

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 04.04.2019

Version: 1

Revision: 04.04.2019

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

- **1.1 Product identifier**
- **Trade name:** 2 V 4 VERHARDER
- **Article number:** 2V4-H26
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use**
 SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
 SU19 Building and construction work
- **Product category** PC9a Coatings and paints, thinners, paint removers
- **Process category**
 PROC7 Industrial spraying
 PROC10 Roller application or brushing
 PROC19 Manual activities involving hand contact
- **Application of the substance / the mixture** solvent based, two component epoxy coating hardener
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 Performance Polymers EMEA B.V.
 Snekertrekweg 57
 8912 AA Leewarden - Netherlands
 Tel +31(0)208208370
- **Further information obtainable from:** msds@pp-bv.com
- **1.4 Emergency telephone number:**
 National Poisoning Information Center (NVIC) - Bilthoven, the Netherlands
 + 31 (0)30 2748888 (only intended to inform physicians of accidental poisonings)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
 Flam. Liq. 3 H226 Flammable liquid and vapour.
 Skin Irrit. 2 H315 Causes skin irritation.
 Eye Dam. 1 H318 Causes serious eye damage.
 STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

- **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 GHS05 GHS07 GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**
 butan-1-ol
 xylene
- **Hazard statements**
 H226 Flammable liquid and vapour.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.
 H373 May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**
 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.
 P310 Immediately call a POISON CENTER/doctor.
 P362+P364 Take off contaminated clothing and wash it before reuse.

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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:**
 Percentages of the components are expressed as a percentage by weight

CAS: 1330-20-7 EINECS: 215-535-7 Index number: 601-022-00-9 Reg.nr.: 01-2119488216-32	xylene ⚠ Flam. Liq. 3, H226; ⚠ STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	10-25%
CAS: 71-36-3 EINECS: 200-751-6 Index number: 603-004-00-6 Reg.nr.: 02-2119484630-38	butan-1-ol ⚠ Flam. Liq. 3, H226; ⚠ Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335-H336	10-25%
CAS: 90-72-2 EINECS: 202-013-9 Index number: 603-069-00-0 Reg.nr.: 01-2119560597-27	2,4,6-tris(dimethylaminomethyl)phenol ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	2.5-10%

- **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:**
 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. Then 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.

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- 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).
Use neutralising agent.
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.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store material in original, well-closed packages in a cool, well-ventilated area according to local regulations.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Recommended storage temperature:** 5 - 30 °C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

• **Ingredients with limit values that require monitoring at the workplace:**

1330-20-7 xylene

IOELV	Short-term value: 442 mg/m ³ , 100 ppm Long-term value: 221 mg/m ³ , 50 ppm Skin
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• **DNEL (Derived No Effect Level) for workers:**

1330-20-7 xylene

Dermal	Long-term - systemic effects, worker	180 mg/kg bw/day (worker)
Inhalative	Acute - systemic effects, worker	289 mg/m ³ (worker)
	Acute - local effects, worker	289 mg/m ³ (worker)
	Long-term - systemic effects, worker	77 mg/m ³ (worker)

71-36-3 butan-1-ol

Inhalative	Long-term - local effects, worker	310 mg/m ³ (worker)
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• **DNEL (Derived No Effect Level) for the general population:**

1330-20-7 xylene

Oral	Long-term - systemic effects, general population	1.6 mg/kg bw/day (general population)
Dermal	Long-term - systemic effects, general population	108 mg/kg bw/day (general population)
Inhalative	Acute - systemic effects, general population	174 mg/m ³ (general population)
	Acute - local effects, general population	174 mg/m ³ (general population)
	Long-term - systemic effects, general population	14.8 mg/m ³ (general population)

71-36-3 butan-1-ol

Oral	Long-term - systemic effects, general population	3.125 mg/kg bw/day (general population)
Inhalative	Long-term - local effects, general population	55 mg/m ³ (general population)

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· PNEC (Predicted No Effect Concentration) values:	
1330-20-7 xylene	
Aquatic compartment - freshwater	0.327 mg/L (not specified)
Aquatic compartment - marine water	0.327 mg/L (not specified)
Aquatic compartment - water, intermittent releases	0.327 mg/L (not specified)
Aquatic compartment - sediment in freshwater	12.46 mg/kg sed dw (not specified)
Aquatic compartment - sediment in marine water	12.46 mg/kg sed dw (not specified)
Terrestrial compartment - soil	2.31 mg/kg dw (not specified)
Sewage treatment plant	6.58 mg/L (not specified)
71-36-3 butan-1-ol	
Aquatic compartment - freshwater	0.082 mg/L (not specified)
Aquatic compartment - marine water	0.0082 mg/L (not specified)
Aquatic compartment - water, intermittent releases	2.25 mg/L (not specified)
Aquatic compartment - sediment in freshwater	0.178 mg/kg sed dw (not specified)
Aquatic compartment - sediment in marine water	0.0178 mg/kg sed dw (not specified)
Terrestrial compartment - soil	0.015 mg/kg dw (not specified)
Sewage treatment plant	2,476 mg/L (not specified)

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

· **8.2 Exposure controls**

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Provide readily accessible eye wash stations and safety showers.
 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 skin.
 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.
 Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
 For organic vapors and solvents type of filter A1 or A2, for dust type of filter P (according to EN 140)

· **Protection of hands:**



Protective gloves

Chemical resistant gloves (EN 374)

Check protective gloves prior to each use for their proper condition.

