

## **SAFETY DATA SHEETS**

**This SDS packet was issued with item:**

071737444

**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).**

071737402 071738020 071738608 071891258 078289800 078291200 078291900

MSDS Name: IRM POWDER & LIQUID

Kit Components:

510896 : IRM POWDER

510897 : IRM Liquid Zinc Oxide Eugenol

Dentsply Caulk

IRM Liquid Zinc Oxide Eugenol

Manufacturer MSDS Number: 510897NFPA

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2 0

\*\*\*\*\*  
SECTION 1 : Chemical Product and Company Identification  
\*\*\*\*\*

MSDS Name: IRM Liquid Zinc Oxide Eugenol

Manufacturer Name: Dentsply Caulk

Address:

38 West Clarke Avenue

Milford DE 19963-0359

Internet Address: <http://www.caulk.com>

Business Phone: (302) 422-4511

For information in North America, call: (302) 422-4511

For emergencies in the US, call CHEMTREC: 800-424-9300

Hours Of Operation: (8:00 AM - 4:30 PM Eastern Time)

Manufacturer MSDS Creation Date:

11/13/98

Manufacturer MSDS Revision Date:

11/12/01

Trade Names:

IRM« LIQUID Zinc Oxide Eugenol

Intermediate Restorative Material

NFPA

Health: 2

Flammability: 1

Reactivity: 0

Other: N.A.

Product Codes:

610004, 610007 All Package Configurations \*

\*\*\*\*\*  
SECTION 2 : Hazardous Ingredients/Identity Information  
\*\*\*\*\*

Chemical Name  
Eugenol CAS#  
99-53-0 Percent  
> 99 %

OSHA PEL TWA: Not Applicable  
ACGIH TLV TWA: Not Applicable  
Chemical Name  
Acetic Acid CAS#  
64-19-7 Percent  
< 1 %

OSHA PEL TWA: 10 ppm  
ACGIH TLV TWA: 10 ppm

\*\*\*\*\*  
SECTION 3 : Physical And Chemical Characteristics  
\*\*\*\*\*

Physical State/Appearance:  
Liquid.  
Color:  
Colorless or pale yellow  
Odor:  
Odor is oil of cloves.  
Vapor Pressure:  
0.1 mm Hg @ 20 deg C  
Vapor Density:  
Not Established  
Boiling Point:  
254 deg C/489 deg F  
Melting Point:  
-9 deg C/-16 deg F  
Solubility:  
In water: Slightly Soluble  
Specific Gravity:  
1.0 g/cm3  
Evaporation Point:  
Not Established  
FlashPoint:  
Approximately 252 deg F  
Upper Flammable Explosive Limit:  
Not Established  
Lower Flammable Explosive Limit:  
Not Established

\*\*\*\*\*  
SECTION 4 : Fire And Explosion Hazards  
\*\*\*\*\*

Flash Point:  
Approximately 252 deg F  
Flash Point Method:  
Closed cup  
Upper Flammable or Explosive Limit: Not Established

Lower Flammable or Explosive Limit: Not Established

Extinguishing Media:

Carbon dioxide, dry chemical or foam extinguishers.

Fire Fighting Instructions:

Fire fighters should wear full protective clothing including self-contained breathing apparatus. Cool containers exposed to flame with water.

Unusual Fire Hazards:

None, Material is not pyrophoric, does not react with water, not oxygen donor, material is shock stable.

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## SECTION 5 : Health Hazards

\*\*\*\*\*

Applies to all ingredients:

Route of Exposure:

Inhalation: Yes

Skin: Yes

Ingestion: Possible

Potential Health Effects:

Acute: Liquid irritating to skin and eyes. Repeated contact may cause allergic dermatitis. Repeated daily oral doses of large amounts to rats caused liver damage. The effects in humans are unknown.

Chronic Health Effects:

Liquid irritating to skin and eyes. Repeated contact may cause allergic dermatitis. Repeated daily oral doses of large amounts to rats caused liver damage. The effects in humans are unknown.

Carcinogenicity:

OSHA Designation: Regulated : No

NTP Designation: Not listed

IARC Designation: Monographs: Not listed

Signs/Symptoms:

Product may irritate the eyes and skin.

Eye contact: Redness or irritation.

Skin contact: Redness or irritation.

Eugenol:

Aggravation of Pre-Existing Conditions:

Persons with known sensitization to eugenol. Open sores or wounds of the skin.

\*\*\*\*\*

## SECTION 6 : Emergency And First Aid Procedures

\*\*\*\*\*

Eye Contact:

In case of eye contact, flush with flowing water for 15 minutes, including under the eyelids and get medical attention.

Skin Contact:

Flush with flowing water then wash area with mild soap and water.

Ingestion:

Consult a physician.

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## SECTION 7 : Reactivity Data

\*\*\*\*\*

#### Chemical Stability:

Stable

#### Conditions to Avoid:

(Stability): Excessive heat greater than 37 deg C/100 deg F.

#### Incompatibilities with Other Materials:

(Materials to avoid): Keep separated from strong bases, and strong oxidizing agents. Ferric chloride and potassium permanganate

#### Hazardous Polymerization:

Will not occur

Conditions to avoid (polymerization): None.

#### Hazardous Decomposition Products:

Forms carbon monoxide and/or carbon dioxide upon burning.

