


# Material Safety Data Sheet

according to 1907/2006/EC, Article 31  
Hoffmann Dental Manufaktur GmbH

Reviewed on: 10 August 2012

<b>1. Identification of substance and manufacturer's name</b>													
<b>Product details/Trade name:</b>													
													
<b>HOFFMANN'S</b> Silane													
<b>Manufacturer/Supplier:</b> Wangenheimstr. 37/39, D-14193 Berlin Telephone: +49 (0) 30 / 82 00 99 0 Fax: +49 (0) 30 / 82 28 145													
<b>Information department/Emergency information:</b> Quality assurance department <b>e-mail:</b> sicherheit@hoffmann-dental.com													
<b>2. Composition/Data on ingredients</b>													
<b>Chemical characterization:</b> <b>Description:</b> Mixture of below-mentioned substances with innocuous additions.													
<table border="1"><thead><tr><th colspan="4"><b>Hazardous ingredients:</b></th></tr></thead><tbody><tr><td>CAS: 64-17-5 EINECS: 200-578-6</td><td>Ethanol</td><td>Danger, H225 F; R 11</td><td>&gt; 90 %</td></tr><tr><td>CAS: 64-19-7 EINECS: 200-580-7</td><td>Acetic acid</td><td>Danger, H314, H226 C; R 10-35</td><td>5-10 %</td></tr></tbody></table>		<b>Hazardous ingredients:</b>				CAS: 64-17-5 EINECS: 200-578-6	Ethanol	Danger, H225 F; R 11	> 90 %	CAS: 64-19-7 EINECS: 200-580-7	Acetic acid	Danger, H314, H226 C; R 10-35	5-10 %
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<b>3. Hazards identification</b>													
<b>Hazard designation:</b> F Highly flammable C Corrosive													
<b>Special danger warning for human and environment:</b> The product has to be labelled due to the calculation procedure of the „EU-Directive of the General Classification of Preparations“ in the latest valid version. H225: Highly flammable liquid and vapour. H226: Flammable liquid and vapour. H314: Causes severe skin burns and eye damage. R10: Flammable R11: Highly flammable R35: Causes severe burns													
<b>Classification system:</b> The classification is in compliance with the current EU-lists, but is also completed with details given by technical literature and company.													
<b>4. First aid measures</b>													
<b>General warnings:</b>	Remove contaminated clothes immediately.												
- <b>After inhaling:</b>	Fresh air; in case you feel unwell, consult a physician.												
- <b>After skin contact:</b>	Wash with plenty of water; remove contaminated clothes.												
- <b>After eye contact:</b>	Flush opened eye under running water for several minutes, consult a physician.												
- <b>After swallowing:</b>	Rinse mouth with plenty of water. Get prompt medical attention.												
<b>5. Fire fighting measures</b>													
<b>Suitable extinguishing agents:</b>	CO <sub>2</sub> , foam, sand, powder. Do not use water.												
<b>Special protective equipment:</b>	Staying in dangerous area only with a self-contained breathing apparatus.												
<b>Other information:</b>	Flammable. Vapours are heavier than air. Explosive mixtures with air are already possible at normal temperatures. Containers must be cooled down with sprayed water from a safe distance. Prevent any spillage of water for fire-fighting from entering surface or ground waters. No special measures are required.												

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6. Accidental release measures																
<b>Person-related safety precautions:</b>	Do not inhale vapours/aerosols. Provide fresh air in closed areas.															
<b>Environmental precautions:</b>	Prevent any spillage from entering the sewage system, the surface water and the ground water.															
<b>Methods of cleaning up:</b>	Absorb with liquid binding material (chemical binders, use for small amounts cellulose) and dispose of.															
7. Handling and storage																
<b>Handling:</b>	The product is only for dental use.															
- <b>Information about safe handling:</b>	Keep containers tightly closed. Avoid contact with skin and eyes.															
- <b>Information about protection against explosion and fire:</b>	Keep away from flammable and ignition sources. Take measures to prevent the build up of electrostatic charge.															
<b>Storage:</b>																
- <b>Information about storage:</b>	Store tightly closed in original containers in a dry and ventilated place.															
- <b>Information about storage in one common storage facility:</b>	The product is highly flammable, therefore do not store together with fire supporting materials.															
- <b>Requirements for storage rooms:</b>	Store tightly closed away from flammable and heat sources at a good ventilated place.															
8. Exposure controls and personal protection																
<b>Data on limiting values that require monitoring at the workplace:</b>																
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<b>Technical protective measures:</b> not required.																
<b>Personal protective equipment:</b>																
<b>Respiratory protection:</b> Use a respirator in case of exceeding of TLV-values.																
<b>Skin protection:</b> Wear suitable protective gloves. The glove material has to be impermeable and resistant to the product/the substance/the preparation. Due to absent tests no recommendations about the glove material can be given for the product/the preparation/the chemical mixture. The selection of the glove material should be in consideration of the breakthrough time, kinds of permeation and the degradation.																
<b>Material of gloves:</b> The selection of the suitable gloves does not only depend on material but also on further quality characteristics 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 to be checked prior to the application. Suitable glove material is e. g. butyl rubber, fluorocarbon rubber (Viton), natural rubber (Latex). For the permanent contact of a maximum of 15 minutes gloves made of PVC or PE are suitable.																
<b>Penetration time of glove material:</b> The exact breakthrough time is to be obtained from the manufacturer of the protective gloves and has to be observed.																
<b>Eye protection:</b> Wear protective goggles with side protection.																
<b>Body protection:</b> Lightweight protective clothes.																
<b>General protective and hygienic measures:</b> The usual precautionary measures for contact with chemicals are to observe.																

