

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 02.01.2014

Revision: 02.01.2014

1 Identification of the substance/preparation and of the company/undertaking

- **Product details**
- **Trade name:** Solobond Plus adhesive
- **Application of the substance / the preparation** Dental bonding material
- **Manufacturer/Supplier:**
VOCO GmbH
Anton-Flettner-Str. 1-3
D-27472 Cuxhaven
- **Further information obtainable from:** Scientific department tel. +49 (0)4721-719-0
- **Information in case of emergency:** Poison Control Center Mainz +49 (0)6131-19240

2 Hazards identification

- **Hazard description:**
Xi Irritant
F Highly 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.
R 11 Highly flammable.
R 36/38 Irritating to eyes and skin.
R 43 May cause sensitisation by skin contact.
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
- **Additional information:** Use only for intended scope of application

3 Composition/information on ingredients

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

· **Dangerous components:**

| | | | |
|------------------------------------|-----------------------------|-----------------------------|---------|
| CAS: 67-64-1 EINECS: 200-662-2 | acetone | Xi, F; R 11-36-66-67 | 50-100% |
| CAS: 1565-94-2 | BIS-GMA | Xi; R 36/38 | 10-25% |
| CAS: 868-77-9 EINECS: 212-782-2 | 2-hydroxyethyl methacrylate | Xi; R 36/38 | 5-10% |
| | Catalyst | Xn, Xi, N; R 20/22-36/38-50 | ≤ 2.5% |

4 First aid measures

- **After inhalation:**
Seek medical treatment in case of complaints.
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. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.

5 Fire-fighting measures

- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet

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· **Protective equipment:** No special measures required.

6 Accidental release measures

- **Person-related safety precautions:** Ensure adequate ventilation
- **Measures for environmental protection:** Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Do not flush with water or aqueous cleansing agents

7 Handling and storage

- **Handling:**
- **Information for safe handling:** For dental use only.
- **Information about fire - and explosion protection:** Keep ignition sources away - Do not smoke.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** See storage instructions on package
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.

8 Exposure controls/personal protection

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

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

67-64-1 acetone

| | |
|-----|---|
| WEL | Short-term value: 3620 mg/m ³ , 1500 ppm |
| | Long-term value: 1210 mg/m ³ , 500 ppm |

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

- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Respiratory protection:** Not required.
- **Protection of hands:**



Protective gloves

- **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.

- **Eye protection:** Safety glasses

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9 Physical and chemical properties

· General Information

Form: Fluid
 Colour: Yellowish
 Odour: Characteristic

· Change in condition

Melting point/Melting range: Undetermined.
 Boiling point/Boiling range: Undetermined.

· Flash point: -12°C

· Ignition temperature: 465°C

· Self-igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Density: Not determined.

· Solubility in / Miscibility with water: Not miscible or difficult to mix.

10 Stability and reactivity

- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Dangerous reactions No dangerous reactions known.
- Dangerous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Acute toxicity:

· LD/LC50 values relevant for classification:

67-64-1 acetone

| | | |
|--------|------|----------------------|
| Oral | LD50 | 5800 mg/kg (rat) |
| Dermal | LD50 | 20000 mg/kg (rabbit) |

· Primary irritant effect:

- on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.
- Sensitization: Sensitization possible through skin contact.

· 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:

Irritant

- Sensitisation May cause sensitisation by skin contact.

12 Ecological information

· Additional ecological information:

· General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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13 Disposal considerations

- **Product:**
- **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.

14 Transport information

- **Land transport ADR/RID (cross-border)**



- **ADR/RID class:** 3 Flammable liquids.
- **Danger code (Kemler):** 33
- **UN-Number:** 1090
- **Packaging group:** II
- **Hazard label:** 3
- **Description of goods:** 1090 ACETONE
- **Limited quantities (LQ)** LQ4
- **Transport category** 2
- **Tunnel restriction code** D/E

- **Maritime transport IMDG:**



- **IMDG Class:** 3
- **UN Number:** 1090
- **Label** 3
- **Packaging group:** II
- **EMS Number:** F-E,S-D
- **Marine pollutant:** No
- **Proper shipping name:** ACETONE

- **Air transport ICAO-TI and IATA-DGR:**



- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1090
- **Label** 3
- **Packaging group:** II
- **Proper shipping name:** ACETONE

