

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

- **1.1 Product identifier**
- **Trade name: VEMAR ROBUSTO PU HARDENER PART B**
- Article number: 1081
- **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 Surface protection
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**



VEMAR YACHT COATINGS  
 HB BODY S.A. ATHENS - DIYLISTIRION AV. - GR 19300 - ASPROPYRGOS - GREECE  
 T: +30 210 55 90 411-2 F: +30 210 55 90 713  
 email: sales@vemarcoatings.com website: www.vemarcoatings.com

- **Further information obtainable from:**



VEMAR YACHT COATINGS  
 HB BODY S.A. ATHENS - DIYLISTIRION AV. - GR 19300 - ASPROPYRGOS - GREECE  
 T: +30 210 55 90 411-2 F: +30 210 55 90 713  
 email: sales@vemarcoatings.com website: www.vemarcoatings.com

- **1.4 Emergency telephone number:**  
 Regional Medicines and Poisons Information Centre NI  
 Pharmacy Department, Royal Hospital Suite  
 Grosvenor Road Belfast  
 Telephone: +44 28 90 63 2032  
 Fax: +44 28 90 24 80 30  
 Emergency telephone: 844 892 0111  
 E-mail address: nirdic.nirdic@belfasttrust.hscni.net  
 Members of the public seeking specific information on poisons should contact:  
 In England and Wales: NHS 111 - dial 111  
 In Scotland: NHS 24 - dial 111

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



Skin Irrit. 2 H315 Causes skin irritation.

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

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

**Trade name: VEMAR ROBUSTO PU HARDENER PART B****2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008**

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

**Hazard pictograms**

GHS02 GHS07

**Signal word** Warning**Hazard-determining components of labelling:**

Isocyanates

**Hazard statements**

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H412 Harmful 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.

P241 Use explosion-proof [electrical/ventilating/lighting] equipment.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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

P403+P235 Store in a well-ventilated place. Keep cool.

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 hazardous substances listed below with nonhazardous additions.

**Dangerous components:**

|                                |   |         |
|--------------------------------|---|---------|
| CAS: 1330-20-7                 | xylene  | 25-<30% |
| EINECS: 215-535-7              | Flam. Liq. 3, H226  |         |
| Index number: 601-022-00-9     | Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315 |         |
| RTECS: ZE 2100000              |   |         |
| Reg.nr.: 01-2119488216-32-001  |   |         |
| 01-2119488216-32-002           |   |         |
| 01-2119488216-32-003           |   |         |
| CAS: 28182-81-2                | Isocyanates   | 25-<30% |
| NLP: 500-060-2                 | Skin Sens. 1, H317  |         |
|                                | Aquatic Chronic 3, H412                                     |         |
| CAS: 112-07-2                  | 2-butoxyethyl acetate                                       | 20-<25% |
| EINECS: 203-933-3              | Acute Tox. 4, H312; Acute Tox. 4, H332                      |         |
| Index number: 607-038-00-2     |   |         |
| RTECS: KJ 8925000              |   |         |
| Reg.nr.: 01-2119475112-47-0002 |   |         |
| CAS: 108-65-6                  | 2-methoxy-1-methylethyl acetate                             | 15-<20% |
| EINECS: 203-603-9              | Flam. Liq. 3, H226  |         |
| Index number: 607-195-00-7     |   |         |
| Reg.nr.: 01-2119475791-29-0001 |   |         |
| 01-2119475791-29               |   |         |
| CAS: 123-86-4                  | n-butyl acetate   | 1-<5%   |
| EINECS: 204-658-1              | Flam. Liq. 3, H226  |         |
| Index number: 607-025-00-1     | STOT SE 3, H336   |         |
| RTECS: AF 7350000              |   |         |
| Reg.nr.: 01-2119485493-29-007  |   |         |
| 01-2119485493-29-004           |   |         |
| 01-2119485493-29-003           |   |         |
| 01-2119485493-29-005           |   |         |
| 01-2119485493-29               |   |         |

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**Trade name: VEMAR ROBUSTO PU HARDENER PART B**

- **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.
- **After inhalation:**  
Supply fresh air and to be sure call for a 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.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **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:** CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**  
Firefighters should always protective equipment and breathing apparatus when handling fire coming from these products
- **5.6 Fire and explosion Hazards**
- **Speial protective equipment and fire fighting procedures:**  
Firefighters should wear full protective flameproof clothing and self contained breathing apparatus for the firefighter if necessary. In the event of any fire try cool down the tanks with water spray. If possible do not allow the water used by firefighters to enter the drains or come in any contact with the water supply lines for the public. Always seek as appropriate.
- **Additional information** Collect contaminated fire fighting water separately. It must not enter the sewage system.

**SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
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 section 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.
- **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.

**Trade name: VEMAR ROBUSTO PU HARDENER PART B****SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Ingredients with limit values that require monitoring at the workplace:****1330-20-7 xylene**

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

**28182-81-2 Isocyanates**

WEL Short-term value: 0.07 mg/m<sup>3</sup>  
Long-term value: 0.02 mg/m<sup>3</sup>  
Sen; as -NCO

**112-07-2 2-butoxyethyl acetate**

WEL Short-term value: 332 mg/m<sup>3</sup>, 50 ppm  
Long-term value: 133 mg/m<sup>3</sup>, 20 ppm  
Sk

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

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

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

WEL Short-term value: 966 mg/m<sup>3</sup>, 200 ppm  
Long-term value: 724 mg/m<sup>3</sup>, 150 ppm

**Regulatory information** WEL: EH40/2020**Ingredients with biological limit values:****1330-20-7 xylene**

BMGV 650 mmol/mol creatinine  
Medium: urine  
Sampling time: post shift  
Parameter: methyl hippuric acid

**28182-81-2 Isocyanates**

BMGV 1 µmol creatinine/mol  
Medium: urine  
Sampling time: At the end of the period of exposure  
Parameter: isocyanate-derived diamine

**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.  
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.

**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.

**Penetration time of glove material**

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

**Trade name: VEMAR ROBUSTO PU HARDENER PART B**

- For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:  
The breakthrough time of gloves is unknown for this product itself. The glove material that can be used is recommended on the basis of the different substances in the preparation.
- For the permanent contact gloves made of the following materials are suitable: Fluorocarbon rubber (Viton)
- For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable: Rubber gloves
- 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: Liquid

Colour: Transparent

Odour: Characteristic

Odour threshold: Not determined.

pH-value: Mixture is non-soluble (in water).

**Change in condition**

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: 137-143 °C (1330-20-7 xylene)

Flash point: 23 - 60 °C

Flammability (solid, gas): Flammable.

Autoignition temperature: 280 °C (112-07-2 2-butoxyethyl acetate)

Decomposition temperature: Not determined.

Ignition temperature: Product is not selfigniting.

Explosive properties: Risk of explosion by shock, friction, fire or other sources of ignition.

**Explosion limits:**

Lower: 1.1 Vol % (1330-20-7 xylene)

Upper: 10.8 Vol % (108-65-6 2-methoxy-1-methylethyl acetate)

Vapour pressure at 20 °C: 6.7-8.2 hPa (1330-20-7 xylene)

Density at 20 °C: 0.98146 g/cm<sup>3</sup>

Relative density: Not determined.

Vapour density: Not determined.

Evaporation rate: Not determined.

**Solubility in / Miscibility with**

water: Fully miscible.

Partition coefficient: n-octanol/water: Not determined.

**Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

**Solvent content:**

Organic solvents: 73.0 %

VOC (EC) 716.2 g/l

Solids content (volume): 0.0 %

**9.2 Other information**

No further relevant information available.

**SECTION 10: Stability and reactivity**

- 10.1 Reactivity** No further relevant information available.

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**Trade name: VEMAR ROBUSTO PU HARDENER PART B**

- **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:

**ATE (Acute Toxicity Estimates)**

Dermal LD50 3,474 mg/kg (rabbit)  
Inhalative LC50/4 h 21.3 mg/l

**1330-20-7 xylene**

Oral LD50 4,300 mg/kg (rat)  
Dermal LD50 2,000 mg/kg (rabbit)  
Inhalative LC50/4 h 11 mg/l (ATE)

**112-07-2 2-butoxyethyl acetate**

Oral LD50 2,400 mg/kg (rat)  
Dermal LD50 1,580 mg/kg (rabbit)  
Inhalative LC50/4 h 11 mg/l (ATE)

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

Oral LD50 8,532 mg/kg (rat)  
Inhalative LC50/4 h 35.7 mg/l (rat)

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

Oral LD50 13,100 mg/kg (rat)  
Dermal LD50 >5,000 mg/kg (rabbit)  
Inhalative LC50/4 h >21 mg/l (rat)

