SAFETY DATA SHEETS

This SDS packet was issued with item:

071738020

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

071737402 071738608 071891258 078289800 078291200 078291900

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).

071737444

DENTSPLY/International DENTSPLY/Caulk Safety Data Sheet

510897

1. Identification

Product Name	SDS Code Number	
IRM® LIQUID - Zinc Oxide Eugenol	510897	
Intermediate Restorative Material		
Substance Identity	Date of Last Revision	
IRM® LIQUID - Zinc Oxide Eugenol	04/15/11	
Intermediate Restorative Material		
Manufacturer:	Address	
DENTSPLY Caulk	38 West Clarke Avenue	
	Milford DE 19963-1805	
	http://www.caulk.com http://www.dentsply.com	
Grades or Minor Variant Identities	Information Telephone Number	
Not Applicable	(302) 422-4511 (8:00 AM – 4:30 PM Eastern Time)	
Product Use (for Canada) Emergency Telephone Number		
Not Applicable	(302) 422-4511 (8:00 AM – 4:30 PM Eastern Time)	

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	99-53-0	10 mg/M^3	> than 98
Acetic Acid	64-19-7	10 PPM	< than 2

3. Hazard Identification

		J. Huzai	a lacintification			
Emergenc	y Overview: Material may be	irritating to eyes. No	significant hazards t	for emergency responses are k	nown.	
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	
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.						

4. First Aid Measures

Potential Environmental Effects Do not allow to enter sewers/ surface or ground water.

Routes of	First Aid Instructions	Immediate Medical	Delayed Effects
Exposure		Attention	
Eye	Rinse opened eye for several minutes under running water.	Not Applicable	Not Applicable
	If symptoms persist consult a physician.	_	

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.	Not Applicable	Not Applicable		
	Induce vomiting and call for medical help.				
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)	Flammable (Explosive) Limits in Air		Autoignition Temperature: Not	Other: Not	
Closed Cup	LEL: Not Applicable UEL:	Not Applicable	Applicable.	Applicable	
Flame Propagation or Burning Rate (for	Properties Contributing to Fire Intensity: Not		Flammability Classification:		
Solids) Not Applicable	Applicable		Not Applicable		
Extinguishing Media: CO ₂ , foam, powder, or wat	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 fi	re, formation of toxic and/or irritating	g compounds may be p	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	Individual Protection Personal Protective Equipment for Normal Use	
Measures		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 ³	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	Autoignition Temperature: Not Applicable
	LEL: Not Applicable UEL: Not Applicable	
Other: Not Applicable	LEL: Not Applicable UEL: 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: ☐May Occur ☐May Not Occur	Conditions to Avoid: None known			
Stability? ⊠Stable ☐Unstable	Conditions to Avoid: None known			

11. Toxicological Information

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

Inhalation	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ingestion	Material is probably not harmful	Not Applicable	Mild	Not Applicable	Not Applicable
	if swallowed				
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	DOT Hazard Class: Not Applicable	UN Number: Not Applicable
method change product classification? No		

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: <u>CERCLA 103 Reportable Quantity:</u> 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>U.S. State Regulations California Proposition 65:</u> 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.

<u>International Regulations: Canadian Environmental Protection Act:</u> 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.

DENTSPLY/International DENTSPLY/Caulk Safety Data Sheet

510896

1. Identification

Product Name	SDS Code Number
IRM® Powder Zinc Oxide Eugenol	510896
Intermediate Restorative Material	
Substance Identity	Date of Last Revision
IRM® Powder Zinc Oxide Eugenol	04/15/11
Intermediate Restorative Material	
Manufacturer:	Address
DENTSPLY Caulk	38 West Clarke Avenue
	Milford DE 19963-1805
	http://www.caulk.com http://www.dentsply.com
Grades or Minor Variant Identities	Information Telephone Number
Not Applicable	(302) 422-4511 (8:00 AM – 4:30 PM Eastern Time)
Product Use (for Canada)	Emergency Telephone Number
Temporary Restorative	(302) 422-4511 (8:00 AM – 4:30 PM Eastern Time)

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	%
Zinc oxide	1314-13-2	10 mg/M^3	> than 75

3. Hazard Identification

5. Hazaru fuchtification						
Emergenc	Emergency Overview: Material may be irritating to eyes. No significant hazards for emergency responses are known.					
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	
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.						