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## 9. Physical and chemical properties

<b>General information:</b>	
<b>Form:</b>	liquid
<b>Colour:</b>	clear, colorless
<b>Odour:</b>	alcoholic
<b>Change in state</b>	
<b>Boiling point/boiling range:</b>	78 °C (pure ethanol)
<b>Danger of explosion:</b>	3,5 – 15 Vol %
<b>Vapor pressure:</b>	approximately 59 hPa
<b>Flashpoint:</b>	13° C (pure ethanol)
<b>pH-value (10 g/l H<sub>2</sub>O):</b>	7
<b>Autoflammability:</b>	The product does not self ignite
<b>Density (at 20 °C):</b>	0,93 g/cm <sup>3</sup>
<b>Solubility in water:</b>	slight
<b>Solvent content:</b>	
<b>Organic solvents:</b>	100 %
<b>Water:</b>	0,0 %
<b>VOC EU:</b>	100 %

## 10. Stability and reactivity

<b>Conditions to be avoided:</b>	Heating. No decomposition when used according to regulations. Explosible with air in gaseous/vaporous state.
<b>Hazardous reactions:</b>	Avoid strong oxidizing agents. as e.g. hydrogen peroxide, acids or alkali metals. Unsuitable materials: various plastics, rubber.
<b>Hazardous decomposition products:</b>	No hazardous decomposition products are known.

## 11. Toxicological information

**Values given below refer to the basic substance Ethanol.**

**Acute toxicity:** In our experience the product does not cause any noxious effects when used and handled according to regulations.

LC 50 (relating to inhalation, rat)	> 8.000 mg/l/4 h
LD50 (dermal, rabbit):	> 20.000 mg/kg
LC50 (oral, rat)	6.200 mg/ kg

**Specific symptoms in animal experiments:**

Test for irritation to eye (rabbit):	Slight irritation
Test for irritation to skin (rabbit):	Slight irritation

**Subacute to chronic toxicity:**

**Test for sensitisation (Magnusson Kligman):** No sensitising effect

Mutagenicity Test: Ames-Test: Negative; no mutagenic effect.

**Further toxicological information:**

- **Inhaling:** Vapours in high concentration cause irritation to respiratory tract; danger of resorption.
- **Skin:** After long-term effect of the chemical: Dermatitis (ethanol)
- **Eye:** Slight irritation.
- **Swallowing:** Nausea and vomiting.
- **Systemic effect:** Euphoria
- **After resorption of a large amount of substance:** Dizziness, intoxication, anaesthesia, respiratory paralysis.

## 12. Ecological information

**Referring to main substance:**

<b>Biological decomposition:</b>	Not determined.
<b>Ecotoxicological information:</b>	Quantitative data about ecological effects are not available for this product.
<b>Biological effects:</b>	Not determined.
<b>General information:</b>	Slight hazardous to waters. Prevent any spillage of larger amounts from entering groundwater, waters or sewage system.

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## 13. Disposal details



**Product:** Do not dispose of together with domestic waste.  
Prevent releasing into sewage system.  
**Uncleaned packaging:** Dispose of in accordance with official regulations.

### European Waste Catalogue

18 01 06 Chemicals containing or consisting of hazardous substances

## 14. Transport information

### Land transport ADR/RID and GGVS/GGVE (cross-border/national):



**ADR/RID-GGVS/E class:** 3 (F1) flammable liquid  
**Kemler-Number :** 33  
**UN-Number:** 1170  
**Packaging group:** II  
**Hazard label:** 3  
**Proper shipping name:** 1170, ETHANOL (ETHYLALCOHOL), LIQUID

### Maritime transport IMDG/GGV sea:



**IMDG/GGVsea class:** 3  
**UN-Number:** 1170  
**Label:** 3  
**Packaging group:** II  
**EMS-Number:** F-E, S-D  
**MARINE POLLUTANT:** NO  
**Proper shipping name:** ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

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



**ICAO / IATA class:** 3  
**UN/ID number:** 1170  
**Label:** 3  
**Packing group:** II  
**Proper shipping name:** ETHANOL SOLUTION

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## 15. Regulations according to GHS

**Signal word:** Danger

**Hazard pictogram:**



**Hazard Statements:**

H225: Highly flammable liquid and vapour

H226: Flammable liquid and vapour

H314: Causes severe skin burns and eye damage

**Precautionary Statements:**

P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233: Keep container tightly closed

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## 16. Regulations

**Labelling according to EU-Directive:**

The product has been classified and labelled in accordance with EU-Directives / Ordinance on Hazardous Materials (GefStoffV).

**Labels:**



F Highly flammable

**Risk phrases:**

R10: Flammable.

R11: Highly flammable.

R35: Causes severe burns.

**Safety phrases:**

S 7-16: Keep container tightly closed and away from ignition sources. Do not smoke.

S23: Do not breathe gas/fumes/vapour/spray.

S24/25: Avoid contact with skin and eyes.

**National regulations:**

**Water hazard class:** 1 (slight hazardous to waters), self-assessment.

## 17. Other information

This information is based on our present knowledge. However, they do not represent a guarantee for any product features and do not establish a contractual relationship.

**Department issuing MSDS:** Quality assurance department