\*\*\*\*\*

### SECTION 8 : Precautions For Safe Handling

\*\*\*\*\*

#### Spill Cleanup Measures:

Absorb liquid with inert materials (sand, soda ash, vermiculite) and transfer to an appropriate closed container for disposal.

#### Other Precautions:

Eugenol darkens and thickens upon exposure to air. Observe normal warehouse handling procedures. Handling of this product should be by trained dental healthcare professionals only.

#### Handling:

Always close container immediately after use to prevent water absorption and contamination.

#### Storage:

Store at ambient temperature out of direct sunlight and heat. Do not store above 77 deg F (25 deg C). Do not expose to temperatures above 35 deg C Store in a dry area. Keep away from foodstuff and beverages.

#### Hygiene Practices:

Avoid eye and skin contact, inhalation and ingestion. Observe normal care when working with chemicals. Do not eat, drink or smoke when using.

#### Waste Disposal:

Dispose of in accordance with Federal, State and Local regulations.

\*\*\*\*\*

### SECTION 9 : Control Measures

\*\*\*\*\*

#### Ventilation System:

Local exhaust recommended.

#### Hand Protection Description:

Protective gloves: Rubber gloves.

#### Eye/Face Protection:

Close fitting protective goggles.

#### Protective Clothing/Body Protection:

Rubber apron.

#### Respiratory Protection:

None required during normal use of this product. Avoid casual breathing of vapors.

\*\*\*\*\*

### SECTION 10 : Other Information

\*\*\*\*\*

Applies to all ingredients:

TSCA 8(b): Inventory Status

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.

NFPA:

Fire Hazard: 1

Health: 2

Reactivity: 0

Specific Hazard: Not Applicable

MSDS Preparation Date: 11/13/98

MSDS Revision Date:

11/12/01

Abbreviations:

NFPA - National Fire Protection Association

N.A. - Not Applicable

N.E. - Not Established

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Dentsply Caulk

IRM POWDER

Manufacturer MSDS Number: 510896NFPA

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# SECTION 1 : Chemical Product and Company Identification

\*\*\*\*\*

MSDS Name: IRM Powder

Manufacturer Name:Dentsply Caulk

Address:

38 West Clarke Avenue

Milford DE 19963-0359

Business Phone:(302) 422-4511

For information in North America, call: (302) 422-4511

For emergencies in the US, call CHEMTREC: 800-424-9300

Manufacturer MSDS Creation Date:

9/20/95

Manufacturer MSDS Revision Date:

11/13/98

Trade Names:

IRM« POWDER.

NFPA

Health: 1

Flammability: 0

Reactivity: 0  
Other: N.A.  
Product Codes:  
610007 , 610003.

\*\*\*\*\*  
SECTION 2 : Hazardous Ingredients/Identity Information  
\*\*\*\*\*

Chemical Name  
Zinc oxide  
OSHA PEL TWA: 10 mg/mm3  
ACGIH TLV TWA: 10 mg/mm3  
Hazardous: Yes

\*\*\*\*\*  
SECTION 3 : Physical And Chemical Characteristics  
\*\*\*\*\*

Physical State/Appearance:

Powder.  
Color:  
Whitish.  
Odor:  
Faint odor.  
Vapor Pressure:  
Not Applicable.  
Vapor Density:  
Not Applicable.  
Boiling Point:  
Not Applicable.  
Melting Point:  
Not Applicable.  
Solubility:  
In water: Not Soluble.  
Specific Gravity:  
5.7 g/cm3  
Evaporation Point:  
Not Applicable.  
FlashPoint:  
Not Applicable.  
Upper Flammable Explosive Limit:  
Not Applicable.  
Lower Flammable Explosive Limit:  
Not Applicable.

\*\*\*\*\*  
SECTION 4 : Fire And Explosion Hazards  
\*\*\*\*\*

Fire:  
Flammability (explosive limits): Not Applicable.  
Flash Point:  
Not Applicable.  
Flash Point Method:  
Not Applicable.  
Upper Flammable or Explosive Limit: Not Applicable.  
Lower Flammable or Explosive Limit: Not Applicable.  
Extinguishing Media:  
Water, carbon dioxide, or dry chemical extinguishers.  
Fire Fighting Instructions:

Avoid extinguishing methods, which may generate dust clouds. Water stream can disperse dust in air producing a fire hazard and possible explosion hazard if exposed to ignition source. Fire fighters should wear full protective clothing including a self-contained breathing apparatus.

#### Unusual Fire Hazards:

Polymer dust is combustible. The explosive limits of the polymer particles suspended in air are approximately those of coal dust.

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### SECTION 5 : Health Hazards

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Zinc oxide:

Route of Exposure:

Inhalation: Yes.

Skin: No.

Ingestion: Possible.

Potential Health Effects:

Acute: It is not known to cause significant health problems. It is considered an inert or nuisance dust. Avoid inhalation of dust. Keep dust out of eyes to prevent possible irritation.

Chronic Health Effects:

It is not known to cause significant health problems. It is considered an inert or nuisance dust. Avoid inhalation of dust. Keep dust out of eyes to prevent possible irritation.

Carcinogenicity:

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.

OSHA Designation: Regulated: No.

NTP Designation: Not listed.

IARC Designation: Monographs: Not listed.

Signs/Symptoms:

Product may irritate the eyes and skin.

Eye contact: Redness or irritation.

Skin contact: Redness or irritation.

Aggravation of Pre-Existing Conditions:

Open sores or wounds of the skin.