15 Regulatory information

- **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

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· Code letter and hazard designation of product:*Xi Irritant**F Highly flammable***· Hazard-determining components of labelling:***2-hydroxyethyl methacrylate***· Risk phrases:***11 Highly flammable.**36/38 Irritating to eyes and skin.**43 May cause sensitisation by skin contact.***· Safety phrases:***16 Keep away from sources of ignition - No smoking.**24 Avoid contact with skin.**26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.**28 After contact with skin, wash immediately with plenty of water.**37 Wear suitable gloves.**43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.***· Special labelling of certain preparations:***Contains 2-hydroxyethyl methacrylate. May produce an allergic reaction.***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.

· Department issuing MSDS: Scientific departement**· Contact:** Tel.: +49 (0)4721-719-0

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- **Application of the substance / the preparation** Adhesive
- **Manufacturer/Supplier:**
VOCO GmbH
Anton-Flettner-Str. 1-3
D-27472 Cuxhaven
- **Further information obtainable from:** Scientific department tel. +49 (0)4721-719-0
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Xi Irritant
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R 36/38 Irritating to eyes and skin.
R 43 May cause sensitisation by skin contact.
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
- **Additional information:** Use only for intended scope of application

3 Composition/information on ingredients

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

· **Dangerous components:**

| | | | |
|--------------------------------------|-----------------------------|-----------------------------|--------|
| CAS: 868-77-9 EINECS: 212-782-2 | 2-hydroxyethyl methacrylate | Xi; R 36/38 | 10-25% |
| CAS: 67-64-1 EINECS: 200-662-2 | acetone | Xi, F; R 11-36-66-67 | 10-25% |
| CAS: 27813-02-1 EINECS: 248-666-3 | Hydroxypropylmethacrylate | Xi; R 36/38-43 | 10-25% |
| | Catalyst | Xn, Xi, N; R 20/22-36/38-50 | ≤ 2.5% |

4 First aid measures

- **After inhalation:** Seek medical treatment in case of complaints.
- **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.

5 Fire-fighting measures

- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

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6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.

7 Handling and storage

- **Handling:**
- **Information for safe handling:** For dental use only.
- **Information about fire - and explosion protection:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** See storage instructions on package
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.

8 Exposure controls/personal protection

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

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

67-64-1 acetone

| | |
|-----|---|
| WEL | Short-term value: 3620 mg/m ³ , 1500 ppm |
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- **Additional information:** The lists valid during the making were used as basis.

- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Respiratory protection:** Not required.
- **Protection of hands:**



Protective gloves

- **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.
- **Eye protection:** Safety glasses

9 Physical and chemical properties

- **General Information**

| | |
|----------------|------------|
| Form: | Fluid |
| Colour: | Colourless |

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| | |
|--|---|
| Odour: | Characteristic |
| · Change in condition Melting point/Melting range: Undetermined. Boiling point/Boiling range: Undetermined. | |
| · Flash point: | Not applicable. |
| · Self-igniting: | Product is not selfigniting. |
| · Danger of explosion: | Product does not present an explosion hazard. |
| · Density at 20°C: | 1.01 g/cm ³ |
| · Solubility in / Miscibility with water: | Fully miscible. |
| · pH-value at 20°C: | 2.5 |

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known.
- **Dangerous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
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- **General notes:**
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Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

- **Product:**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
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· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· **Land transport ADR/RID (cross-border)**· **ADR/RID class:** -· **Maritime transport IMDG:**· **IMDG Class:** -· **Marine pollutant:** No· **Air transport ICAO-TI and IATA-DGR:**· **ICAO/IATA Class:** -

15 Regulatory information

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

· **Code letter and hazard designation of product:***Xi Irritant*· **Hazard-determining components of labelling:***2-hydroxyethyl methacrylate*· **Risk phrases:***36/38 Irritating to eyes and skin.**43 May cause sensitisation by skin contact.*· **Safety phrases:***16 Keep away from sources of ignition - No smoking.**24/25 Avoid contact with skin and eyes.**26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.**28 After contact with skin, wash immediately with plenty of water.**37/39 Wear suitable gloves and eye/face protection.*

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.

· **Department issuing MSDS:** Scientific departement· **Contact:** Tel.: +49 (0)4721-719-0