

Porcelain Silane

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 02 January 2019 Revision date: 02 January 2019 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Trade name : Porcelain Silane

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Silane solution used after etchant to enhance the bonding of resin material.
 Restrictions on use : None known

1.3. Supplier

Inter-Med, Inc. / Vista Dental Products
 2200 South Street
 Racine, WI 53404
 T: (877)-418-4782

1.4. Emergency telephone number

Emergency number : 800-424-9300 (North America) / +1 (703) 527-3887 (International)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2 : Highly flammable liquid and vapor
 Serious eye damage/eye irritation Category 1 : Causes serious eye damage

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger
 Hazard statements (GHS US) : Highly flammable liquid and vapor
 Causes serious eye damage
 Precautionary statements (GHS US) : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Keep container tightly closed.
 Use explosion-proof electrical/ventilating/lighting equipment
 Use only non-sparking tools.
 Wear protective gloves, eye protection.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a doctor
 Store in a well-ventilated place. Keep cool.
 Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

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Name	Product identifier	%	GHS US classification
Ethyl alcohol	(CAS-No.) 64-17-5	96	Flam. Liq. 2, H225 Eye Irrit. 2A, H319
[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	(CAS-No.) 2530-83-8	4	Eye Dam. 1, H318

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Give artificial respiration if necessary. If you feel unwell, seek medical advice.
- First-aid measures after skin contact : Wash off immediately with soap and plenty of water. Obtain medical attention if irritation persists.
- First-aid measures after eye contact : In case of eye contact, immediately rinse with clean water for 20-30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical advice.
- First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Get medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after inhalation : Inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.
- Symptoms/effects after skin contact : May cause slight temporary irritation.
- Symptoms/effects after eye contact : Causes serious eye burns.
- Symptoms/effects after ingestion : May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
- Unsuitable extinguishing media : None known.

5.2. Specific hazards arising from the chemical

- Fire hazard : Highly flammable liquid and vapor. On combustion, forms: carbon oxides (CO and CO₂).
- Explosion hazard : May form flammable vapor-air mixture. Vapors may travel long distances along ground before igniting/flashing back to vapor source.
- Reactivity : Stable under normal conditions of use.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Exercise caution when fighting any chemical fire.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition.

6.1.1. For non-emergency personnel

- Protective equipment : Use personal protective equipment as required. For further information refer to section 8: "Exposure controls/personal protection".
- Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. In case of inadequate ventilation wear respiratory protection.
- Emergency procedures : Stop leak if safe to do so. Ventilate spillage area. Take precautionary measures against static discharge. Eliminate all ignition sources if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

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6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13: "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
- Precautions for safe handling : Avoid contact with eyes. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical/ventilating/lighting equipment.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Use explosion-proof electrical/ventilating/lighting equipment. Keep away from open flames, hot surfaces and sources of ignition.
- Storage conditions : Keep only in original container. Store locked up. Store in a well-ventilated place. Keep cool.
- Incompatible materials : Caustic products. Metals. Sulfides (total sum of dimethyl disulfide, dimethyl sulfide and methyl mercaptan). Sulfites.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ethyl alcohol (64-17-5)		
ACGIH	Local name	Ethanol
ACGIH	ACGIH STEL (ppm)	1000 ppm
ACGIH	Remark (ACGIH)	TLV® Basis: URT irr. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m³)	1900 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
IDLH	US IDLH (ppm)	3300 ppm (10% LEL)
NIOSH	NIOSH REL (TWA) (mg/m³)	1900 mg/m³
NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm

[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane (2530-83-8)

Not applicable

8.2. Appropriate engineering controls

- Appropriate engineering controls : Provide local exhaust or general room ventilation to minimize vapor concentrations. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Impermeable protective gloves

Eye protection:

Safety glasses with side shields

Skin and body protection:

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Long sleeved protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. An approved organic vapor respirator/supplied air or self-contained breathing apparatus must be used when vapor concentration exceeds applicable exposure limits

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear
Color	: Colorless
Odor	: alcohol odor
Odor threshold	: No data available
pH	: 6.8 - 7.5
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 18 °C 64°F (Ethanol)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions of use.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Do not expose to heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Caustic products. metals. Sulfides (total sum of dimethyl disulfide, dimethyl sulfide and methyl mercaptan). Sulfites.