\*\*\*\*\*

### SECTION 6 : Emergency And First Aid Procedures

\*\*\*\*\*

Eye Contact:

In case of eye contact, flush with flowing water for 15 minutes, including under the eyelids and get medical attention.

Skin Contact:

Flush with flowing water then wash area with mild soap and water.

Inhalation:

Remove to fresh air.

Ingestion:

Rinse mouth with water. Consult a physician if amount was large.

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### SECTION 7 : Reactivity Data

\*\*\*\*\*

Chemical Stability:

Stable.

Conditions to Avoid:

(Stability): Excessive heat, greater than 50 deg C/122 deg F.

Incompatibilities with Other Materials:

(Materials to avoid): Not Applicable.

Hazardous Polymerization:

Will not occur.

Conditions to avoid (polymerization): None.

Hazardous Decomposition Products:

From the polymer - methylmethacrylate and carbon monoxide.

\*\*\*\*\*

SECTION 8 : Precautions For Safe Handling

\*\*\*\*\*

Spill Cleanup Measures:

As with any nuisance dust, avoid excessive dusting. Sweep up spilled powder to avoid slipping hazard and place in an appropriately marked container. keep airborne particulates to a minimum when cleaning up spills.

Other Precautions:

Observe normal warehouse handling procedures.

Storage:

Store in a cool, dry place away from food and beverages. Keep container closed to prevent water absorption and contamination.

Work Practices:

Observe normal care when working with chemicals.

Hygiene Practices:

Observe normal care when working with chemicals.

Waste Disposal:

Dispose of in accordance with Federal, State and Local regulations.

\*\*\*\*\*

SECTION 9 : Control Measures

\*\*\*\*\*

Ventilation System:

Local exhaust recommended.

Hand Protection Description:

Protective gloves: Rubber gloves.

Eye/Face Protection:

Safety glasses.

Protective Clothing/Body Protection:

Rubber apron.

Respiratory Protection:

None required during normal use of this product. Local ventilation or approved nuisance dust mask, if in large quantities.

\*\*\*\*\*

SECTION 10 : Other Information

\*\*\*\*\*

Zinc oxide:

TSCA 8(b): Inventory Status

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.

NFPA:

Fire Hazard: 0

Health: 1

Reactivity: 0

Specific Hazard: Not Applicable.

MSDS Preparation Date: 9/20/95

MSDS Revision Date:

11/13/98

Abbreviations:

NFPA - National Fire Protection Association.

N.A. - Not Applicable.

N.E. - Not Established.

510896 (R-11/98)

# Dentsply IRM Powder

Dentsply (Australia) Pty Ltd

Chemwatch: 8108-20

Version No: 4.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 1

Issue Date: 01/01/2013

Print Date: 21/08/2015

Initial Date: Not Available

S.GHS.AUS.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### Product Identifier

|                               |                                   |
|-------------------------------|-----------------------------------|
| Product name                  | Dentsply IRM Powder               |
| Synonyms                      | intermediate restorative material |
| Other means of identification | Not Available                     |

### Relevant identified uses of the substance or mixture and uses advised against

|                          |                     |
|--------------------------|---------------------|
| Relevant identified uses | For dental use only |
|--------------------------|---------------------|

### Details of the manufacturer/importer

|                         |                                                    |
|-------------------------|----------------------------------------------------|
| Registered company name | Dentsply (Australia) Pty Ltd                       |
| Address                 | 11-21 Gilby Road Mount Waverley 3149 VIC Australia |
| Telephone               | 1300 55 29 29; 1300 552 929                        |
| Fax                     | +61 3 9538 8260                                    |
| Website                 | www.dentsply.com.au                                |
| Email                   | clientservices@dentsply.com                        |

### Emergency telephone number

|                                   |                                                                                    |
|-----------------------------------|------------------------------------------------------------------------------------|
| Association / Organisation        | Dentsply (Australia) Pty Ltd                                                       |
| Emergency telephone numbers       | 1300 55 29 29 (Hours of operation: Mon-Fri 9am-5pm. EST; General information only) |
| Other emergency telephone numbers | 1300 55 29 29 (Hours of operation: Mon-Fri 9am-5pm. EST; General information only) |

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

**NON-HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the Model WHS Regulations and the ADG Code.**

### CHEMWATCH HAZARD RATINGS

|              | Min | Max |
|--------------|-----|-----|
| Flammability | 0   |     |
| Toxicity     | 1   |     |
| Body Contact | 1   |     |
| Reactivity   | 0   |     |
| Chronic      | 0   |     |

0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme

|                                   |                                                                                                                                |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Poisons Schedule                  | Not Applicable                                                                                                                 |
| GHS Classification <sup>[1]</sup> | Acute Aquatic Hazard Category 1, Chronic Aquatic Hazard Category 1                                                             |
| Legend:                           | 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI |

### Label elements

|                    |                                                                                     |
|--------------------|-------------------------------------------------------------------------------------|
| GHS label elements |  |
|--------------------|-------------------------------------------------------------------------------------|

SIGNAL WORD **WARNING**

### Hazard statement(s)

|      |                                                      |
|------|------------------------------------------------------|
| H400 | Very toxic to aquatic life                           |
| H410 | Very toxic to aquatic life with long lasting effects |

### Precautionary statement(s) Prevention

|      |                                  |
|------|----------------------------------|
| P273 | Avoid release to the environment |
|------|----------------------------------|

Obtained by Global Safety Management, www.globalsafety.net.com, (877) 683-7460

Continued...

