

# Material Safety Data Sheet

## According to 91/155 EEC

Printing date 29.03.2006

Reviewed on 27.08.2004

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

- **Product details**
- **Trade name:** Bonding agent for Silano Pen · **Article number:** 540 0082 0
- **Application of the substance / the preparation** Bonding agent
- **Manufacturer/Supplier:**  
Bredent  
Weißenhorner Straße 2  
D-89250 Senden  
Tel.: +49 (0) 7309/872-0  
Fax: +49 (0) 7309/872-24
- **Further information obtainable from:** R & D
- **Information in case of emergency:** Tel.: +49 (0) 6132-84436 (24 h)

### 2 Composition/information on ingredients

- **Chemical characterization**
- **Description:** Solvent mixture with additives

- **Dangerous components:**

CAS: 64-17-5 EINECS: 200-578-6	ethanol	F; R 11	50-100%
CAS: 67-63-0 EINECS: 200-661-7	propan-2-ol	Xi, F; R 11-36-67	25-50%
CAS: 67-64-1 EINECS: 200-662-2	acetone	Xi, F; R 11-36-66-67	2.5-10%

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

### 3 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.

Has a narcotizing effect.

R 11 Highly flammable. R 36 Irritating to eyes.

R 67 Vapours may cause drowsiness and dizziness.

- **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

### 4 First aid measures

- **After inhalation:**

Take affected persons into fresh air and keep quiet.

Seek medical treatment 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.

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- **After swallowing:** If symptoms persist consult doctor.

### 5 Fire-fighting measures

- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Person-related safety precautions:**  
Ensure adequate ventilation  
Keep away from ignition sources.  
Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**  
Clean the affected area carefully; suitable cleaners are:  
Warm water and cleansing agent  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.

### 7 Handling and storage

- **Handling:**
- **Information 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.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.

### 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: 64-17-5 ethanol**

OES	Long-term value: 1920 mg/m <sup>3</sup> , 1000 ppm
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#### 67-63-0 propan-2-ol

OES	Short-term value: 1250 mg/m <sup>3</sup> , 500 ppm
	Long-term value: 999 mg/m <sup>3</sup> , 400 ppm

#### 67-64-1 acetone

OES	Short-term value: 3620 mg/m <sup>3</sup> , 1500 ppm
	Long-term value: 1210 mg/m <sup>3</sup> , 500 ppm New, IOELV

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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 food stuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

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.

Use suitable respiratory protective device in case of insufficient ventilation.

**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.

· **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

· **General Information**

<b>Form:</b>	Fluid
<b>Colour:</b>	Orange
<b>Odour:</b>	Characteristic

· **Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** 55°C

· **Flash point:** -19°C

· **Ignition temperature:** 425°C

· **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:** 2.0 Vol %

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<b>Upper:</b>	15.0 Vol %
<b>· Vapour pressure at 20°C:</b>	59 hPa
<b>· Density:</b>	Not determined.
<b>· Solubility in / Miscibility with water:</b>	Fully miscible.
<b>· pH-value at 20°C:</b>	4.5

### 10 Stability and reactivity

- **Materials to be avoided:**  
Oxidants, peroxides, acids, acid chlorides, aluminum, alkali metals, ammonia, water contact
- **Dangerous reactions** No dangerous reactions known.
- **Dangerous decomposition products:** Carbon monoxide and carbon dioxide

### 11 Toxicological information

- **Acute toxicity:**
- **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

- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow product to reach ground water, water course or sewage system.

### 13 Disposal considerations

- **Product:**
- **Recommendation**  
After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

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### 14 Transport information

#### · Land transport ADR/RID (cross-border)



- **ADR/RID class:** 3 Flammable liquids.
- **Danger code (Kemler):** 33
- **UN-Number:** 1993
- **Packaging group:** II
- **Hazard label:** 3
- **Description of goods:** 1993 FLAMMABLE LIQUID , N.O.S. (ETHANOL (ETHYL ALCOHOL ), ISOPROPANOL (ISOPROPYL ALCOHOL)), special provision 640D

#### · Maritime transport IMDG:



- **IMDG Class:** 3
- **UN Number:** 1993
- **Label** 3
- **Packaging group:** II
- **EMS Number:** F-E,S-E
- **Marine pollutant:** No
- **Proper shipping name:** FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL), ISOPROPANOL (ISOPROPYL ALCOHOL))

#### · Air transport ICAO-TI and IATA-DGR:



- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1993
- **Label** 3
- **Packaging group:** II
- **Proper shipping name:** FLAMMABLE LIQUID, N.O.S. (ETHANOL , ISOPROPANOL (ISOPROPYL ALCOHOL))

### 15 Regulatory information

#### · Labeling 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  
F Highly flammable

#### · Risk phrases:

11 Highly flammable.  
36 Irritating to eyes.  
67 Vapours may cause drowsiness and dizziness.

#### · Safety phrases:

7/9 Keep container tightly closed and in a well-ventilated place.  
16 Keep away from sources of ignition - No smoking.  
23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

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60 This material and its container must be disposed of as hazardous waste.

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### 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 R-phrases**

11 Highly flammable.

36 Irritating to eyes.

66 Repeated exposure may cause skin dryness or cracking.

67 Vapours may cause drowsiness and dizziness.

· **Department issuing MSDS: R & D**

· **Contact: R & D**

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