4. First Aid Measures

Potential Environmental Effects Do not allow to enter sewers/ surface or ground water.

Routes of First Aid Instructions		Immediate Medical	Delayed Effects	
Exposure		Attention		
Eye Rinse opened eye for several minutes under running water.		Not Applicable	Not Applicable	
If symptoms persist consult physician				
Skin	Immediately wash with soap and water and rinse thoroughly.	Not Applicable	Not Applicable	

Inhalation	Supply fresh air, consult physician if symptoms persist.	Not Applicable	Not Applicable
Ingestion	Rinse mouth out and then drink plenty of water. 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 and Explosion Data

Flashpoint Method: Not Applicable	Flammable (Explosive) Limits in Air		Autoignition Temperature: Not	Other: Not	
	LEL: Not Applicable UEL:	Not Applicable	Applicable.	Applicable	
Flame Propagation or Burning Rate (for	Properties Contributing to Fire Inte	ensity: Not	Flammability Classification:		
Solids) Not Applicable	Applicable		Not Applicable		
Extinguishing Media: CO ₂ , powder, or water spra	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 fi	Unusual Fire and Explosion Hazards: During a fire, formation of toxic and/or irritating compounds may be present.				

6. Accidental Release Measures

	Containment Techniques: Material is a solid and as such containment is limited to steps to reduce dust.			
Ī	Spill/Leak Clean-up Procedures and Equipment: Wear protective clothing and scoop up bulk material and place in a labeled plastic or metal container.			
Ī	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.

8. Exposure Control / Personal Protection









Individual Protection	Individual Protection Personal Protective Equipment for Normal Use	
Measures	Measures	
Eye/Face Safety Glasses		Not Applicable
Skin	Skin The glove material has to be impermeable and resistant to the product.	
Inhalation	Not Required	Not Applicable
Body Protection Protective work clothing		Not Applicable
Occupational Exposure Lim	Engineering Controls: Not Applicable	

9. Physical and Chemical Characteristics

Appearance: Off white powder.		Odor: Mild odor.
Normal Physical State: Dry powder.		Melting Point: Not Applicable
Specific Gravity: 5.7 g/cm ³	Solubility in Water: Partially soluble.	pH: Not Applicable
Vapor Pressure (mm Hg): Not Applicable	Vapor Density (AIR=1): Not Applicable	Evaporation Rate (Butyl Acetate =1): Not Applicable
Flashpoint Method: Not Applicable	Flammable (Explosive) Limits in Air	Autoignition Temperature: Not Applicable
	LEL: Not Applicable UEL: Not Applicable	
Other: Not Applicable		

10. Stability and Reactivity Data

	Incompatibility (Materials to Avoid): Strong acids, strong oxidizing agents.		
Hazardous Products Produced During Decomposition: Oxides of Zinc.			
	Hazardous Polymerization: ☐May Occur ☐May Not Occur	Conditions to Avoid: None known	
	Stability? ⊠Stable ☐Unstable	Conditions to Avoid: None known	

11.Toxicological Information

Toxicity Data, Epidemiology Studies, Carcinogenicity, Neurological Effects, Genetic Effects, Reproductive Effects, or Structure Activity Data:						
Not Applicable						
Emergency Ov	Emergency Overview: Material may be mildly irritating to eyes.					
Routes of		Single, Repeated, or	Severity (Mild,	Acute and Chronic Health		
Exposure	Signs and Symptoms	Lifetime Exposure	Moderate, Severe)	Effect(s)	Target Organ(s)	
Eye	Material may cause slight	Single & Repeated	Moderate	Irritation and possible corneal	Not Applicable	
	transient (temporary) irritation.			damage due to the fillers used in		
				the product.		
Skin	Material may be an irritant after	Repeated	Mild	Irritation or possible allergic	Not Applicable	
	repeated and prolonged exposure.			response.		
Inhalation	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Ingestion	Material is probably not harmful	Not Applicable	Mild	Not Applicable	Not Applicable	
	if swallowed					
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 = 0, Reactivity = 1