## Dentsply IRM Powder

## Precautionary statement(s) Response

|      |                   |
|------|-------------------|
| P391 | Collect spillage. |
|------|-------------------|

## Precautionary statement(s) Storage

## Precautionary statement(s) Disposal

|      |                                                                                                              |
|------|--------------------------------------------------------------------------------------------------------------|
| P501 | Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration |
|------|--------------------------------------------------------------------------------------------------------------|

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

## Substances

See section below for composition of Mixtures

## Mixtures

| CAS No    | %[weight] | Name                                             |
|-----------|-----------|--------------------------------------------------|
| 1314-13-2 | 50-100    | <u>zinc oxide</u>                                |
|           | NotSpec   | other ingredients determined not to be hazardous |

## SECTION 4 FIRST AID MEASURES

## Description of first aid measures

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye Contact  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>Wash out immediately with fresh running water.</li> <li>Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>                                        |
| Skin Contact | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>Immediately remove all contaminated clothing, including footwear.</li> <li>Flush skin and hair with running water (and soap if available).</li> <li>Seek medical attention in event of irritation.</li> </ul>                                                                                                                                                                                                                                                                                        |
| Inhalation   | <ul style="list-style-type: none"> <li>If dust is inhaled, remove from contaminated area.</li> <li>Encourage patient to blow nose to ensure clear breathing passages.</li> <li>Ask patient to rinse mouth with water but to not drink water.</li> <li>Seek immediate medical attention.</li> </ul>                                                                                                                                                                                                                                                                         |
| Ingestion    | <ul style="list-style-type: none"> <li>If swallowed do <b>NOT</b> induce vomiting.</li> <li>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>Observe the patient carefully.</li> <li>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>Seek medical advice.</li> </ul> |

## Indication of any immediate medical attention and special treatment needed

- Absorption of zinc compounds occurs in the small intestine.
- The metal is heavily protein bound.
- Elimination results primarily from faecal excretion.
- The usual measures for decontamination (Ipecac Syrup, lavage, charcoal or cathartics) may be administered, although patients usually have sufficient vomiting not to require them.
- CaNa2EDTA has been used successfully to normalise zinc levels and is the agent of choice.

[Ellenhorn and Barceloux: Medical Toxicology]

## SECTION 5 FIREFIGHTING MEASURES

## Extinguishing media

|  |                                                                                                                                                             |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <ul style="list-style-type: none"> <li>Water spray or fog.</li> <li>Foam.</li> <li>Dry chemical powder.</li> <li>BCF (where regulations permit).</li> </ul> |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Special hazards arising from the substrate or mixture

|                      |             |
|----------------------|-------------|
| Fire Incompatibility | None known. |
|----------------------|-------------|

## Advice for firefighters

|                       |                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fire Fighting         | <ul style="list-style-type: none"> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>Prevent, by any means available, spillage from entering drains or water courses.</li> <li>Use fire fighting procedures suitable for surrounding area.</li> </ul> |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> <li>Non combustible.</li> <li>Not considered a significant fire risk, however containers may burn.</li> </ul> <p>Decomposition may produce toxic fumes of; metal oxidesMay emit poisonous fumesMay emit corrosive fumes.</p>                                                                                                   |

## SECTION 6 ACCIDENTAL RELEASE MEASURES

## Dentsply IRM Powder

## Personal precautions, protective equipment and emergency procedures

|                                                                            |                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Minor Spills                                                               | <ul style="list-style-type: none"> <li>Remove all ignition sources.</li> <li>Clean up all spills immediately.</li> <li>Avoid contact with skin and eyes.</li> <li>Control personal contact with the substance, by using protective equipment.</li> </ul>             |
| Major Spills                                                               | <p>Moderate hazard.</p> <ul style="list-style-type: none"> <li><b>CAUTION:</b> Advise personnel in area.</li> <li>Alert Emergency Services and tell them location and nature of hazard.</li> <li>Control personal contact by wearing protective clothing.</li> </ul> |
| Personal Protective Equipment advice is contained in Section 8 of the SDS. |                                                                                                                                                                                                                                                                      |

## SECTION 7 HANDLING AND STORAGE

## Precautions for safe handling

|                   |                                                                                                                                                                                                                                                                  |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safe handling     | <ul style="list-style-type: none"> <li>Avoid all personal contact, including inhalation.</li> <li>Wear protective clothing when risk of exposure occurs.</li> <li>Use in a well-ventilated area.</li> <li>Prevent concentration in hollows and sumps.</li> </ul> |
| Other information | <ul style="list-style-type: none"> <li>Store in original containers.</li> <li>Keep containers securely sealed.</li> <li>Store in a cool, dry, well-ventilated area.</li> <li>Store away from incompatible materials and foodstuff containers.</li> </ul>         |

## Conditions for safe storage, including any incompatibilities

|                         |                                                                                                                                                                    |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable container      | <ul style="list-style-type: none"> <li>Polyethylene or polypropylene container.</li> <li>Check all containers are clearly labelled and free from leaks.</li> </ul> |
| Storage incompatibility | <ul style="list-style-type: none"> <li>Avoid reaction with oxidising agents</li> </ul>                                                                             |