10.6. Hazardous decomposition products

On combustion, forms: carbon oxides (CO and CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)

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Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

Ethyl alcohol (64-17-5)	
LD50 oral rat	7060 mg/kg
LC50 inhalation rat (mg/l)	124.7 mg/l/4h

[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane (2530-83-8)	
LD50 oral rat	7.01 g/kg
LC50 inhalation rat (mg/l)	> 5.3 mg/l/4h

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: 6.8 - 7.5

Serious eye damage/irritation : Causes serious eye damage.
pH: 6.8 - 7.5

Respiratory or skin sensitization : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

Specific target organ toxicity – single exposure : Not classified (Based on available data, the classification criteria are not met)

Specific target organ toxicity – repeated exposure : Not classified (Based on available data, the classification criteria are not met)

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

Viscosity, kinematic : No data available

Likely routes of exposure : Inhalation. Ingestion. Skin and eye contact.

Symptoms/effects after inhalation : Inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Symptoms/effects after skin contact : May cause slight temporary irritation

Symptoms/effects after eye contact : Causes serious eye burns.

Symptoms/effects after ingestion : May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : This material has not been tested for environmental effects.

Ethyl alcohol (64-17-5)	
LC50 fish 1	12.0 - 16.0 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
LC50 other aquatic organisms 1	5012 mg/l 48 hours- daphnia
EC50 Daphnia 1	9268 - 14221 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	2 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
ErC50 (algae)	275 mg/l
ErC50 (other aquatic plants)	4432 mg/l
NOEC (acute)	9.6 mg/l Daphnia magna

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Ethyl alcohol (64-17-5)	
Log Pow	-0.32

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Disposal methods

- Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
- Product/Packaging disposal recommendations : Handle empty containers with care because residual vapors are flammable. Dispose in a safe manner in accordance with local/national regulations.
- Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

- Transport document description : UN1170 Ethanol solutions, 3, III
- UN-No.(DOT) : UN1170
- Proper Shipping Name (DOT) : Ethanol solutions
- Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
- Packing group (DOT) : III - Minor Danger
- Hazard labels (DOT) : 3 - Flammable liquid



- DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
- DOT Packaging Bulk (49 CFR 173.xxx) : 242
- DOT Special Provisions (49 CFR 172.102) : 24 - Alcoholic beverages containing more than 70 percent alcohol by volume must be transported as materials in Packing Group II. Alcoholic beverages containing more than 24 percent but not more than 70 percent alcohol by volume must be transported as materials in Packing Group III.
B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T2 - 1.5 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 4b;150
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L
- DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
- Emergency Response Guide (ERG) Number : 127
- Other information : No supplementary information available.

Transportation of Dangerous Goods

- Transport document description : UN1170 ETHANOL SOLUTION, 3, III
- UN-No. (TDG) : UN1170
- Proper Shipping Name (Transportation of Dangerous Goods) : ETHANOL SOLUTION
- TDG Primary Hazard Classes : 3 - Class 3 - Flammable Liquids
- Packing group : III - Minor Danger

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TDG Special Provisions	: 150 - An emergency response assistance plan (ERAP) is required for these dangerous goods under subsection 7.1(6) of Part 7 (Emergency Response Assistance Plan).
Explosive Limit and Limited Quantity Index	: 5 L
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 60 L

Transport by sea

Transport document description (IMDG)	: UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, III
UN-No. (IMDG)	: 1170
Proper Shipping Name (IMDG)	: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: III - substances presenting low danger
Limited quantities (IMDG)	: 5 L

Air transport

Transport document description (IATA)	: UN 1170 Ethanol solution, 3, III
UN-No. (IATA)	: 1170
Proper Shipping Name (IATA)	: Ethanol solution
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Ethyl alcohol (64-17-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane (2530-83-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Ethyl alcohol (64-17-5)

Listed on the Canadian DSL (Domestic Substances List)

[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane (2530-83-8)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Ethyl alcohol (64-17-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane (2530-83-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Ethyl alcohol (64-17-5)

Listed on IARC (International Agency for Research on Cancer)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

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[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane (2530-83-8)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

No additional information available

SECTION 16: Other information

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Revision date : 02 January 2019

Full text of H-phrases:

H225	Highly flammable liquid and vapor
H318	Causes serious eye damage
H319	Causes serious eye irritation

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product