number</b><br>· <b>ADR, IMDG, IATA</b>  | 1866  |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR</b><br>· <b>IMDG, IATA</b>                         | 1866 RESIN SOLUTION<br>RESIN SOLUTION   |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR, IMDG, IATA</b>                                 |  |
| · <b>Class</b><br>· <b>Label</b>   | 3 Flammable liquids.<br>3   |
| · <b>14.4 Packing group</b><br>· <b>ADR, IMDG, IATA</b>  | III   |
| · <b>14.5 Environmental hazards:</b><br>· <b>Marine pollutant:</b>                                   | No  |
| · <b>14.6 Special precautions for user</b><br>· <b>Danger code (Kemler):</b><br>· <b>EMS Number:</b> | Warning: Flammable liquids.<br>30<br>F-E,S-D  |
| · <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>                | Not applicable.   |
| · <b>Transport/Additional information:</b>   |   |
| · <b>ADR</b><br>· <b>Limited quantities (LQ)</b>   | LQ7   |

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· <b>Transport category</b>	3
· <b>Tunnel restriction code</b>	E
· <b>Remarks:</b>	ADR 2.2.3.1.5

### 15 Regulatory information

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

### 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.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H372 Causes damage to organs through prolonged or repeated exposure. Route of exposure: Inhalative.
- R10 Flammable.
- R20 Harmful by inhalation.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- R65 Harmful: may cause lung damage if swallowed.

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