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

## Control parameters

## OCCUPATIONAL EXPOSURE LIMITS (OEL)

## INGREDIENT DATA

| Source                       | Ingredient | Material name                             | TWA                                        | STEL                 | Peak          | Notes         |
|------------------------------|------------|-------------------------------------------|--------------------------------------------|----------------------|---------------|---------------|
| Australia Exposure Standards | zinc oxide | Zinc oxide (dust) (a) / Zinc oxide (fume) | 10 mg/m <sup>3</sup> / 5 mg/m <sup>3</sup> | 10 mg/m <sup>3</sup> | Not Available | Not Available |

## EMERGENCY LIMITS

| Ingredient | Material name | TEEL-1               | TEEL-2               | TEEL-3                 |
|------------|---------------|----------------------|----------------------|------------------------|
| zinc oxide | Zinc oxide    | 10 mg/m <sup>3</sup> | 15 mg/m <sup>3</sup> | 2500 mg/m <sup>3</sup> |

| Ingredient | Original IDLH           | Revised IDLH          |
|------------|-------------------------|-----------------------|
| zinc oxide | 2,500 mg/m <sup>3</sup> | 500 mg/m <sup>3</sup> |

## Exposure controls

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Appropriate engineering controls | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p> |
| Personal protection              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Eye and face protection          | <p>No special equipment for minor exposure i.e. when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> <li>Safety glasses with side shields.</li> <li>Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.</li> </ul>                                                                                                                                                                                                                                     |
| Skin protection                  | See Hand protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Hands/feet protection            | <p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE: Wear general protective gloves, e.g. light weight rubber gloves.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Body protection                  | See Other protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Other protection                 | <ul style="list-style-type: none"> <li>Overalls.</li> <li>P.V.C. apron.</li> <li>Barrier cream.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Thermal hazards                  | Not Available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Dentsply IRM Powder

## Recommended material(s)

## GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

Dentsply IRM Powder Not Available

| Material | CPI |
|----------|-----|
|----------|-----|

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

## Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:000 & 149:001, ANSI Z88 or national equivalent)

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|------------------------------------|----------------------|----------------------|------------------------|
| up to 10 x ES                      | P1 Air-line*         | -                    | PAPR-P1                |
| up to 50 x ES                      | Air-line**           | P2                   | PAPR-P2                |
| up to 100 x ES                     | -                    | P3                   | -                      |
|                                    |                      | Air-line*            | -                      |
| 100+ x ES                          | -                    | Air-line**           | PAPR-P3                |

\* - Negative pressure demand \*\* - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

## Information on basic physical and chemical properties

| Appearance                                   | White powder with a faint odour; insoluble in water. |                                         |                |
|----------------------------------------------|------------------------------------------------------|-----------------------------------------|----------------|
| Physical state                               | Divided Solid                                        | Relative density (Water = 1)            | Not Available  |
| Odour                                        | Not Available                                        | Partition coefficient n-octanol / water | Not Available  |
| Odour threshold                              | Not Available                                        | Auto-ignition temperature (°C)          | Not Available  |
| pH (as supplied)                             | Not Applicable                                       | Decomposition temperature               | Not Available  |
| Melting point / freezing point (°C)          | Not Available                                        | Viscosity (cSt)                         | Not Applicable |
| Initial boiling point and boiling range (°C) | Not Applicable                                       | Molecular weight (g/mol)                | Not Applicable |
| Flash point (°C)                             | Not Applicable                                       | Taste                                   | Not Available  |
| Evaporation rate                             | Not Applicable                                       | Explosive properties                    | Not Available  |
| Flammability                                 | Not Applicable                                       | Oxidising properties                    | Not Available  |
| Upper Explosive Limit (%)                    | Not Applicable                                       | Surface Tension (dyn/cm or mN/m)        | Not Applicable |
| Lower Explosive Limit (%)                    | Not Applicable                                       | Volatile Component (%vol)               | Not Applicable |
| Vapour pressure (kPa)                        | Not Applicable                                       | Gas group                               | Not Available  |
| Solubility in water (g/L)                    | Immiscible                                           | pH as a solution (1%)                   | Not Applicable |
| Vapour density (Air = 1)                     | Not Applicable                                       | VOC g/L                                 | Not Available  |

## SECTION 10 STABILITY AND REACTIVITY

|                                    |                                                                                                                                                                                                |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity                         | See section 7                                                                                                                                                                                  |
| Chemical stability                 | <ul style="list-style-type: none"> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul> |
| Possibility of hazardous reactions | See section 7                                                                                                                                                                                  |
| Conditions to avoid                | See section 7                                                                                                                                                                                  |
| Incompatible materials             | See section 7                                                                                                                                                                                  |
| Hazardous decomposition products   | See section 5                                                                                                                                                                                  |

## SECTION 11 TOXICOLOGICAL INFORMATION

## Information on toxicological effects

|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhaled | <p>There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.</p> <p>If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.</p> |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Dentsply IRM Powder

