

## SAFETY DATA SHEET mZem Plus (Catalyst)

### SECTION 1. IDENTIFICATION

<b>Product Name</b>	mZem Plus
<b>Identified uses</b>	Self-adhesive resin cement. Dental material for use by dental professional only.
<b>Distributor</b>	 Internacional Ventur S.A. C/ Luxemburgo, 75 · 12006 Castelló
<b>Manufacturer</b>	SPIDENT Co.,Ltd. 203&312, Korea Industrial Complex, 722, Gojan-Dong, Namdong-Gu, Incheon, Korea 405-821

### SECTION 2. HAZARD(S) IDENTIFICATION

<b>GHS Classification</b>	Skin Irritation	2
	Skin Sensitization	1
	Eye Irritation	2A
<b>GHS Pictogram</b>		
<b>Signal Word</b>	Warning	
<b>Hazard Statements</b>	H315	May cause skin irritation
	H317	May cause an allergic skin reaction.
	H319	May cause serious eye irritation.
<b>Precautionary Statements</b>	Prevention	
	P261	Avoid breathing vapor.
	P264	Avoid breathing dust/fume/gas/mist/vapours/spray.
	P272	Contaminated work clothing should not be allowed out of the workplace.
	P280	Wear protective gloves and eye protection
	Response	
	P302+P352	If on skin, wash with plenty of soap and water.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P332+P313	IF SKIN irritation occurs: Get medical advice/attention.
	P333+P313	IF SKIN irritation or rash occurs: Get medical advice/attention.
	P362+P364	Take off contaminated clothing and wash it before reuse.
	P321	Specific treatment reference to supplemental first aid instruction. Manufacturer/ supplier or the competent authority may specify a cleansing agent if appropriate.
	P337+P313	IF eye irritation persists: Get medical advice/attention.

<b>SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS</b>			
<b>Ingredient</b>	<b>CAS No.</b>	<b>EC No.</b>	<b>% by Wt</b>
Ethyl p-dimethylaminobenzoate	10287-53-3	233-634-3	< 1
Silica	68611-44-9	-	1~5

## **SECTION 4. FIRST-AID MEASURES**

### **Description of first aid measures**

#### **General Information**

Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

#### **Inhalation**

Move the exposed person to fresh air at once.

#### **Ingestion**

Try to induce vomiting. Get medical attention if any discomfort continues.

#### **Skin Contact**

Wash the skin immediately with soap and water.

#### **Eye Contact**

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Contact physician if irritation persists.

### **Most important symptoms and effects, both acute and delayed**

#### **Ingestion**

Slightly irritating. ( DIGESTIVE SYSTEM. )

#### **Skin Contact**

Slightly irritating. May cause sensitization by skin contact.

#### **Eye Contact**

Slightly Irritating.

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

#### **Notes To The Physician**

CAUTION! First aid personnel must be aware of own risk during rescue! Wear suitable protective clothing.

## **SECTION 5. FIRE-FIGHTING MEASURES**

#### **Auto Ignition Temperature (°C)**

Not available.

#### **Flammability Limit - Lower(%)**

Not available.

#### **Flammability Limit - Upper(%)**

Not available.

#### **Flash point (°C)**

Not available.

#### **Extinguishing Media**

Fire can be extinguished using: Foam. Carbon dioxide or dry powder.

#### **Specific Hazards**

When heated and in case of fire, irritating vapors/gases may be formed.

#### **Special Fire Fighting Procedures**

Avoid breathing fire vapors.

#### **Protective Equipment For Fire-Fighters**

Wear full protective clothing.

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions**

Wear protective clothing as described in Section 8 of this material safety data sheet.

**Environmental Precautions**

Do not allow to enter drains, sewers or watercourses.

**Spill Clean Up Methods**

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Absorb in vermiculite, dry sand or earth and place into containers.

**Reference to other sections**

For personal protection, see section 8.

**SECTION 7. HANDLING AND STORAGE****Handling**

All handling to take place in well-ventilated area.

**Storage**

Store in a cool, dark place (2-27°C, 35-80°F). Keep away from heat, direct sunlight, sparks and open flames.

**Storage Class**

Chemical storage.