- Primary irritant effect:
- Skin corrosion/irritation  
Causes skin irritation.
- Serious eye damage/irritation Based on available data, the classification criteria are not met.
- Respiratory or skin sensitisation  
May cause an allergic skin reaction.
- **Additional toxicological information:**
- 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 Based on available data, the classification criteria are not met.
- 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:**  
This product is not toxic for the aquatic life. Nevertheless do not dispose the product or any cleaning solvents used along with this product into the sea
- **12.2 Persistence and degradability**  
This product contains polyestheric molecules and organic solvents and is not known to be bioaccumulative. It can be considered as biodegradable in small quantities. In case of disposal, it should be treated as a hazardous material and should be disposed accordingly. Do not just throw it away
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- Remark: Harmful to fish

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**Trade name: VEMAR ROBUSTO PU HARDENER PART B**


- **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.  
Harmful to aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** This product contains no substance that is considered to be persistent, bioaccumulating or non toxic (PBT).
- **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.
- Recommended cleansing agents: Water, if necessary together with cleansing agents.

**SECTION 14: Transport information**

- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN1263
- **14.2 UN proper shipping name**
- **ADR** UN1263 PAINT
- **IMDG, IATA** PAINT
- **14.3 Transport hazard class(es)**
- **ADR**
- 
- Class 3 (F1) Flammable liquids.
- Label 3
- **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.
- Hazard identification number (Kemler code): 30
- EMS Number: F-E, S-E
- Stowage Category A
- **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

**Trade name: VEMAR ROBUSTO PU HARDENER PART B**

- IMDG
- Limited quantities (LQ)
- Excepted quantities (EQ)

5L  
Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml

- **UN "Model Regulation":**

UN 1263 PAINT, 3, III

**SECTION 15: Regulatory information**

- 3Y
- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
28182-81-2 Isocyanates 25-<30%
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the GB CLP regulation.
- Hazard pictograms



GHS02 GHS07

- Signal word Warning
- Hazard-determining components of labelling:  
Isocyanates
- Hazard statements  
H226 Flammable liquid and vapour.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H412 Harmful 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.  
P241 Use explosion-proof [electrical/ventilating/lighting] equipment.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
P403+P235 Store in a well-ventilated place. Keep cool.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **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
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

**SECTION 16: Other information**

- This information is based on our current 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.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H332 Harmful if inhaled.  
H336 May cause drowsiness or dizziness.  
H412 Harmful to aquatic life with long lasting effects.

· **Contact:**



VEMAR YACHT COATINGS  
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**Trade name: VEMAR ROBUSTO PU HARDENER PART B**

· \* Data compared to the previous version altered.

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**Trade name: VEMAR ROBUSTO PU HARDENER PART B****Annex: Exposure scenario****· Description of the activities / processes covered in the Exposure Scenario**

See section 1 of the annex to the Safety Data Sheet.

**· Conditions of use** According to directions for use.**· Duration and frequency** Frequency of use:**· Physical parameters**

The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.

**· Physical state** Fluid**· Concentration of the substance in the mixture** The substance is main component.**· Other operational conditions****· Other operational conditions affecting environmental exposure** No special measures required.**· Other operational conditions affecting worker exposure**

Avoid contact with the skin.

Avoid long-term or repeated skin contact.

Take precautionary measures against static discharge.

Keep away from sources of ignition - No smoking.

**· Other operational conditions affecting consumer exposure** No special measures required.**· Other operational conditions affecting consumer exposure during the use of the product** Not applicable.**· Risk management measures****· Worker protection****· Organisational protective measures**

Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device.

**· Technical protective measures**

Provide explosion-proof electrical equipment.

Ensure that suitable extractors are available on processing machines

**· Personal protective measures**

Do not inhale gases / fumes / aerosols.

Avoid contact with the skin.

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

**· Measures for consumer protection**

Ensure adequate labelling.

Observe consumer information and advice on safe use.

**· Environmental protection measures****· Water** Do not allow to reach sewage system. Dispose of this product and its container at hazardous or special waste collection point.**· Soil** The product is only processed over the concrete collecting basin.**· Disposal measures** Ensure that waste is collected and contained.**· Disposal procedures** Must not be disposed together with household garbage. Do not allow product to reach sewage system.**· Waste type** Partially emptied and uncleaned packaging**· Exposure estimation****· Consumer** This product is to be used by professional technicians only.**· Guidance for downstream users**

Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.