

Material Safety Data Sheet

According to 91/155 EC

Printing date 13.10.2003

Reviewed on 24.01.2003

1 Identification of substance:

· **Product details:**

· **Trade name:** *IRM Liquid*

· **Application of the substance / the preparation** *Zinc eugenol cement*

· **Manufacturer/Supplier:**

DENTSPLY DeTrey GmbH

De-Trey-Str. 1

D-78467 Konstanz

GERMANY

Tel.:

+49-7531-583-0

Fax:

+49-7531-583-104

· **Further information obtainable from:**

- *Departement Analytical Research / Research & Development for technical information*
- *Departement Marketing & Sales for distribution of the safety data sheets*

2 Composition/Data on components:

· **Chemical characterization**

· **Description:** *Mixture of substances listed below with nonhazardous additions.*

· **Dangerous components:**

<i>CAS: 97-53-0</i>	<i>eugenol</i>	<i>Xn; R 22</i>	<i>50-100%</i>
<i>EINECS: 202-589-1</i>			

· **Additional information** *For the wording of the listed risk phrases refer to section 16.*

3 Hazard identification

· **Hazard description:**

Xn Harmful

· **Information concerning to particular hazards to man and environment**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

R 22 Harmful if swallowed.

· **Classification system**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

4 First aid measures

· **After inhalation** *Supply fresh air; consult doctor in case of complaints.*

· **After skin contact** *Immediately wash with water and soap and rinse thoroughly.*

· **After eye contact**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing**

Rinse out mouth and then drink plenty of water.

Induce vomiting and call for medical help.

5 Fire fighting measures

· **Suitable extinguishing agents** *CO₂, powder or water spray. Fight larger fire with alcohol resistant foam.*

· **Protective equipment:** *Wear self-contained respiratory protective device*

6 Accidental release measures

· **Person-related safety precautions:**

Not required.

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*Wear protective clothing.**Ensure adequate ventilation*

- **Measures for environmental protection:** *Do not allow to enter sewers/ surface or ground water.*

- **Measures for cleaning/collecting:**

*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).**Dispose contaminated material as waste according to item 13.*

7 Handling and storage

- **Handling** *Product is intended for dental use only.*

- **Information for safe handling:** *Observe normal care for working with chemicals.*

- **Information about fire - and explosion protection:** *No special measures required.*

- **Storage**

- **Requirements to be met by storerooms and receptacles:** *Store only in the original receptacle.*

- **Information about storage in one common storage facility:** *Not required.*

- **Further information about storage conditions:**

*Keep receptacle tightly sealed.**Protect from heat and direct sunlight.*

8 Exposure controls and personal protection gear

- **Additional information about design of technical facilities:** *No further data; see item 7.*

- **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **Additional information:** *The lists valid during the making were used as basis.*

- **Personal protective equipment**

- **General protective and hygienic measures**

The usual precautionary measures are to be adhered to when handling chemicals.

- **Respiratory protection:** *Not necessary if room is well-ventilated.*

- **Protection of hands:**

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.**Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.**Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:** *Safety glasses*

- **Body protection:** *Protective work clothing.*

9 Physical and chemical properties:

- **General Information**

Form:	Liquid
Colour:	Yellowish
Odour:	Characteristic

- **Change in condition**

Melting point/Melting range: -10°C

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Boiling point/Boiling range:	254°C
· Flash point:	110°C
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Density at 20°C:	1.06 g/cm ³
· Solubility in / Miscibility with Water:	Insoluble

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known
- **Dangerous decomposition products:** No dangerous decomposition products known

11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

97-53-0 eugenol

Oral LD50 1930 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** may cause skin irritation
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**

Harmful

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

12 Ecological information:

- **General notes:**
- Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
- Do not allow product to reach ground water, water course or sewage system.

13 Disposal considerations

- **Product:**
- **Recommendation**



Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

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Trade name: **IRM Liquid**

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14 Transport information

- Land transport ADR/RID (cross-border)
- ADR/RID class: -
- Maritime transport IMDG:
- IMDG Class: -
- Marine pollutant: No
- Air transport ICAO-TI and IATA-DGR:
- ICAO/IATA Class: -

15 Regulations

- **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials
- **Code letter and hazard designation of product:**
 Xn Harmful
- **Hazard-determining components of labelling:**
eugenol
- **Risk phrases:**
22 Harmful if swallowed.
- **Safety phrases:**
24/25 Avoid contact with skin and eyes.
36 Wear suitable protective clothing.
- **National regulations**
- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant R-phrases**
22 Harmful if swallowed.
- **Department issuing MSDS:** Analytical Research
- **Contact:** HotLine for urgent technical support: +49-7531-583-333

