

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

Printing date 29.09.2015

Version number 14

Revision: 29.09.2015

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

· **1.1 Product identifier**

· Trade name: **PS Poly-Pol PS 28**

· Article number: P282-00000

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

· Application of the substance / the mixture

See our technical datasheet for application details of this product.

Polyester resin

· **1.3 Details of the supplier of the safety data sheet**

· Manufacturer/Supplier:

· Further information obtainable from: Research and Development.

· **1.4 Emergency telephone number:**

* **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

Repr. 2 H361d Suspected of damaging the unborn child.

STOT RE 1 H372 Causes damage to the hearing organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

· **2.2 Label elements**

· Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

· Hazard pictograms



GHS02 GHS07 GHS08

· 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.

H361d Suspected of damaging the unborn child.

H335 May cause respiratory irritation.

H372 Causes damage to the hearing organs through prolonged or repeated exposure.

· Precautionary statements

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

P102 Keep out of reach of children.

P103 Read label before use.

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

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

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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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.

SECTION 3: Composition/information on ingredients**3.2 Chemical characterisation: Mixtures**

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

Dangerous components:

CAS: 100-42-5	styrene	25-50%
EINECS: 202-851-5	⚠ Flam. Liq. 3, H226; ⚠ Repr. 2, H361d; STOT RE 1, H372; ⚠ Acute Tox. 4, H332;	
Index number: 601-026-00-0	Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	
Reg.nr.: 01-2119457861-32		

- Additional information: For the wording of the listed risk phrases refer to section 16.

*** SECTION 4: First aid measures****4.1 Description of first aid measures****General information:**

Immediately remove any clothing soiled by the product.

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

- After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

*** SECTION 5: Firefighting measures****5.1 Extinguishing media**

- Suitable extinguishing agents: CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.

5.3 Advice for firefighters

- Protective equipment: Mouth respiratory protective device.

*** SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.**6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

*** SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

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Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities

- Storage:
- Requirements to be met by storerooms and receptacles: No special requirements.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep container tightly sealed.

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:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- DNEL (Derived No Effect Level) for workers

100-42-5 styrene

Dermal	Long-term - systemic effects, worker	406 mg/kg bw/day (Worker)
Inhalative	Acute - systemic effects, worker	289 mg/m ³ (Worker)
	Acute - local effects, worker	306 mg/m ³ (Worker)
	Long-term - systemic effects, worker	85 mg/m ³ (Worker)

- DNEL (Derived No Effect Level) for the general population

100-42-5 styrene

Oral	Long-term - systemic effects, general population	2,1 mg/kg bw/day (General population)
Dermal	Long-term - systemic effects, general population	343 mg/kg bw/day (General population)
Inhalative	Acute - systemic effects, general population	174,25 mg/m ³ (General population)
	Acute - local effects, general population	182,75 mg/m ³ (General population)
	Long-term - systemic effects, general population	10,2 mg/m ³ (General population)

- PNEC (Predicted No Effect Concentration) values

100-42-5 styrene

Aquatic compartment - freshwater	0,028 mg/l (Sediment freshwater)
Aquatic compartment - marine water	0,0028 mg/l (Marine water)
Aquatic compartment - water, intermittent releases	0,04 mg/l (Intermittent release water)
Aquatic compartment - sediment in freshwater	0,0614 mg/kg sed dw (Sediment freshwater)
Aquatic compartment - sediment in marine water	0,0614 mg/kg sed dw (Sediment marine water)
Terrestrial compartment - soil	0,2 mg/kg dw (Soil)
Sewage treatment plant	5 mg/l (stp)

- 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
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
- Respiratory protection:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- Protection of hands:
Protective gloves
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
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.

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Butyl rubber, BR

Fluorocarbon rubber (Viton)

Recommended thickness of the material: $\geq 0,3$ mm

· Penetration time of glove material

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

For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 374 Part 3: Level 6).

· Not suitable are gloves made of the following materials:

Leather gloves

Strong material gloves

· Eye protection: Tightly sealed goggles

* **SECTION 9: Physical and chemical properties**

· 9.1 Information on basic physical and chemical properties	
· General Information	
· Appearance:	
Form:	Fluid
Colour:	According to product specification
· Odour:	Characteristic
· Odour threshold:	Not determined.
· pH-value at 20 °C:	7
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	145 °C
· Flash point:	34 °C (Pensky Martens, ASTM D93)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	480 °C
· Decomposition 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:	8,9 Vol %
· Vapour pressure at 20 °C:	6 hPa
· Density at 20 °C:	1,1 g/cm ³ (DIN 51757, ASTM D 1298)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	
Not miscible or difficult to mix.	
· Partition coefficient (n-octanol/water):	
Not determined.	
· Viscosity:	
Dynamic at 20 °C:	1500 mPas (Brookfield, ASTM D1544)
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	35,0 %
VOC (2004/42/EC):	35,00 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity· **10.1 Reactivity** No further relevant information available.· **10.2 Chemical stability**

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· **10.3 Possibility of hazardous reactions** No dangerous reactions known.· **10.4 Conditions to avoid** No further relevant information available.

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- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

* **SECTION 11: Toxicological information**

- **11.1 Information on toxicological effects**
- Acute toxicity
- LD/LC50 values relevant for classification:

Components	Type	Value	Species
100-42-5 styrene			
Oral	LD50	5000 mg/kg	(Rat)

- Primary irritant effect:
- Skin corrosion/irritation
Causes skin irritation.
- Serious eye damage/irritation
Causes serious eye irritation.
- Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
- 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
Suspected of damaging the unborn child.
- STOT-single exposure
May cause respiratory irritation.
- STOT-repeated exposure
Causes damage to the hearing organs through prolonged or repeated exposure.
- Aspiration hazard Based on available data, the classification criteria are not met.

* **SECTION 12: Ecological information**

- **12.1 Toxicity**
- Aquatic toxicity: No further relevant information available.

Type of test	Effective concentration	Method	Assessment
100-42-5 styrene			
Oral	EC50	5,1 mg/l	(Daphnia magna)
Inhalative	LC50/4 h	24 mg/l	(Rat)
	LC50/96 h	25 mg/l	(Lepomis macrochirus)

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

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packaging:
- Recommendation: Disposal must be made according to official regulations.

* **SECTION 14: Transport information**

14.1 UN-Number	
ADR, RID, ADN, IMDG, IATA	UN1866
14.2 UN proper shipping name	
ADR/RID/ADN	1866 RESIN SOLUTION

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· IMDG, IATA	RESIN SOLUTION
· 14.3 Transport hazard class(es)	
· ADR/RID/ADN	
· Class	3 (F1) Flammable liquids.
· Label	3
· IMDG, IATA	
· Class	3 Flammable liquids.
· Label	3
· 14.4 Packing group	
· ADR, RID, ADN, IMDG, IATA	III
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	39
· EMS Number:	F-E, S-D
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR/RID/ADN	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1866 RESIN SOLUTION, 3, III

* **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
- Qualifying quantity (tonnes) for the application of lower-tier requirements 5.000 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 50.000 t
- National regulations:
- Technical instructions (air):

Class	Share in %
NK	35,0

- **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.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H361d Suspected of damaging the unborn child.

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H372 Causes damage to the hearing organs through prolonged or repeated exposure.

- **Department issuing MSDS: Research and Development**

- **Contact:**

- **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)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

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

ElNECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

Repr. 2: Reproductive toxicity, Hazard Category 2

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

STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

- **Sources: Literature data and/or investigation reports are available through the manufacturer.**

- *** Data compared to the previous version altered.**

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