

**DENTSPLY/International  
DENTSPLY/Caulk  
Safety Data Sheet**

**507891**

**1. Identification**

|                                                                |                                                                                                                                                                                              |
|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name<br><b>CALIBRA® Silane Coupling Agent</b>          | MSDS Code Number<br><b>507891</b>                                                                                                                                                            |
| Trade Name & Synonyms<br><b>CALIBRA® Silane Coupling Agent</b> | Date of Last Revision<br><b>02/21/14</b>                                                                                                                                                     |
| Manufacturer<br><b>DENTSPLY/Caulk</b>                          | Address<br><b>38 West Clarke Avenue<br/>Milford DE 19963-1805<br/><a href="http://www.caulk.com">http://www.caulk.com</a>, <a href="http://www.dentsply.com">http://www.dentsply.com</a></b> |
| Grades or Minor Variant Identities<br>Not Applicable           | Information Telephone Number<br><b>(302) 422-4511 (8:00 AM – 4:30 PM Eastern Time)</b>                                                                                                       |
| Product Use (for Canada)<br>Not Applicable                     | Emergency Telephone Number<br><b>(302) 422-4511 (8:00 AM – 4:30 PM Eastern Time)</b>                                                                                                         |

**2. Hazard(s) Identification**



**Danger**  
Highly Flammable Liquid and Vapor



**WARNING**  
CAUSES SKIN IRRITATION  
CAUSES SERIOUS EYE IRRITATION

Keep away from heat/sparks/open flames/hot surfaces-No Smoking  
Keep container tightly closed.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
In case of fire: Use Dry chemical, alcohol, alcohol foam, or carbon dioxide for extinction.  
Store in a well ventilated place. Keep cool.  
Contaminated work clothing should not be allowed out of the workplace.  
Wash thoroughly after handling.  
Wear protective gloves.  
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 attention.  
IF ON SKIN: Remove immediately all contaminated clothing. Rinse with water.  
If skin irritation or rash occurs: get medical attention.  
Wash contaminated clothing before reuse.  
Dispose of contents/container in accordance with local regulations.

**3. Composition/Information on Ingredients**

| Hazardous Components | C.A.S. Number | Exposure Limits | %    |
|----------------------|---------------|-----------------|------|
| Ethyl Alcohol        | 64-17-5       | 1000 ppm        | 92.6 |
| Acetone              | 67-64-1       | 500 ppm         | 7.4  |

**4. First Aid Measures**

| Routes of Exposure                                                            | First Aid Instructions                                                                          | Immediate Medical Attention | Delayed Effects |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------|-----------------|
| Eye                                                                           | Rinse opened eye for several minutes under running water. If symptoms persist consult physician | Not Applicable              | Not Applicable  |
| Skin                                                                          | Immediately wash with soap and water and rinse thoroughly                                       | Not Applicable              | Not Applicable  |
| Inhalation                                                                    | Supply fresh air                                                                                | Not Applicable              | Not Applicable  |
| Ingestion                                                                     | If symptoms persist consult physician                                                           | Not Applicable              | Not Applicable  |
| Other                                                                         | Not Applicable                                                                                  | Not Applicable              | Not Applicable  |
| Note to Physicians (Treating, Testing and Monitoring): Treat symptomatically. |                                                                                                 |                             |                 |

## 5. Fire Fighting Measures

|                                                                                                                                                        |                                                                         |                                                    |                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------------|-----------------------|
| Flashpoint Method: 6°C (43°F)<br>Tag Closed Cup                                                                                                        | Flammable (Explosive) Limits in Air<br>LEL: 3.3 vol. %   UEL: 19 vol. % | Autoignition Temperature: 423°C (793°F)            | Other: Not Applicable |
| Flame Propagation or Burning Rate (for Solids): Not Applicable                                                                                         | Properties Contributing to Fire Intensity: Not Applicable               | Flammability Classification: 3                     |                       |
| Extinguishing Media: Dry chemical, alcohol foam, or carbon dioxide. Water may be ineffective, but should be used to keep fire-exposed containers cool. |                                                                         | Extinguishing Media to Avoid: Water with full jet. |                       |
| Protection and Procedures for Firefighters: Firefighters should wear self-contained respiratory protective devices.                                    |                                                                         |                                                    |                       |
| Unusual Fire and Explosion Hazards: Formation of toxic gases is possible during heating or in case of fire.                                            |                                                                         |                                                    |                       |

