

SAFETY DATA SHEETS

This SDS packet was issued with item:

071107465

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

077111040

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.01.2015

Version number 9

Revision: 05.01.2015

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

- **Product identifier**
- **Trade name:** *Ceramic Bond*
- **Relevant identified uses of the substance or mixture and uses advised against** *Non-dental use.*
- **Application of the substance / the preparation** *Bonding*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
*VOCO GmbH
Anton-Flettner-Str. 1-3
D-27472 Cuxhaven*
- **Further information obtainable from:** *Scientific department tel. +49 (0)4721-719-0*
- **Emergency telephone number:** *Poison Control Center Mainz +49 (0)6131-19240*

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Xi; Irritant
R36: Irritating to eyes.
F; Highly flammable
R11: Highly flammable.
- **Information concerning particular hazards for human and environment:**
Not applicable.
The product does not have to be labelled due to the calculation procedure of the regulation 1272/2008/EC 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.
- **Labelling according to EU guidelines:**
As a medical device the product is not subject to labelling regulations under 1272/2008/EC.
- **Code letter and hazard designation of product:**




Xi Irritant
F+ Highly flammable
- **Safety phrases:**
9 Keep container in a well-ventilated place.
16 Keep away from sources of ignition - No smoking.
23 Do not breathe aerosol.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
- **Other hazards** *Use only for intended scope of application*

3 Composition/information on ingredients

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

· **Dangerous components:**

CAS: 67-64-1	acetone	Xi R36; F R11	50-100%
EINECS: 200-662-2		R66-67	

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4 First aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **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 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **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

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
For dental use only.
- **Information about fire - and explosion protection:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **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.
- **Control parameters**

- **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.

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- **Exposure controls**
- **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.
- **Protection of hands:** *Not required.*
- **Material of gloves:** *Not applicable.*
- **Penetration time of glove material:** *Not applicable.*
- **Eye protection:** *Safety glasses*

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	<i>Fluid</i>
Colour:	<i>Colourless</i>
Odour:	<i>Characteristic</i>
- **pH-value:** *Not determined.*
- **Change in condition**

Melting point/Melting range:	<i>Undetermined.</i>
Boiling point/Boiling range:	<i>Undetermined.</i>
- **Flash point:** *-19°C*
- **Flammability (solid, gaseous):** *Not applicable.*
- **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 at 20°C:** *0.79 g/cm³*
- **Solubility in / Miscibility with water:** *Not miscible or difficult to mix.*
- **Other information** *No further relevant information available.*

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reactions:** *No dangerous reactions known.*
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

11 Toxicological information

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

67-64-1 acetone

Oral	LD50	5800 mg/kg (rat)
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Dermal	LD50	20000 mg/kg (rabbit)
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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **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

12 Ecological information

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

13 Disposal considerations

- **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.

14 Transport information

- | | |
|---|----------------------|
| · UN-Number | |
| · ADR, IMDG, IATA | UN1090 |
| · UN proper shipping name - | |
| · ADR | 1090 ACETONE |
| · IMDG, IATA | ACETONE |
| · Transport hazard class(es) - | |
| · ADR | |
|  | |
| · Class | 3 Flammable liquids. |
| · Label | 3 |
| · IMDG, IATA | |
|  | |
| · Class | 3 Flammable liquids. |
| · Label | 3 |
| · ADR, IMDG, IATA | II |
| · Marine pollutant: | No |
| · Danger code (Kemler): | 33 |

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· EMS Number:	<i>F-E, S-E</i>
· ADR	
· Limited quantities (LQ)	<i>1L</i>
· Transport category	<i>2</i>
· Tunnel restriction code	<i>D/E</i>

15 Regulatory information**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 department*
- **Contact:** *Tel.: +49 (0)4721-719-0*

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Safety Data Sheet

acc. to OSHA HCS

Printing date 12/15/2016

Reviewed on 12/15/2016

1 Identification

- **Product identifier**
- **Trade name:** Ceramic Bond
- **Application of the substance / the mixture** Bonding
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
VOCO GmbH
Anton-Flettner-Str. 1-3
D-27472 Cuxhaven
- **Information department:** Scientific department tel. +49 (0)4721-719-0
- **Emergency telephone number:** Scientific department tel. +49 (0)4721-719-0

2 Hazard(s) identification

Health effects are based on the unmixed/uncured material.
Under FDA regulations this product is classified as a medical device.
Medical devices are exempt from the labelling provisions of GHS according to the Hazard Communication Standard (HCS).

