

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Product name:** Vertex Heat-Curing Acrylic powder

**Address/Phone no.:** Vertex-Dental B.V.  
P.O.Box 10  
3700 AA Zeist  
The Netherlands  
[info@vertex-dental.com](mailto:info@vertex-dental.com)

**Emergency Phone No.:** +31 30 6976749 (only available during office hours)

**Local Contact Details:**

**Local Emergency Phone no.:**

**Intended Use:** Polymer based on Methyl methacrylate for manufacturing of dental prosthesis, expanding or repairing dental prosthesis.

**Synonyms:** Vertex Regular, Vertex Rapid Simplified, Vertex Implacryl, DB20, Hot Cure material C, Hot Cure 20 minutes C, Hot Cure material D, Hot Cure 20 minutes D, BasiQ 20, Premium Super-20 Denture, Platinum Hi, High Impact D, J-Cryl+.

## 2. HAZARDS IDENTIFICATION

**EC Classification:** Not Classified as Dangerous for Supply/Use

Combustible but not readily ignited.  
May form dust clouds in air.  
Low toxicity under normal conditions of handling and use.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Polymer based on Methyl methacrylate.

HAZARDOUS INGREDIENT(S)	% w/w	CAS No.	EC No.	EC Classification
Dibenzoyl peroxide	< 1	94-36-0	202-327-6	E, X <sub>i</sub> ; R2 R36 R43

For full text of R phrases see section 15.

## 4. FIRST AID MEASURES

**Inhalation:** Remove patient from exposure. Obtain medical attention if ill effects occur.

**Skin Contact:** Wash skin with water. If symptoms (irritation or blistering) occur obtain medical attention.

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**Product name:** Vertex Heat-Curing Acrylic powder

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**Eye Contact:** Remove particles by irrigating with eye wash solution or clean water, holding the eyelids apart. Obtain medical attention.

**Ingestion:** Do not induce vomiting. Wash out mouth with water. Obtain medical attention if ill effects occur.

**Further Medical Treatment**

Symptomatic treatment and supportive therapy as indicated.

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## 5. FIRE-FIGHTING MEASURES

Combustible but not readily ignited. Combustion or thermal decomposition will evolve toxic, irritant and flammable vapours. This product can form flammable dust clouds at elevated temperatures.

Incompatible materials:	None known
Suitable Extinguishing media:	Foam and CO <sub>2</sub> .
Unsuitable Extinguishing media:	Direct jet of water.
Fire-Fighting Protective Equipment:	A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

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## 6. ACCIDENTAL RELEASE MEASURES

Caution – spillages may be slippery. Collect in containers for disposal using approved dust respirator.

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## 7. HANDLING AND STORAGE

### 7.1. HANDLING

Avoid contact with eyes. Avoid prolonged skin contact. Work in a well ventilated area. Avoid dust formation.

**Process Hazards**

Vertex Heat-Curing Acrylic powder are usually processed in conjunction with reactive monomers and this may require the use of a higher level PPE than that necessary for the polymer itself. See also Sections 8 and 11.

### 7.2. STORAGE

Store in a clean, cool and dry area away from heat sources. Natural ventilation is adequate.

Storage temperature: Preferably not exceeding 25°C

**Product name:** Vertex Heat-Curing Acrylic powder

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. EXPOSURE LIMIT VALUES

Occupational Exposure limits

SUBSTANCE	CAS No.	TWA 8 hr (mg/m <sup>3</sup> )
Dibenzoyl peroxide	94-36-0	5
Dust (total inhalable dust)		10
(respirable dust)		5

### 8.2. EXPOSURE CONTROLS

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Consideration should be given to the work procedures

involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

The following information is given as general guidance/

**Respirators:** A suitable mask or dust respirator with filter type P-S pr FFP-S (EN143 and EN149) may be appropriate.

**Eye Protection:** Safety glasses

**Gloves:** Not normally required, however use of gloves is recommended to comply with good occupational hygiene practice. Wear suitable gloves, Polyvinyl alcohol or latex gloves. WARNING: PVA is soluble in water.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Powder, clear or pink