**Specific end use(s)**

The identified uses for this product are detailed in Section 1.2.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Engineering Measures**

Provide adequate general and local exhaust ventilation.

**Respiratory Equipment**

In case of inadequate ventilation use suitable respirator.

**Hand Protection**

Wear protective gloves.

**Eye Protection**

Wear approved safety goggles.

**Other Protection**

Wear appropriate clothing to prevent any possibility of skin contact.

**Hygiene Measures**

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash

promptly with soap & water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Use appropriate skin

cream to prevent drying of skin. When using do not eat, drink or smoke.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance Paste</b>	Paste
<b>Color</b>	Yellow
<b>Odor</b>	No information available.
<b>Solubility</b>	No information available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Melting point (°C)</b>	Not available.
<b>Relative density</b>	1.1
<b>Vapor density (air=1)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>pH-Value , Conc. Solution</b>	4

<b>pH-Value, Diluted Solution</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Decomposition temperature (°C)</b>	Not available.
<b>Odour Threshold, Lower</b>	Not available.
<b>Odour Threshold, Upper</b>	Not available.
<b>Flash point</b>	Not available.
<b>Auto Ignition Temperature (°C)</b>	Not available.
<b>Flammability Limit - Lower(%)</b>	Not available.
<b>Flammability Limit - Upper(%)</b>	Not available.
<b>Partition Coefficient (N-Octanol/Water)</b>	Not available.
<b>Explosive properties</b>	Not available.
<b>Other Flammability</b>	Not available.
<b>Oxidising properties</b>	Not available.

## SECTION 10. STABILITY AND REACTIVITY

### **Reactivity**

May polymerise.

### **Stability**

Stable under normal temperature conditions and recommended use.

### **Hazardous reactions**

Not available.

### **Conditions To Avoid**

Keep away from heat, sparks and open flame. Protect against direct sunlight.

### **Materials To Avoid**

Strong oxidizing agents.

### **Hazardous Decomposition Products**

Toxic gases are generated when heated.

## SECTION 11. TOXICOLOGICAL INFORMATION

### **Acute toxicity:**

Not available.

### **Systemic toxicity test:**

No biological harm (tested with mice)

### **Oral mucous irritant test:**

Redness, edema have not been detected (tested with hamsters)

### **Skin Corrosion/Irritation:**

Slightly irritating.

### **Serious eye damage/irritation:**

Slightly Irritating.

### **Respiratory or skin sensitisation:**

#### **Respiratory sensitisation**

Not available.

#### **Skin sensitisation**

May cause sensitization by skin contact.

### **Germ cell mutagenicity:**

Not available.

**Carcinogenicity:**

**IARC Carcinogenicity**

Not listed

**NTP - Carcinogenicity**

Not listed.

**OSHA - Carcinogenicity**

Not listed.

**Reproductive Toxicity:**

Not available.

**Specific target organ toxicity - single exposure:**

**STOT - Single exposure**

Not available.

**Specific target organ toxicity - repeated exposure:**

**STOT - Repeated exposure**

Not available.

**Aspiration hazard:**

**Viscosity**

Not available.

**SECTION 12. ECOLOGICAL INFORMATION**

**Toxicity**

No data available.

**Degradability**

No data available.

**Bioaccumulative potential**

No data available on bioaccumulation.

**Partition coefficient**

Not available.

**Mobility:**

No information available.

**Results of PBT and vPvB assessment**

This product does not contain any PBT or vPvB Substances.

**Other adverse effects**

Not known.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

Dispose of waste and residues in accordance with local authority requirements.

**SECTION 14. TRANSPORT INFORMATION**

<b>UN No. (DOT/TDG)</b>	N/A
<b>UN No. (IMDG Code)</b>	N/A
<b>UN No. (ICAO TI/IATA DGR)</b>	N/A
<b>Proper Shipping Name</b>	Not applicable.
<b>Hazard Class</b>	No classification noted.
<b>Hazard Label</b>	No DOT label requirement noted
<b>IMDG Class</b>	Not applicable.
<b>ICAO Class</b>	Not applicable.