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ingestion</b>    | Accidental ingestion of the material may be damaging to the health of the individual.<br>Soluble zinc salts produce irritation and corrosion of the alimentary tract with pain, and vomiting. Death can occur due to insufficiency of food intake due to severe narrowing of the oesophagus and pylorus.                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Skin Contact</b> | There is some evidence to suggest that the material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.<br>Open cuts, abraded or irritated skin should not be exposed to this material<br>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.                                                                      |
| <b>Eye</b>          | Limited evidence or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals. Prolonged eye contact may cause inflammation characterised by a temporary redness of the conjunctiva (similar to windburn).                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Chronic</b>      | Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.<br>Overexposure to respirable dust may cause coughing, wheezing, difficulty in breathing and impaired lung function. Chronic symptoms may include decreased vital lung capacity, chest infections<br>Repeated exposures, in an occupational setting, to high levels of fine- divided dusts may produce a condition known as pneumoconiosis which is the lodgement of any inhaled dusts in the lung irrespective of the effect. This is particularly true when a significant number of particles less than 0.5 microns (1/50,000 inch), are present. |

|                            |                                                                                                                                                                                                                              |                                                                        |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <b>Dentsply IRM Powder</b> | <b>TOXICITY</b>                                                                                                                                                                                                              | <b>IRRITATION</b>                                                      |
|                            | Not Available                                                                                                                                                                                                                | Not Available                                                          |
| <b>zinc oxide</b>          | <b>TOXICITY</b>                                                                                                                                                                                                              | <b>IRRITATION</b>                                                      |
|                            | Oral (rat) LD50: >5000 mg/kg <sup>[1]</sup>                                                                                                                                                                                  | Eye (rabbit) : 500 mg/24 h - mild<br>Skin (rabbit) : 500 mg/24 h- mild |
| <b>Legend:</b>             | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances |                                                                        |

|                   |                                                                                                                                                                                                |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ZINC OXIDE</b> | The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                          |   |                                 |   |
|------------------------------------------|---|---------------------------------|---|
| <b>Acute Toxicity</b>                    | ☐ | <b>Carcinogenicity</b>          | ☐ |
| <b>Skin Irritation/Corrosion</b>         | ☐ | <b>Reproductivity</b>           | ☐ |
| <b>Serious Eye Damage/Irritation</b>     | ☐ | <b>STOT - Single Exposure</b>   | ☐ |
| <b>Respiratory or Skin sensitisation</b> | ☐ | <b>STOT - Repeated Exposure</b> | ☐ |
| <b>Mutagenicity</b>                      | ☐ | <b>Aspiration Hazard</b>        | ☐ |

**Legend:**  – Data required to make classification available  
 – Data available but does not fill the criteria for classification  
 – Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

## Toxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
**DO NOT discharge into sewer or waterways.**

## Persistence and degradability

|                   |                                       |                                       |
|-------------------|---------------------------------------|---------------------------------------|
| <b>Ingredient</b> | <b>Persistence: Water/Soil</b>        | <b>Persistence: Air</b>               |
|                   | No Data available for all ingredients | No Data available for all ingredients |

## Bioaccumulative potential

|                   |                        |
|-------------------|------------------------|
| <b>Ingredient</b> | <b>Bioaccumulation</b> |
| zinc oxide        | LOW (BCF = 217)        |

## Mobility in soil

|                   |                                       |
|-------------------|---------------------------------------|
| <b>Ingredient</b> | <b>Mobility</b>                       |
|                   | No Data available for all ingredients |

## SECTION 13 DISPOSAL CONSIDERATIONS

## Waste treatment methods

|                                     |                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product / Packaging disposal</b> | <ul style="list-style-type: none"> <li>Recycle wherever possible or consult manufacturer for recycling options.</li> <li>Consult State Land Waste Management Authority for disposal.</li> <li>Bury residue in an authorised landfill.</li> <li>Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul> |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 14 TRANSPORT INFORMATION

## Dentsply IRM Powder

## Labels Required

|                  |                                                                                   |
|------------------|-----------------------------------------------------------------------------------|
| Marine Pollutant |  |
| HAZCHEM          | Not Applicable                                                                    |

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

## SECTION 15 REGULATORY INFORMATION

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

ZINC OXIDE(1314-13-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

|                                                                        |                                                   |
|------------------------------------------------------------------------|---------------------------------------------------|
| Australia Exposure Standards                                           | Australia Inventory of Chemical Substances (AICS) |
| Australia Hazardous Substances Information System - Consolidated Lists |                                                   |

| National Inventory            | Status                                                                                                                                                                                |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Australia - AICS              | Y                                                                                                                                                                                     |
| Canada - DSL                  | Y                                                                                                                                                                                     |
| Canada - NDSL                 | Y                                                                                                                                                                                     |
| China - IECSC                 | Y                                                                                                                                                                                     |
| Europe - EINEC / ELINCS / NLP | Y                                                                                                                                                                                     |
| Japan - ENCS                  | Y                                                                                                                                                                                     |
| Korea - KECI                  | Y                                                                                                                                                                                     |
| New Zealand - NZIoC           | Y                                                                                                                                                                                     |
| Philippines - PICCS           | Y                                                                                                                                                                                     |
| USA - TSCA                    | Y                                                                                                                                                                                     |
| <b>Legend:</b>                | Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets) |

## SECTION 16 OTHER INFORMATION

## Other information

## Ingredients with multiple cas numbers

| Name       | CAS No                 |
|------------|------------------------|
| zinc oxide | 1314-13-2, 175449-32-8 |

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net](http://www.chemwatch.net)

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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TEL (+61 3) 9572 4700.