- **Classification of the substance or mixture**



Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

Eye Irrit. 2B H320 Causes eye irritation.

- **Label elements**
- **Hazard pictograms** GHS02
- **Signal word** Danger
- **Hazard statements**
Highly flammable liquid and vapor.
Causes eye irritation.
- **Precautionary statements**
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Wear protective gloves / eye protection.
Wear protective clothing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
- **Other hazards** Use only for intended scope of application
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

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

Dangerous components:

67-64-1	acetone	Flam. Liq. 2, H225 Eye Irrit. 2A, H319; STOT SE 3, H336	50-100%
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4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Seek medical treatment in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.

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Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 12/15/2016

Trade name: Ceramic Bond

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- **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.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **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

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
For dental use only.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **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 receptacle tightly sealed.
See storage instructions on package
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components 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.
- **Additional information:** The lists that were valid during the creation were used as basis.

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Trade name: Ceramic Bond

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Avoid contact with the eyes and skin.
- **Protection of hands:** Not required.
- **Material of gloves:** Not required.
- **Eye protection:** Safety glasses

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - Form:** Fluid
 - Color:** Colorless
- **Odor:** Characteristic
- **Odor threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**
 - Melting point/Melting range:** Undetermined.
 - Boiling point/Boiling range:** Undetermined.
- **Flash point:** -19 °C (-2 °F)
- **Flammability (solid, gaseous):** Not applicable.
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- **Density at 20 °C (68 °F):** 0.79 g/cm³ (6.593 lbs/gal)
- **Relative density** Not determined.
- **Vapor 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:** Not determined.
 - Kinematic:** Not determined.
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.

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Trade name: Ceramic Bond

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· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are 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:** No irritant effect.

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (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.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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Trade name: Ceramic Bond

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

14 Transport information

- | | |
|--|---|
| · UN-Number | UN1090 |
| · DOT, ADR, IMDG, IATA | |
| · UN proper shipping name | - |
| · DOT | Acetone |
| · ADR | 1090 Acetone |
| · IMDG, IATA | ACETONE |
| · Transport hazard class(es) | - |
| · DOT | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · ADR, IMDG, IATA | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · Packing group | - |
| · DOT, ADR, IMDG, IATA | II |
| · Environmental hazards: | Not applicable. |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable.
Warning: Flammable liquids |
| · Danger code (Kemler): | 33 |
| · EMS Number: | F-E, S-E |
| · Stowage Category | E |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | UN 1090 ACETONE, 3, II |

15 Regulatory information

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

· Section 355 (extremely hazardous substances):

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

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Trade name: Ceramic Bond

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- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients are listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed

- **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed

- **Carcinogenicity categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients are listed

- **TLV (Threshold Limit Value established by ACGIH)**

67-64-1 acetone

A4

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms** GHS02

- **Signal word** Danger

- **Hazard statements**

Highly flammable liquid and vapor.

Causes eye irritation.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Wear protective gloves / eye protection.

Wear protective clothing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

16 Other information

The information contained herein is based on our present knowledge and is believed to be correct at the date issued. The information is subject to change without notice. However, all information, statements, recommendations or suggestions shall not constitute any guarantee, representation or warranty, expressed or implied.

Final determination whether the product is fit and suitable for a particular purpose and the user's method of use or application is the sole responsibility of the user.

- **Department issuing SDS:** Scientific department

- **Contact:** Tel.: +49 (0)4721-719-0

- **Date of preparation / last revision** 12/15/2016 / 14

- **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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

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Trade name: Ceramic Bond

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OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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

US