Material Safety Data Sheet

According to 91/155 EC

Printing date 13.10.2003

Reviewed on 13.12.2001

1 Identification of substance:

· **Product details:**

· **Trade name:** *IRM Powder*

· **Application of the substance / the preparation** *Zinc eugenol cement*

· **Manufacturer/Supplier:**

DENTSPLY DeTrey GmbH

De-Trey-Str. 1

D-78467 Konstanz

GERMANY

Tel.:

+49-7531-583-0

Fax:

+49-7531-583-104

· **Further information obtainable from:**

- *Departement Analytical Research / Research & Development for technical information*
- *Departement Marketing & Sales for distribution of the safety data sheets*

2 Composition/Data on components:

· **Chemical characterization**

· **Description:** *Mixture of substances listed below with nonhazardous additions.*

· **Dangerous components:**

<i>CAS: 1314-13-2</i>	<i>zinc oxide</i>	<i>N; R 50/53</i>	<i>50-100%</i>
<i>EINECS: 215-222-5</i>			

· **Additional information** *For the wording of the listed risk phrases refer to section 16.*

3 Hazard identification

· **Hazard description:**

N Dangerous for the environment

· **Information concerning to particular hazards to man and environment**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Classification system**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

4 First aid measures

- **After inhalation** *Supply fresh air; consult doctor in case of complaints.*
- **After skin contact** *Generally the product does not irritate the skin.*
- **After eye contact** *Rinse opened eye for several minutes under running water.*
- **After swallowing** *Void*

5 Fire fighting measures

· **Suitable extinguishing agents**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Protective equipment:** *No special measures required.*

6 Accidental release measures

· **Person-related safety precautions:**

Avoid formation of dust.

Wear protective clothing.

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Material Safety Data Sheet

According to 91/155 EC

Printing date 13.10.2003

Reviewed on 13.12.2001

Trade name: IRM Powder

(Contd. of page 1)

- **Measures for environmental protection:**
Inform respective authorities in case of seepage into water course or sewage system.
- **Measures for cleaning/collecting:** Pick up mechanically.

7 Handling and storage

- **Handling** Product is intended for dental use only.
- **Information for safe handling:** Observe normal care for working with chemicals.
- **Information about fire - and explosion protection:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

8 Exposure controls and personal protection gear

- **Additional information about design of technical facilities:** No further data; see item 7.

- **Ingredients with limit values that require monitoring at the workplace:**

1314-13-2 zinc oxide

OEL	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³
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- **Additional information:** The lists valid during the making were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**
The usual precautionary measures are to be adhered to when handling chemicals.
- **Respiratory protection:** Not necessary if room is well-ventilated.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Not required.
- **Body protection:** Protective work clothing.

9 Physical and chemical properties:

- **General Information**

Form:	Powder
Colour:	White
Odour:	Odourless

- **Change in condition**

Melting point/Melting range:	undetermined
Boiling point/Boiling range:	undetermined

- **Flash point:** Not applicable

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Reviewed on 13.12.2001

Trade name: **IRM Powder**

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- | | |
|--|---|
| · Self-igniting: | Product is not selfigniting. |
| · Danger of explosion: | Product does not present an explosion hazard. |
| · Density: | Not determined |
| · Solubility in / Miscibility with Water: | Insoluble |

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known
- **Dangerous decomposition products:** No dangerous decomposition products known

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

12 Ecological information:

- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms

13 Disposal considerations

- **Product:**
- **Recommendation**



Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **Land transport ADR/RID (cross-border)**



- **ADR/RID class:** 9 (M7) Miscellaneous dangerous substances and articles.
- **Danger code (Kemler):** 90
- **UN-Number:** 3077
- **Packaging group:** III

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Reviewed on 13.12.2001

Trade name: **IRM Powder**

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· **Hazard label** 9· **Maritime transport IMDG:**

- **IMDG Class:** 9
- **UN Number:** 3077
- **Label** 9
- **Packaging group:** III
- **EMS Number:** F-A,S-F
- **Marine pollutant:** Yes
- **Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide)

· **Air transport ICAO-TI and IATA-DGR:**

- **ICAO/IATA Class:** 9
- **UN/ID Number:** 3077
- **Label** 9
- **Packaging group:** III
- **Proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide)

15 Regulations

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

· **Code letter and hazard designation of product:**

N Dangerous for the environment

· **Risk phrases:**

50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Safety phrases:**

57 Use appropriate container to avoid environmental contamination.

60 This material and its container must be disposed of as hazardous waste.

· **National regulations**· **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

16 Other information:

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant R-phrases**

50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Department issuing MSDS:** Analytical Research· **Contact:** HotLine for urgent technical support: +49-7531-583-333