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

**510897**

**1. Identification**

|                                                                                                                |                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name<br><b>IRM<sup>®</sup> LIQUID - Zinc Oxide Eugenol<br/>Intermediate Restorative Material</b>       | SDS Code Number<br><b>510897</b>                                                                                                                                                            |
| Substance Identity<br><b>IRM<sup>®</sup> LIQUID - Zinc Oxide Eugenol<br/>Intermediate Restorative Material</b> | Date of Last Revision<br><b>12/11/15</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><b>Not Applicable</b>                                                    | Information Telephone Number<br><b>(302) 422-4511 (8:00 AM – 4:30 PM Eastern Time)</b>                                                                                                      |
| Product Use (for Canada)<br><b>Not Applicable</b>                                                              | Emergency Telephone Number<br><b>(302) 422-4511 (8:00 AM – 4:30 PM Eastern Time)</b>                                                                                                        |

**2. Hazard(s) Identification**



**Warning  
Causes Skin Irritation**

**Wash hands thoroughly after handling.  
Wear protective gloves.  
IF ON SKIN: Wash with plenty of soap and water.  
If skin irritation occurs: Get medical advice/ attention.  
Take off contaminated clothing and wash before reuse.**

**3. Composition/Information on Ingredients**

| Hazardous Components | C.A.S. Number | Exposure Limits      | %         |
|----------------------|---------------|----------------------|-----------|
| Eugenol              | 97-53-0       | 10 mg/M <sup>3</sup> | > than 98 |
| Acetic Acid          | 64-19-7       | 10 PPM               | < than 2  |

**3. Hazard Identification**

| <b>Emergency Overview: Material may be irritating to eyes. No significant hazards for emergency responses are known.</b>                                                                                                                                  |                                                                    |                                        |                                   |                                                                                |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------|-----------------------------------|--------------------------------------------------------------------------------|-----------------|
| Routes of Exposure                                                                                                                                                                                                                                        | Signs and Symptoms                                                 | Single, Repeated, or Lifetime Exposure | Severity (Mild, Moderate, Severe) | Acute and Chronic Health Effect(s)                                             | Target Organ(s) |
| Eye                                                                                                                                                                                                                                                       | Material may cause slight transient (temporary) irritation.        | Single & Repeated                      | Moderate                          | Irritation and possible corneal damage due to the powders used in the product. | Not Applicable  |
| Skin                                                                                                                                                                                                                                                      | Material may be an irritant after repeated and prolonged exposure. | Repeated                               | Mild                              | Irritation or possible allergic response.                                      | Not Applicable  |
| Inhalation                                                                                                                                                                                                                                                | Not Applicable                                                     | Not Applicable                         | Not Applicable                    | Not Applicable                                                                 | Not Applicable  |
| Ingestion                                                                                                                                                                                                                                                 | Material is probably not harmful if swallowed                      | Not Applicable                         | Mild                              | Not Applicable                                                                 | Not Applicable  |
| Other                                                                                                                                                                                                                                                     | Not Applicable                                                     | Not Applicable                         | Not Applicable                    | Not Applicable                                                                 | Not Applicable  |
| <b>Medical Conditions Aggravated by Exposure</b> Open sores and wounds of the skin.                                                                                                                                                                       |                                                                    |                                        |                                   |                                                                                |                 |
| 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. |                                                                    |                                        |                                   |                                                                                |                 |
| <b>Potential Environmental Effects</b> Do not allow to enter sewers/ surface or ground water.                                                                                                                                                             |                                                                    |                                        |                                   |                                                                                |                 |

**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.<br>If symptoms persist consult a physician. | Not Applicable              | Not Applicable  |

|                                                                               |                                                                                               |                |                |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------------|----------------|
| Skin                                                                          | Immediately wash with soap and water and rinse thoroughly.                                    | Not Applicable | Not Applicable |
| Inhalation                                                                    | Supply fresh air, consult physician if complaint persist.                                     | Not Applicable | Not Applicable |
| Ingestion                                                                     | Rinse mouth out and then drink plenty of water.<br>Induce vomiting and call for medical help. | Not Applicable | Not Applicable |
| Other                                                                         | Not Applicable                                                                                | Not Applicable | Not Applicable |
| Note to Physicians (Treating, Testing and Monitoring): Treat symptomatically. |                                                                                               |                |                |

## 5. Fire and Explosion Data

|                                                                                                                     |                                                                                     |                                                    |                       |
|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------|
| Flashpoint Method: 110°C (230°F)<br>Closed Cup                                                                      | Flammable (Explosive) Limits in Air<br>LEL: Not Applicable      UEL: Not Applicable | Autoignition Temperature: Not Applicable.          | Other: Not Applicable |
| Flame Propagation or Burning Rate (for Solids) Not Applicable                                                       | Properties Contributing to Fire Intensity: Not Applicable                           | Flammability Classification: Not Applicable        |                       |
| Extinguishing Media: CO <sub>2</sub> , foam, powder, or water spray.                                                |                                                                                     | 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: During a fire, formation of toxic and/or irritating compounds may be present.   |                                                                                     |                                                    |                       |

## 6. Accidental Release Measures

|                                                                                                                                                                                                                      |                                      |                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------|
| Containment Techniques: Absorb spill with inert material (e.g. vermiculite, sand, and 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: Product is intended for dental use only. Handling of this product should be by trained dental healthcare professionals only. Observe normal care for working with chemicals. |
| Storage Practices and Warnings: Store only in the original package. Keep package tightly sealed. Store in a dry area. Store away from food and beverages. Protect from heat and direct sunlight.              |

## 8. Exposure Control / Personal Protection



| 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                                                           | Not Applicable                                |
| Body Protection                              | Protective work clothing                                               | Not Applicable                                |
| Occupational Exposure Limits: Not Applicable |                                                                        | Engineering Controls: Not Applicable          |