## 6. Accidental Release Measures

|                                                                                                                                                                                                                                    |                                      |                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------|
| Containment Techniques: Wear proper personal protective equipment as described in section 8. Absorb spill with inert material (e.g. vermiculite, sand, earth), then place material in suitable labeled plastic or metal container. |                                      |                                        |
| Spill/Leak Clean-up Procedures and Equipment: Absorb spill with inert material (e.g. vermiculite, sand, and earth), then place material in suitable labeled plastic or metal container. Ensure adequate ventilation.               |                                      |                                        |
| Evacuation Procedures: Not Applicable                                                                                                                                                                                              | Special Instructions: Not Applicable | Reporting Requirements: Not Applicable |

## 7. Handling and Storage

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Handling Practices and Warnings: Wash thoroughly after handling. Handling of this product should be by trained dental healthcare professionals only. Observe normal care for working with chemicals. Avoid ingestion and inhalation.                                                                                                                                                                                                                                                          |
| Storage Practices and Warnings: Store only in the original package. Keep package tightly sealed. Protect from exposure to direct light. Store away from extreme heat, food and beverages. For small quantities (as in this product): Keep syringe tightly closed, in a well ventilated area, away from heat, sparks, direct sunlight, and oxidizing agents. Protect container against physical damage. Take these same precautions when container is empty, as residual product is hazardous. |

## 8. Exposure Control / Personal Protection



|                                                                                                                                                                                                                                               |                                                                        |                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------|
| Occupational Exposure Limits: Not Applicable                                                                                                                                                                                                  |                                                                        |                                               |
| Engineering Controls: Not Applicable                                                                                                                                                                                                          |                                                                        |                                               |
| Individual Protection Measures                                                                                                                                                                                                                | Personal Protective Equipment for Normal Use                           | Personal Protective Equipment for Emergencies |
| Eye/Face                                                                                                                                                                                                                                      | Safety Glasses                                                         | Not Applicable                                |
| Skin                                                                                                                                                                                                                                          | The glove material has to be impermeable and resistant to the product. | Not Applicable                                |
| Inhalation                                                                                                                                                                                                                                    | Not required for normal volumes used in Dental office.                 | Not Applicable                                |
| Body Protection                                                                                                                                                                                                                               | Protective work clothing                                               | Not Applicable                                |
| General Hygiene Considerations and Work Practices: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at end of work. Avoid contact with the eyes and skin. |                                                                        |                                               |
| Protective Measures During Repair and Maintenance of Contaminated Equipment: Not Applicable                                                                                                                                                   |                                                                        |                                               |
| Other Protective Measures and Equipment: Not Applicable                                                                                                                                                                                       |                                                                        |                                               |

## 9. Physical and Chemical Characteristics

|                                             |                                    |                                                     |
|---------------------------------------------|------------------------------------|-----------------------------------------------------|
| Appearance: Clear liquid.                   | Odor: Characteristic alcohol odor. |                                                     |
| Normal Physical State: Low Viscosity Liquid | Melting Point: -114°C (-173°F)     | Boiling Point: 78°C (173°F)                         |
| Specific Gravity: 0.8 g/cm <sup>3</sup>     | Solubility in Water: Completely    | pH: Not Applicable                                  |
| Vapor Pressure (mm Hg): 44.6                | Vapor Density (AIR=1): 1.59        | Evaporation Rate (Butyl Acetate =1) Not Established |
| Other: Not Applicable                       |                                    |                                                     |