**Odour:** Faint ester like

**pH:** Not applicable

**Boiling point:** Not applicable

**Melting point:** > 240°C decomposition

**Flash point:** Not applicable

**Flammable limits :** Not applicable

**Auto ignition temperature:** > 465°C

**Explosive properties:** Weakly to moderate exposable

**Oxidising properties:** Not applicable

**Vapour pressure:** Not applicable

**Density:** 1.1 – 1.18 g/cm<sup>3</sup> at 20°C

**Water solubility:** Negligible

**Solubility:** Not available

## 10. STABILITY AND REACTIVITY

### 10.1. CONDITIONS TO AVOID

**Product name:** Vertex Heat-Curing Acrylic powder

Hazardous reactions: None known

## 10.2. MATERIALS TO AVOID

Hazardous reactions: None known

## 10.3. HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous decomposition product(s): Methyl methacrylate, carbon monoxide, carbon dioxide

According to literature:

Methyl methacrylate is in essential non-toxic, when absorbed into the body by any route. However for some few individuals it is a powerful skin sensitizer. Apart from this skin allergy, human cases of ill health caused by the product are of a low probability.

## 11. TOXICOLOGICAL INFORMATION

Long-term inhalation tests on rats and hamsters with exposure to concentrations from 100 to 400 ppm, did not show any chronic toxic effect. However concentrations on excess of 100 ppm volume may be irritating for some people. Handling of the product requires adequate ventilation to prevent accumulation of vapour in work areas.

### Inhalation:

Unlikely to be hazardous by inhalation.

### Skin contact:

Unlikely to cause skin irritation.

### Eye contact:

Dust may cause irritation

### Ingestion:

Low oral toxicity

### Benzoyl peroxide

Acute oral rat:  $LD_{50} = > 5000$  mg/kg  
Acute inhalation rat:  $LD_{50} = 24.3$  mg/l / 4 hours  
Acute skin: Not irritating  
Acute eye: Irritating

On thermal treatment irritating acrylic monomers, like methyl methacrylate, can be formed.

### Methyl methacrylate

Acute oral rat:  $LD_{50} = 7872$  mg/kg  
Acute skin rabbit:  $LD_{50} = 9400$  mg/kg  
Acute inhalation rat:  $LD_{50} = 7093$  ppm / 4 hours  
Human patch test: Approximately 1/3 of subjects developed mild redness at site of application. 20% showed sensitivity 10 days later.



**Product name:** Vertex Heat-Curing Acrylic powder

## 12. ECOLOGICAL INFORMATION

### Environmental Fate and Distribution

Solid with low volatility. The product is essentially insoluble in water. The product has low potential for bioaccumulation. The product is predicted to have low mobility in soil.

### Persistence and Degradation

The product is non-biodegradable in soil. There is no evidence of degradation in soil and water.

### Toxicity

The product is predicted to have low toxicity to aquatic organisms.

### Effect on Effluent Treatment

The product is essentially insoluble in water and can therefore be separated from aqueous medium by sedimentation and filtration processes at an effluent treatment plant.

## 13. DISPOSAL CONSIDERATIONS

Vertex Heat-Curing Acrylic powder is considered to be non-hazardous. Incineration may be used. May be disposed of by landfill in accordance with local regulations.

## 14. TRANSPORT INFORMATION

Not Classified as Dangerous for Transport.

## 15. REGULATORY INFORMATION

EC Classification:	Not classified as Dangerous for Supply/Use
Hazard Symbol:	E: Oxidising Xi: Irritating
Risk Phrases:	R2: Risk of explosion by shock, friction, fire or other sources of ignition. R36: Irritating to eyes. R43: May cause sensitisation by skin contact.

## 16. OTHER INFORMATION

This Safety Datasheet was prepared in accordance with Directive (EG) 1907/2006.

### Other Information

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material

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**Product name:** **Vertex Heat-Curing Acrylic powder**

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designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.

The TWA-values mentioned in this datasheet are based on the invalid MAC-values in The Netherlands. Other countries may apply other MAC-values.

#### **Glossary**

TWA: Time Weighted Average

Places marked by || have been amended form the last version.

This is the end of MSDS ID: HC-P-03-UK.