## 9. Physical and Chemical Characteristics

|                                              |                                                                                |                                                     |
|----------------------------------------------|--------------------------------------------------------------------------------|-----------------------------------------------------|
| Appearance: Colorless or pale yellow liquid. |                                                                                | Odor: Oil of cloves.                                |
| Normal Physical State: Liquid.               |                                                                                | Melting Point: -10°C (14°F)                         |
| Specific Gravity: 1.06 g/cm <sup>3</sup>     | Solubility in Water: Insoluble                                                 | pH: Not Applicable                                  |
| Vapor Pressure (mm Hg): 0.009                | Vapor Density (AIR=1): Not Applicable                                          | Evaporation Rate (Butyl Acetate =1): Not Applicable |
| Flashpoint Method: Not Applicable            | Flammable (Explosive) Limits in Air<br>LEL: Not Applicable UEL: Not Applicable | Autoignition Temperature: Not Applicable            |
| Other: Not Applicable                        |                                                                                |                                                     |

## 10. Stability and Reactivity Data

|                                                                                                                |                                 |  |
|----------------------------------------------------------------------------------------------------------------|---------------------------------|--|
| Incompatibility (Materials to Avoid): Strong oxidizing agents.                                                 |                                 |  |
| Hazardous Products Produced During Decomposition: Forms carbon monoxide and/or carbon dioxide.                 |                                 |  |
| Hazardous Polymerization: <input type="checkbox"/> May Occur <input checked="" type="checkbox"/> May Not Occur | Conditions to Avoid: None known |  |
| Stability? <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable                        | Conditions to Avoid: None known |  |

## 11. Toxicological Information

| Toxicity Data, Epidemiology Studies, Carcinogenicity, Neurological Effects, Genetic Effects, Reproductive Effects, or Structure Activity Data:<br>The Oral LD <sub>50</sub> for Eugenol, in rats, is 1930mg/Kg. |                                                                    |                                        |                                   |                                                                                |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------|-----------------------------------|--------------------------------------------------------------------------------|-----------------|
| Emergency Overview: Material may be mildly irritating to eyes.                                                                                                                                                  |                                                                    |                                        |                                   |                                                                                |                 |
| Routes of Exposure                                                                                                                                                                                              | Signs and Symptoms                                                 | Single, Repeated, or Lifetime Exposure | Severity (Mild, Moderate, Severe) | Acute and Chronic Health Effect(s)                                             | Target Organ(s) |
| Eye                                                                                                                                                                                                             | Material may cause slight transient (temporary) irritation.        | Single & Repeated                      | Moderate                          | Irritation and possible corneal damage due to the fillers used in the product. | Not Applicable  |
| Skin                                                                                                                                                                                                            | Material may be an irritant after repeated and prolonged exposure. | Repeated                               | Mild                              | Irritation or possible allergic response.                                      | Not Applicable  |

|                                                                                                                                                                                                                                                           |                                               |                |                |                |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------|----------------|----------------|----------------|
| Inhalation                                                                                                                                                                                                                                                | Not Applicable                                | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Ingestion                                                                                                                                                                                                                                                 | Material is probably not harmful if swallowed | Not Applicable | Mild           | Not Applicable | Not Applicable |
| Other                                                                                                                                                                                                                                                     | Not Applicable                                | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| Medical Conditions Aggravated by Exposure Open sores and wounds of the skin.                                                                                                                                                                              |                                               |                |                |                |                |
| 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: Potential Environmental Effects Do not allow to enter sewers/ surface or ground water.                                                                                                                                   |                                               |                |                |                |                |
| NFPA Hazard Classification Ratings (Scale 0-4), Health = 1, Fire = 1, Reactivity = 0                                                                                                                                                                      |                                               |                |                |                |                |

## 12. Ecological Information

Toxicity Data, Environmental Fate, Physical/Chemical Data, or other Data Supporting Environmental Hazard Statements: Water Hazard Class 1 (Self-assessment): slightly hazardous for water. Do not allow product to reach ground water, water streams or sewage system.

## 13. Disposal Considerations

Regulations: Must not be disposed of together with household garbage. 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 solid waste in a closed container.

## 14. Transport Information

|                                                                                           |                                  |                               |
|-------------------------------------------------------------------------------------------|----------------------------------|-------------------------------|
| Regulated for Shipping: No. Not Regulated                                                 | DOT Shipping Name: Not Regulated | Packing Group: Not Applicable |
| Do Changes in Quantities, packaging, or shipment method change product classification? No | DOT Hazard Class: Not Applicable | UN Number: 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: This product is not subject to CERCLA reporting requirements. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations

Section 313 Toxic Chemicals: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

U.S. State Regulations California Proposition 65: This product does not contain any chemicals, which are on the California Proposition 65 list.

Canada WHMIS, Workplace Hazardous Materials Information System: This product is not a controlled product.

International Regulations: Canadian Environmental Protection Act: This product is a medical device and not subject to chemical notification requirements.

European Community Labeling: Not a dangerous preparation.

European Community Labeling: R22 Harmful if swallowed. S24/25 Avoid contact with skin and eyes. S36 Wear suitable protective clothing.

European Inventory of New and Existing Chemicals Substances (EINECS): This product is a medical device and not subject to chemical notification requirements. CAS# Eugenol 97-53-0 EINECS: 202-589-1 Eugenol.

Other: Not Applicable

## 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.