12. Ecological Information

Toxicity Data, Environmental Fate, Physical/Chemical Data, or other Data Supporting Environmental Hazard Statements: Water Hazard Class 2 (Self-assessment): Very toxic to fish. Do not allow product to reach ground water, water streams or sewage system. Also poisonous for fish and plankton in water bodies. R50/53Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.



Danger Hazardous to aquatic life

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	DOT Hazard Class: Not Applicable	UN Number: Not Applicable
method change product classification? No		

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: <u>CERCLA 103 Reportable Quantity:</u> 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

<u>Section 313 Toxic Chemicals:</u> 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 (TPO): None

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

<u>U.S. State Regulations California Proposition 65:</u> 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.

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

European Community Labeling: Not a dangerous preparation.

<u>European Community Labeling:</u> R50/53Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment. S57 Use appropriate container to avoid environmental contamination. S60 This material and its container must be disposed of as hazardous waste.

<u>European Inventory of New and Existing Chemicals Substances (EINECS):</u> This product is a medical device and not subject to chemical notification requirements.

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.

MATERIAL SAFETY DATA SHEET

SECTION I - Product/Company Identification

1.1 Product Trade Name: 1.2 Part (Item) Number:

IRM® POWDER Zinc Oxide Eugenol

Intermediate Restorative Material

1.3 Division Name: 1.4 Address: City State Zin: Internet Address: 610003, 610007 All Package Configurations **DENTSPLY Caulk**

38 West Clarke Avenue Milford DE 19963-0359 http://www.caulk.com

1.5 Emergency Telephone Number:

(800) 424-9300 (Chemtrec) 1.6 Telephone Number for Information: (302) 422-4511 (8:00 AM - 4:30 PM Eastern Time)

1.7 Date Prepared: 11/13/98 Date Revised: 11/12/01

SECTION II - Hazardous Ingredients/Identity Information

Hazardous Components	OSHA PEL	ACGIH TLV C	AS#	Percent	
Zinc oxide	10 mg/mm ³	10 mg/mm	1314-13-2	Greater than 75%	

SECTION III - Physical/Chemical Characteristics

3.1 Boiling point:	N. A.	3.6 Specific Gravit
3.2 Vapor pressure:	N. A.	3.7 Melting Point:
3.3 Vapor density:	N. A.	3.8 Evaporation ra
3.4 Solubility in water:	Not Soluble	

3.6 Specific Gravity: 3.8 Evaporation rate: N. A.

3.5 Appearance and odor: Whitish powder with faint odor

SECTION IV - Fire and Explosion Hazard Data

4.1 Flash point (method used): 4.2 Flammability (explosive limits): N.A. LEL: N. A.

UEL: N. A.

4.3 Extinguishing media: 4.4 Special fire fighting procedures: Water, carbon dioxide, or dry chemical extinguishers. 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 self-contained breathing apparatus.

5.7 g/cm

N.A.

4.5 Unusual fire and explosion hazards: Polymer dust is combustible. The explosive limits of the polymer particles suspended in air are approximately those of coal dust.

SECTION V - Reactivity Data

5.1 Stability: 5.2 Conditions to avoid (stability): 5.3 Incompatibility (materials to avoid):

Unstable: Stable: X Excessive heat, greater than 50°C/122°F.

5.4 Hazardous decomposition or byproducts: 5.5 Hazardous polymerization:

From the polymer - methylmethacrylate and carbon monoxide.

May occur: Will not occur: X None.