<b>Transport Labels</b>	No transport warning sign required.
<b>Packing Group</b>	Not applicable.
<b>Environmentally Hazardous Substance</b>	Not applicable
<b>/Marine Pollutant</b>	
<b>Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code Notes</b>	Not applicable.

## **SECTION 15. REGULATORY INFORMATION**

**Follow the regulations of the CE**  
(Communaute Europeenne)

## **SECTION 16. OTHER INFORMATION**

**Date**  
2018/12/07(Rev.0)

**Issued Date**  
2020/10/24

## SAFETY DATA SHEET

### mZem Plus (Base)

#### SECTION 1. IDENTIFICATION

**Product Name** mZem Plus  
**Identified uses** Self-adhesive resin cement. For dental professionals only.

**Distributor**   
 Internacional Ventur S.A.  
 C/ Luxemburgo, 75 · 12006 Castelló

**Manufacturer** SPIDENT Co.,Ltd.  
 203&312, Korea Industrial Complex, 722, Gojan-Dong, Namdong-Gu,  
 Incheon, Korea 405-821

#### SECTION 2. HAZARD(S) IDENTIFICATION

**Appearance** Paste  
**Color** Withe  
**Odor** No information available.  
**GHS Pictogram** 

**Signal Word** Warning

**Hazard Statements**  
 H315 Causes skin irritation.  
 H319 Causes serious eye irritation.  
 H317 May cause an allergic skin reaction.

**Precautionary Statements**  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.

**Contains** Diurethane dimethacrylate, Silica

**GHS Classification**  
 Physical and Chemical Hazards Not classified.  
 Human health Skin Irrit. 2 H315, Eye Irrit. 2 H319,  
 Skin Sens. 1 H317,  
 Environment Not classified.

**Other hazards**  
 This product does not contain any PBT or vPvB substances.

#### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No.	EC No.	% by Wt	Classification
Diurethane dimethacrylate	72869-86-4	-	10~50	Skin Sens. 1; H317
Silica	68611-44-9	-	1~10	-

#### SECTION 4. FIRST-AID MEASURES

## **Description of first aid measures**

### **General Information**

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### **Inhalation**

Move the exposed person to fresh air at once.

### **Ingestion**

Try to induce vomiting. Get medical attention if any discomfort continues.

### **Skin Contact**

Wash the skin immediately with soap and water.

### **Eye Contact**

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Contact physician if irritation persists.

## **Most important symptoms and effects, both acute and delayed**

### **Ingestion**

Slightly irritating. ( DIGESTIVE SYSTEM. )

### **Skin Contact**

Slightly irritating. May cause sensitization by skin contact.

### **Eye Contact**

Slightly Irritating.

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

### **Notes To The Physician**

CAUTION! First aid personnel must be aware of own risk during rescue! Wear suitable protective clothing.

## **SECTION 5. FIRE-FIGHTING MEASURES**

### **Auto Ignition Temperature (°C)**

Not available.

### **Flammability Limit - Lower(%)**

Not available.

### **Flammability Limit - Upper(%)**

Not available.

### **Flash point (°C)**

Not available.

### **Extinguishing Media**

Fire can be extinguished using: Foam. Carbon dioxide or dry powder.

### **Specific Hazards**

When heated and in case of fire, irritating vapors/gases may be formed.

### **Special Fire Fighting Procedures**

Avoid breathing fire vapors.

### **Protective Equipment For Fire-Fighters**

Wear full protective clothing.

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions**

Wear protective clothing as described in Section 8 of this material safety data sheet.

### **Environmental Precautions**

Do not allow to enter drains, sewers or watercourses.

### **Spill Clean Up Methods**

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Absorb in vermiculite, dry sand or earth and place into containers.

### **Reference to other sections**

For personal protection, see section 8.

## SECTION 7. HANDLING AND STORAGE

### Handling

All handling to take place in well-ventilated area.

### Storage

Store in a cool, dark place (2-27°C, 35-80°F). Keep away from heat, direct sunlight, sparks and open flames.

### Storage Class

Chemical storage.

### Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering Measures

Provide adequate general and local exhaust ventilation.

### Respiratory Equipment

In case of inadequate ventilation use suitable respirator.