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**

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.

Fluorocarbon rubber (Viton)

· **Penetration time of glove material**

KCL Vitoject 890

breakthrough time > 480 min.

thickness: 0,7 mm

at limited contact

KCL Camatril 730

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breakthrough time 30 min.
thickness: 0,4 mm

The exact break trough 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:** All other materials

· **Eye protection:**



Tightly sealed goggles

Safety glasses according to EN 166 or equivalent

· **Body protection:**

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved before the product is used by a specialist.

If there is a risk of ignition by static electricity, anti-static protective clothing should be worn. For the best protection against static discharge, clothing should consist of anti-static overalls, boots and gloves.

For further information on materials and design requirements and test methods consult the European standard EN 1149.

· **Limitation and supervision of exposure into the environment**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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:** Not determined.

· **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	116-118 °C

· **Flash point:** 30 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 340 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

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

· **Explosion limits:**

Lower:	1.1 Vol %
Upper:	9.4 Vol %

· **Vapour pressure at 20 °C:** 6.7-8.2 hPa

· **Density at 20 °C:** 0.93 g/cm³

· **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.

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- **Viscosity:**
 - Dynamic at 20 °C:** 500 mPas
 - Kinematic:** at 40 °C: > 20,5 mm²/s
- **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.
- **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** Based on available data, the classification criteria are not met.

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

1330-20-7 xylene

Oral	LD50	4,300 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)

71-36-3 butan-1-ol

Oral	LD50	790 mg/kg (rat)
Dermal	LD50	3,400 mg/kg (rabbit)
Inhalative	LC50/4 h	8,000 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **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** 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**
May cause damage to 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:**

1330-20-7 xylene

EC50/72 h	1-10 mg/l (Algae, Growth inhibition test)
EC50/48 h	1-10 mg/l (Daphnia magna)
LC50/96 h	1-10 mg/l (Oncorhynchus mykiss)

71-36-3 butan-1-ol

EC50/48 h	1,328 mg/l (Daphnia magna)
LC50/96 h	1,376 mg/l (pimephales promelas)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.

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- **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.
 Must not reach sewage water or drainage ditch undiluted or unneutralised.
 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.

European waste catalogue


HP 3	Flammable
HP 4	Irritant - skin irritation and eye damage
HP 5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP 6	Acute Toxicity

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

Transport in accordance with ADR/RID, IMDG and ICAO/IATA.

- | | |
|---|--|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR/RID/ADN, ADN, IMDG · IATA | Void
UN1263 |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR/RID/ADN, ADN, IMDG · IATA | Void
PAINT |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR/RID/ADN, ADN, IMDG · Class · IATA | Void

<hr style="border-top: 1px dashed black;"/> Void |
| <div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Class · Label | 3 Flammable liquids.
3 |
| <ul style="list-style-type: none"> · 14.4 Packing group · ADR/RID/ADN, IMDG · IATA | Void
III |
| <ul style="list-style-type: none"> · 14.5 Environmental hazards: | Not applicable. |
| <ul style="list-style-type: none"> · 14.6 Special precautions for user | Not applicable. |
| <ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |

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· Transport/Additional information:	
· ADR/RID/ADN	
· Remarks:	Up to 450 litre exempted according to ADR 2.2.3.1.5.
· IMDG	
· Remarks:	Up to 30 litre: Transport in accordance with Packs 2.3.2.5 of the IMDG Code.
· IATA	
· Remarks:	The "viscosity exemption" provisions do NOT apply to air transport.
· UN "Model Regulation":	Void

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
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **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.

- **Classification according to Regulation (EC) No 1272/2008** Calculation method
- **Contact:** S. Reynolds
- **Abbreviations and acronyms:**
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - ELINCS: European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - DNEL: Derived No-Effect Level (REACH)
 - PNEC: Predicted No-Effect Concentration (REACH)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - Flam. Liq. 3: Flammable liquids – Category 3
 - Acute Tox. 4: Acute toxicity – Category 4
 - Skin Irrit. 2: Skin corrosion/irritation – Category 2
 - Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 - STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
 - Asp. Tox. 1: Aspiration hazard – Category 1
- **Sources**
 - ECHA European Chemical Agency - <http://echa.europa.eu/information-on-chemicals>
 - SDS of raw materials supplied by producer/supplier.
- *** Data compared to the previous version altered.** Date previous version: 01-08-2017

EU