5.6 Conditions to avoid (polymerization):

SECTION VI - Health Hazard Data

6.1 Route(s) of entry:	Inhalation?: Yes Skin?: No Ingestion?: Possible
6.2 Health hazards (acute and chronic):It is not known to cause significant health problems. It is considered an inert or nuisance
6.3 Carcinogenicity:	dust. Avoid inhalation of dust. Keep dust out of eyes to prevent possible irritation. 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.
6.4 Signs and symptoms of exposure:	Product may irritate the eyes and skin. Eye contact: Redness or irritation. Skin contact: Redness or irritation.
6.5 Medical conditions generally aggravated by exposure: Open sores or	r wounds of the skin.
6.6 Emergency first aid procedures:	Inhalation: Remove to fresh air. Eyes: In case of eye contact, flush with flowing water- for 15 minutes, including under the eyelids and get medical attention. Skin: Flush with

SECTION VII - Precautions for Safe Handling and Use

7.1 Steps to be taken in ca	se material is
released or spilled:	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

water. Consult a physician if amount was large.

cleaning up spills.

7.2 Waste disposal methods: Dispose of in accordance with Federal, State and Local regulations.

7.3 Precautions to be taken in handling

and storage:

Always close container immediately after use to prevent water absorption and contamination. Store at ambient temperature out of direct sunlight and heat. Store in a dry area. Keep away from foodstuff and

beverages.

flowing water then wash area with mild soap and water. Ingestion: Rinse mouth with

7.4 Other precautions: Observe normal warehouse handling procedures. Handling of this product should be by trained dental healthcare professionals only.

SECTION VIII - Control Measures / Personal Protection

8.1 Respiratory protection:	None required during normal use of this product. Local ventilation or approved nuisance dust mask, if in large quantities.
8.2 Ventilation:	Local exhaust recommended.
8.3 Protective gloves:	Rubber gloves.

8.4 Eye protection: Safety glasses.
8.5 Other protective clothing or equipment: Rubber apron.

8.6 Work/Hygienic practices: Observe normal care when working with chemicals. Handling of this product should be by trained dental healthcare professionals only. Avoid eye and skin

		contact, inhalation and ingestion. Do not eat, drink or smoke when using.
NFPA HAZ CLASSIFICA		
Health	1	NFPA - National Fire Protection Association

CLASSIFICA	TIONS	
Health	1	NFPA - National Fire Protection
Flammability	0	N.A Not Applicable
Reactivity	0	N.E Not Established
Specific Hazard	NA	

510896 (R-11/12/01)

510897

1. Identification

Product Name	SDS Code Number	
IRM® LIQUID - Zinc Oxide Eugenol	510897	
Intermediate Restorative Material		
Substance Identity	Date of Last Revision	
IRM® LIQUID - Zinc Oxide Eugenol	04/15/11	
Intermediate Restorative Material		
Manufacturer:	Address	
DENTSPLY Caulk	38 West Clarke Avenue	
	Milford DE 19963-1805	
	http://www.caulk.com http://www.dentsply.com	
Grades or Minor Variant Identities	Information Telephone Number	
Not Applicable	(302) 422-4511 (8:00 AM – 4:30 PM Eastern Time)	
Product Use (for Canada)	Emergency Telephone Number	
Not Applicable	(302) 422-4511 (8:00 AM – 4:30 PM Eastern Time)	

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	99-53-0	10 mg/M^3	> than 98
Acetic Acid	64-19-7	10 PPM	< than 2

3. Hazard Identification

Emergenc	Emergency Overview: Material may be irritating to eyes. No significant hazards for emergency responses are known.			nown.	
Routes of		Single, Repeated, or	Severity (Mild,	Acute and Chronic Health	
Exposure	Signs and Symptoms	Lifetime Exposure	Moderate, Severe)	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
Medical Con	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 En	Potential Environmental Effects Do not allow to enter sewers/ surface or ground water.				

4. First Aid Measures

Ī	Routes of	First Aid Instructions	Immediate Medical	Delayed Effects
ı	Exposure		Attention	
ſ	Eye	Rinse opened eye for several minutes under running water.	Not Applicable	Not Applicable
١		If symptoms persist consult a physician.		