## 10. Stability and Reactivity Data

|                                                                                                                   |                                                           |  |
|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--|
| Incompatibility (Materials to Avoid): High temperatures, strong oxidizing agents and acetyl chloride.             |                                                           |  |
| Hazardous Products Produced During Decomposition: Carbon dioxide, and carbon monoxide from incomplete combustion. |                                                           |  |
| Hazardous Polymerization: <input type="checkbox"/> May Occur <input checked="" type="checkbox"/> May Not Occur    | Conditions to Avoid: High Temperatures, ignition sources. |  |
| Stability? <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable                           | Conditions to Avoid: High Temperatures, ignition sources. |  |

## 11. Toxicological Information

|                                                                                                                                                                                                                                                             |                    |                      |                           |                                    |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------|---------------------------|------------------------------------|--------|
| Toxicity Data, Epidemiology Studies, Carcinogenicity, Neurological Effects, Genetic Effects, Reproductive Effects, or Structure Activity Data:<br>Product is an irritant to the skin and mucous membranes. On the eye the product has an irritating effect. |                    |                      |                           |                                    |        |
| Emergency Overview Material causes severe eye irritation. Breathing vapors may cause drowsiness and dizziness.                                                                                                                                              |                    |                      |                           |                                    |        |
| Routes of Exposure                                                                                                                                                                                                                                          | Signs and Symptoms | Single, Repeated, or | Severity (Mild, Moderate, | Acute and Chronic Health Effect(s) | Target |

|                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                          | Lifetime Exposure | Severe)        |                                                                                                                                                                          | Organ(s)       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Eye                                                                                                                                                                                                                                                        | Material causes severe eye irritation.                                                                                                                                                                                   | Single            | Moderate       | Irritation and possible corneal damage                                                                                                                                   | Yes            |
| Skin                                                                                                                                                                                                                                                       | Material may be an irritant and may be absorbed through the skin.                                                                                                                                                        | Single & Repeated | Moderate       | Irritation or possible allergic response. Severe allergic response may result in breathing difficulties.                                                                 | Yes            |
| Inhalation                                                                                                                                                                                                                                                 | Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. This may not be of concern when using clinically relevant quantities. | Repeated          | Moderate       | Chronic inhalation may cause effects similar to those of acute inhalation. Causes respiratory tract irritation. May cause motor incoordination and speech abnormalities. | Yes            |
| Ingestion                                                                                                                                                                                                                                                  | May cause irritation of the digestive tract. This may not be of concern when using clinically relevant quantities.                                                                                                       | Single & Repeated | Mild           | Not Applicable                                                                                                                                                           | No             |
| Other: Central nervous system                                                                                                                                                                                                                              | Not Applicable                                                                                                                                                                                                           | Not Applicable    | Not Applicable | Not Applicable                                                                                                                                                           | Not Applicable |
| Medical Conditions Aggravated by Exposure Open sores and wounds of the skin. Individuals with known sensitivity to methacrylates, acrylates, or urethane dimethacrylate resin used in Dental restorative products.                                         |                                                                                                                                                                                                                          |                   |                |                                                                                                                                                                          |                |
| Carcinogenicity NTP?: Not listed IARC monographs?: Not listed OSHA regulated?: No. All components of this product are in compliance with the inventory listing Requirements of the U. S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory. |                                                                                                                                                                                                                          |                   |                |                                                                                                                                                                          |                |
| Potential Environmental Effects Do not allow to enter sewers/ surface or ground water.                                                                                                                                                                     |                                                                                                                                                                                                                          |                   |                |                                                                                                                                                                          |                |
| NFPA Hazard Classification Ratings (Scale 0-4) Health =2, Fire =3, Reactivity=2 Specific Hazard = None                                                                                                                                                     |                                                                                                                                                                                                                          |                   |                |                                                                                                                                                                          |                |

## 12. Ecological Information



Danger  
Hazardous to aquatic life

Toxicity Data, Environmental Fate, Physical/Chemical Data, or other Data Supporting Environmental Hazard Statements: Water Hazard class2 (Self-assessment): The ethyl alcohol in the product is apt to volatilizes, leech into the ground water, but no data on the rates of these processes can be found. Its fate in ground water is unknown. When released into water it will volatilize and probably degrade. It would not be expected to adsorb to sediment or bioconcentrate in fish. When released to the atmosphere it will photo degrade in hours to an estimated range of 4 – 6 days in less polluted areas.