### Hand Protection

Wear protective gloves.

### Eye Protection

Wear approved safety goggles.

### Other Protection

Wear appropriate clothing to prevent any possibility of skin contact.

### Hygiene Measures

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap & water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Paste	Paste
Color	White
Odor	No information available.
Solubility	No information available.
Initial boiling point and boiling range	Not available.
Melting point (°C)	Not available.
Relative density	1.1
Vapor density (air=1)	Not available.
Vapor pressure	Not available.
Evaporation rate	Not available.
pH-Value , Conc. Solution	6
pH-Value, Diluted Solution	Not available.
Viscosity	Not available.
Decomposition temperature (°C)	Not available.
Odour Threshold, Lower	Not available.
Odour Threshold, Upper	Not available.
Flash point	Not available.
Auto Ignition Temperature (°C)	Not available.
Flammability Limit - Lower(%)	Not available.

<b>Flammability Limit - Upper(%)</b>	Not available.
<b>Partition Coefficient (N-Octanol/Water)</b>	Not available.
<b>Explosive properties</b>	Not available.
<b>Other Flammability</b>	Not available.
<b>Oxidising properties</b>	Not available.

## SECTION 10. STABILITY AND REACTIVITY

### **Reactivity**

May polymerise.

### **Stability**

Stable under normal temperature conditions and recommended use.

### **Hazardous reactions**

Not available.

### **Conditions To Avoid**

Keep away from heat, sparks and open flame. Protect against direct sunlight.

### **Materials To Avoid**

Strong oxidizing agents.

### **Hazardous Decomposition Products**

Toxic gases are generated when heated.

## SECTION 11. TOXICOLOGICAL INFORMATION

### **Acute toxicity:**

Not available.

### **Systemic toxicity test:**

No biological harm (tested with mice)

### **Oral mucous irritant test:**

Redness, edema have not been detected (tested with hamsters)

### **Skin Corrosion/Irritation:**

Slightly irritating.

### **Serious eye damage/irritation:**

Slightly Irritating.

### **Respiratory or skin sensitisation:**

#### **Respiratory sensitisation**

Not available.

#### **Skin sensitisation**

May cause sensitization by skin contact.

### **Germ cell mutagenicity:**

Not available.

### **Carcinogenicity:**

#### **IARC Carcinogenicity**

Not listed

#### **NTP - Carcinogenicity**

Not listed.

#### **OSHA - Carcinogenicity**

Not listed.

### **Reproductive Toxicity:**

Not available.

**Specific target organ toxicity - single exposure:**

**STOT - Single exposure**

Not available.

**Specific target organ toxicity - repeated exposure:**

**STOT - Repeated exposure**

Not available.

**Aspiration hazard:**

**Viscosity**

Not available.

**SECTION 12. ECOLOGICAL INFORMATION**

**Toxicity**

No data available.

**Degradability**

No data available.

**Bioaccumulative potential**

No data available on bioaccumulation.

**Partition coefficient**

Not available.

**Mobility:**

No information available.

**Results of PBT and vPvB assessment**

This product does not contain any PBT or vPvB Substances.

**Other adverse effects**

Not known.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

Dispose of waste and residues in accordance with local authority requirements.

**SECTION 14. TRANSPORT INFORMATION**

<b>UN No. (DOT/TDG)</b>	N/A
<b>UN No. (IMDG Code)</b>	N/A
<b>UN No. (ICAO TI/IATA DGR)</b>	N/A
<b>Proper Shipping Name</b>	Not applicable.
<b>Hazard Class</b>	No classification noted.
<b>Hazard Label</b>	No DOT label requirement noted
<b>IMDG Class</b>	Not applicable.
<b>ICAO Class</b>	Not applicable.
<b>Transport Labels</b>	No transport warning sign required.
<b>Packing Group</b>	Not applicable.
<b>Environmentally Hazardous Substance</b>	Not applicable
<b>/Marine Pollutant</b>	
<b>Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code Notes</b>	Not applicable.

## **SECTION 15. REGULATORY INFORMATION**

**Follow the regulations of the CE**  
(Communaute Europeenne)

## **SECTION 16. OTHER INFORMATION**

**Date**

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