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.	Not Applicable	Not Applicable		
	Induce vomiting and call for medical help.				
Other	Not Applicable	Not Applicable	Not Applicable		
Note to Physici	Note to Physicians (Treating Testing and Monitoring): Treat symptomatically				

5. Fire and Explosion Data

Flashpoint Method: 110°C (230°F)	Flammable (Explosive) Limits in Air		Autoignition Temperature: Not	Other: Not	
Closed Cup	LEL: Not Applicable UEL:	Not Applicable	Applicable.	Applicable	
Flame Propagation or Burning Rate (for	Properties Contributing to Fire Intensity: Not		Flammability Classification:		
Solids) Not Applicable	Applicable		Not Applicable		
Extinguishing Media: CO ₂ , foam, powder, or wa	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 f	ire, formation of toxic and/or irritatir	ng compounds may be p	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	Individual Protection Personal Protective Equipment for Normal Use		
Measures		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 Limi	Occupational Exposure Limits: 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 ³	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	Autoignition Temperature: Not Applicable		
	LEL: Not Applicable UEL: 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: May Occur May Not Occur Conditions to Avoid: None known				
Stability? ☑ Stable ☐ Unstable Conditions to Avoid: None known				

11.Toxicological Information

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

Inhalation	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
Ingestion	Material is probably not harmful	Not Applicable	Mild	Not Applicable	Not Applicable	
	if swallowed					
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	DOT Hazard Class: Not Applicable	UN Number: Not Applicable
method change product classification? No		

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: <u>CERCLA 103 Reportable Quantity:</u> 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

<u>Section 313 Toxic Chemicals:</u> 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>U.S. State Regulations California Proposition 65:</u> 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.

<u>International Regulations: Canadian Environmental Protection Act:</u> 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.

DENTSPLY/International DENTSPLY/Caulk Safety Data Sheet

510896

1. Identification

Product Name	SDS Code Number
IRM® Powder Zinc Oxide Eugenol	510896
Intermediate Restorative Material	
Substance Identity	Date of Last Revision
IRM® Powder Zinc Oxide Eugenol	04/15/11
Intermediate Restorative Material	
Manufacturer:	Address
DENTSPLY Caulk	38 West Clarke Avenue
	Milford DE 19963-1805
	http://www.caulk.com http://www.dentsply.com
Grades or Minor Variant Identities	Information Telephone Number
Not Applicable	(302) 422-4511 (8:00 AM – 4:30 PM Eastern Time)
Product Use (for Canada)	Emergency Telephone Number
Temporary Restorative	(302) 422-4511 (8:00 AM – 4:30 PM Eastern Time)

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	%
Zinc oxide	1314-13-2	10 mg/M^3	> than 75

3. Hazard Identification

Emergenc	Emergency Overview: Material may be irritating to eyes. No significant hazards for emergency responses are known.					
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	
Medical Con	ditions Aggravated by Exposure Oper	n 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 Env	vironmental Effects Do not allow to er	nter sewers/ surface or gro	ound water.	·		

4. First Aid Measures

	W I HIST THE TYPEWOOD OF				
Routes of	First Aid Instructions	Immediate Medical	Delayed Effects		
Exposure		Attention			
Eye	Rinse opened eye for several minutes under running water.	Not Applicable	Not Applicable		
	If symptoms persist consult physician				
Skin	Immediately wash with soap and water and rinse thoroughly.	Not Applicable	Not Applicable		

Inhalation	Supply fresh air, consult physician if symptoms persist.	Not Applicable	Not Applicable
Ingestion	Rinse mouth out and then drink plenty of water. If symptoms persist consult physician.	Not Applicable	Not Applicable
Other	Not Applicable	Not Applicable	Not Applicable
Note to Physicians (Treating Testing and Manitoring): Treat symptomatically			