## 13. Disposal Considerations

Regulations: Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Dispose of material as solid waste in a closed container. Dispose of in accordance with Federal, State and Local regulations

Properties (Physical/Chemical) Affecting Disposal: Dispose of material as liquid waste in a closed container.  
RCRA P-Series: None Listed, RCRA U-Series: None Listed. Waste Number D001 (Ignitable Waste)

## 14. Transport Information



Flammable Liquid

|                                                                                           |                                              |                                |
|-------------------------------------------------------------------------------------------|----------------------------------------------|--------------------------------|
| Regulated for Shipping: Yes                                                               | Proper Shipping Name: Ethyl Alcohol Solution | Packing Group: II              |
| Do Changes in Quantities, packaging, or shipment method change product classification? No | Hazard Class: 3                              | UN Identification Number: 1170 |
| Other: Not Applicable                                                                     |                                              |                                |

## 15. Regulatory Information

This product has been classified in accordance with the hazard criteria of the Globally Harmonized System of Classification and Labeling of Chemicals and the SDS contains all of the information required by the Canadian Controlled Products Regulations.

U.S. Federal Regulations: CERCLA 103 Reportable Quantity: No chemicals have a reportable quantity. Report spills required under federal, state

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| and local regulations. Many states have more stringent release reporting requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>RCRA U-Series Hazardous Waste Code</b> : Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Section 313 Toxic Chemicals:</b> This product does not contain any chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>SARA Codes:</b> CAS# 64-17-5 Ethyl Alcohol: immediate, delayed, fire.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Section 302 Extremely Hazardous Substances (TPQ):</b> None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>EPA Toxic Substances Control Act (TSCA) Status:</b> All of the components of this product are listed on the TSCA inventory.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>U.S. State Regulations California Proposition 65:</b> This product does not contain any chemicals, which are on the California Proposition 65 list.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Clean Air Act:</b> CAS# 64-17-5 Ethyl Alcohol: is not listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 ozone depleters. This material does not contain any Class 2 depleters.                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Clean Water Act:</b> CAS# 64-17-5 Ethyl Alcohol: is not listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>OSHA:</b> None of the chemicals in this product are considered highly hazardous by OSHA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>WGK (Water Danger /Protection):</b> CAS# 64-17-5 Ethyl Alcohol: 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>International Regulations:</b> Hazard Symbol: Flammable XI F Risk Phrases: R11 Highly Flammable, R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R36/37/38 Irritating to eyes, respiratory system. R68 Possible risks of irreversible effects. Safety Phrases: S7/9 Keep container tightly closed and in a well ventilated place. S16 Keep away from sources of ignition – No Smoking. S23 Do not breathe fumes. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37 Wear suitable protective clothing and gloves. S60 This material and its container must be disposed of as hazardous waste. |
| <b>Canada WHMIS for the CAS# 64-17-5 Ethyl Alcohol,</b> classification of B2 D2A, Flammable Liquid is on the Canadian Ingredient Disclosure List.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## 16. Other Information

To the best of our knowledge this product does not contain gluten, wheat grains, flaxseed, natural rubber, or natural latex. All components are synthetically produced; none are derived from animal products. This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific products features and shall not establish a legally valid contractual relationship. The attached safety data sheet covers the dangers and measures to be taken when large quantities of material are released, for example due to accidents during transport or storage by the dealer. For quantities of material typically used in clinical practice, information necessary for safe use and storage of the product is given in the DFU.