5. Fire and Explosion Data

Flashpoint Method: Not Applicable	Flammable (Explosive) Limits in Air		Autoignition Temperature: Not	Other: Not	
	LEL: Not Applicable UEL:	Not Applicable	Applicable.	Applicable	
Flame Propagation or Burning Rate (for	Properties Contributing to Fire Into	ensity: Not	Flammability Classification:		
Solids) Not Applicable	Applicable		Not Applicable		
Extinguishing Media: CO ₂ , powder, or water spr	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: Material is a solid and as such containment is limited to steps to reduce dust.			
Ī	Spill/Leak Clean-up Procedures and Equipment: Wear protective clothing and scoop up bulk material and place in a labeled plastic or metal container.			
ĺ	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.

8. Exposure Control / Personal Protection









Individual Protection	Personal Protective Equipment for Normal Use	Personal Protective Equipment for
Measures		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 Lim	Engineering Controls: Not Applicable	

9. Physical and Chemical Characteristics

Appearance: Off white powder.	•	Odor: Mild odor.
Normal Physical State: Dry powder.		Melting Point: Not Applicable
Specific Gravity: 5.7 g/cm ³	Solubility in Water: Partially soluble.	pH: Not Applicable
Vapor Pressure (mm Hg): Not Applicable	Vapor Density (AIR=1): Not Applicable	Evaporation Rate (Butyl Acetate =1): Not Applicable
Flashpoint Method: Not Applicable	Flammable (Explosive) Limits in Air	Autoignition Temperature: Not Applicable
	LEL: Not Applicable UEL: Not Applicable	
Other: Not Applicable		

10. Stability and Reactivity Data

Incompatibility (Materials to Avoid): Strong acids, strong oxidizing agents.		
Hazardous Products Produced During Decomposition: Oxides of Zinc.		
Hazardous Polymerization: ☐May Occur ☐May Not Occur	Conditions to Avoid: None known	
Stability? ⊠Stable ☐Unstable	Conditions to Avoid: None known	

11. Toxicological Information

Toxicity Data, Epidemiology Studies, Carcinogenicity, Neurological Effects, Genetic Effects, Reproductive Effects, or Structure Activity Data:					
Not Applicable					
Emergency Ov	Emergency Overview: Material may be mildly irritating to eyes.				
Routes of		Single, Repeated, or	Severity (Mild,	Acute and Chronic Health	
Exposure	Signs and Symptoms	Lifetime Exposure	Moderate, Severe)	Effect(s)	Target Organ(s)
Eye	Material may cause slight	Single & Repeated	Moderate	Irritation and possible corneal	Not Applicable
	transient (temporary) irritation.			damage due to the fillers used in	
				the product.	
Skin	Material may be an irritant after	Repeated	Mild	Irritation or possible allergic	Not Applicable
	repeated and prolonged exposure.			response.	
Inhalation	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ingestion	Material is probably not harmful	Not Applicable	Mild	Not Applicable	Not Applicable
_	if swallowed				
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 = 0, Reactivity = 1

12. Ecological Information

Toxicity Data, Environmental Fate, Physical/Chemical Data, or other Data Supporting Environmental Hazard Statements: Water Hazard Class 2 (Self-assessment): Very toxic to fish. Do not allow product to reach ground water, water streams or sewage system. Also poisonous for fish and plankton in water bodies. R50/53Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.



Hazardous to aquatic life

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	DOT Hazard Class: Not Applicable	UN Number: Not Applicable
method change product classification? No		

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: <u>CERCLA 103 Reportable Quantity:</u> 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

<u>Section 313 Toxic Chemicals</u>: 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 (TPO): None

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

<u>U.S. State Regulations California Proposition 65:</u> 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.

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

European Community Labeling: Not a dangerous preparation.

<u>European Community Labeling:</u> R50/53Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment. S57 Use appropriate container to avoid environmental contamination. S60 This material and its container must be disposed of as hazardous waste.

<u>European Inventory of New and Existing Chemicals Substances (EINECS)</u>: This product is a medical device and not subject to chemical notification requirements.

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.