

Material Safety Data Sheet

according to ANSI Z400.1-2004

PMMA-Disc

Print date: 10.12.2013

Product code: Disk_Zahn_Veneer

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier**

PMMA-Disc

Product group: end product

Chemical characterization (Mixture)

POLYMETHYL METHACRYLATE

Details of the supplier of the safety data sheet

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Emergency telephone: +49-(0)4381-403-1 (7:00 AM - 5:00 PM)**SECTION 2: Hazards identification****Route(s) of Entry****Signs and Symptoms of Exposure**

Allergic reactions

Carcinogenicity (NTP): Not appropriately

Carcinogenicity (IARC): Not appropriately

Carcinogenicity (OSHA): Not appropriately

Other hazards

Harmful dust is produced during dry-state pulverisation. Inhalation of dust may cause irritation of the respiratory system.

SECTION 3: Composition/information on ingredients**Mixtures****Hazardous components**

CAS No	Components	Quantity
	Polymethyl methacrylate	95 - < 100 %
80-62-6	methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate	1 - < 5 %
94-36-0	dibenzoyl peroxide; benzoyl peroxide	1 - < 5 %

Further Information

May cause sensitization by skin contact.

SECTION 4: First aid measures**Description of first aid measures****General information**

No special measures are necessary. The following measures are necessary only in contact with the dust.

After inhalation

In case of allergic symptoms, especially in the breathing area, seek medical advice immediately.

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After contact with skin

After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, consult a physician.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

After ingestion

No known symptoms to date. Observe risk of aspiration if vomiting occurs. When in doubt or if symptoms are observed, get medical advice.

Indication of any immediate medical attention and special treatment needed

Apply cortisone spray at early stage.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Water mist, Foam, Carbon dioxide (CO₂), Extinguishing powder

Unsuitable extinguishing media

Full water jet

Special hazards arising from the substance or mixture

Hazardous combustion products.

Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Co-ordinate fire-fighting measures to the fire surroundings. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen.

Additional information

Do not inhale explosion and combustion gases.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid generation of dust. Wear breathing apparatus if exposed to vapours/dusts/aerosols. Use personal protection equipment.

Environmental precautions

No special environmental measures are necessary. Avoid release to the environment.

Methods and material for containment and cleaning up

Wet clean or vacuum up solids. Use approved industrial vacuum cleaner for removal. Do not use a dry brush as dust clouds or static can be created.

Reference to other sections

Safe handling: see section 7. Personal protection equipment: see section 8. Disposal: see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling

Do not breathe dust. Dust should be exhausted directly at the point of origin. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Further information on handling

No special handling advices are necessary.

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Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Advice on storage compatibility

None

SECTION 8: Exposure controls/personal protection**Control parameters****Exposure limits**

CAS No	Components	ppm	mg/m ³	fib/cc	Category	Origin
94-36-0	Benzoyl peroxide	-	5		TWA (8 h)	PEL
		-	5		TWA (8 h)	REL
80-62-6	Methyl methacrylate	100	410		TWA (8 h)	PEL
		100	410		TWA (8 h)	REL

Additional advice on limit values

Does not contain substances above concentration limits fixing an occupational exposure limit.

Monitoring and observation processes see for example "NIOSH Manual of Analytical Methods", National Institute for Occupational Safety and Health.

Exposure controls**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation should be used if possible. Hand tool with integrated exhaust. Use an "effective exhaust ventilation system" according to 2001/59/EC (Annex 7A). Preferably use hand tools or low-speed tools equipped, if necessary, with an appropriate dust-extraction facility. If high-speed tools are used, they should always be equipped with such a facility.

Protective and hygiene measures

When using do not eat, drink, smoke, sniff. Do not breathe dust. Do not breathe dust. General health and safety measures.

Eye/face protection

Dust protection eye glasses

Hand protection

Wear suitable gloves. (EN 388)

Skin protection

Wear suitable protective clothing.

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product.

Environmental exposure controls

No special environmental measures are necessary.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Physical state:

solid

Color:

colourless or different colours

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Odor: odourless

Test method

pH-Value: not applicable

Changes in the physical state

Melting point: not applicable

Boiling point: not applicable

Sublimation point: not applicable

Softening point: not applicable

Pour point: not applicable

not applicable:

Flash point: > 250 °C ASTM D 1929-68

Lower explosion limits: not determined

Upper explosion limits: not determined

Ignition temperature: > 400 °C ASTM D 1929-68

Decomposition temperature: > 250 °C

Oxidizing properties

No data available

Vapour pressure: not applicable

Vapour pressure: not applicable

Density: not applicable

Bulk density: not applicable

Water solubility: insoluble

Solubility in other solvents

practically insoluble

Partition coefficient: not applicable

Viscosity / dynamic: not applicable

Viscosity / kinematic: not applicable

Flow time: not applicable

Vapour density: not applicable

Evaporation rate: not applicable

Solvent separation test: not applicable

Solvent content: 0 %

Other information

Solid content: 100 %

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

SECTION 10: Stability and reactivity

Stability: Stable

Possibility of Hazardous Reactions: Will not occur

Conditions to avoid

Dust-generating activities

Incompatible materials

Oxidising agent, strong

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Hazardous decomposition products

When thermal decomposition occurs, flammable vapours, which are irritating to the eyes and respiratory organs, develop. These mainly consist of: methyl methacrylate, methyl acrylate.

SECTION 11: Toxicological information

Information on toxicological effects

Toxicokinetics, metabolism and distribution

No information available.

Acute toxicity

No information available.

CAS No	Components				
	Exposure routes	Method	Dose	Species	Source
80-62-6	methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate				
	oral	LD50 mg/kg	> 5000	Rat	OECD 401
	dermal	LD50 mg/kg	> 5000	Rabbit	
	inhalative (4 h) vapour	LC50	29,8 mg/l	Rat	
94-36-0	dibenzoyl peroxide; benzoyl peroxide				
	oral	LD50 mg/kg	> 5000	Rat	
	inhalative aerosol	LC50 mg/l	> 24300	Rat	

Irritation and corrosivity

No information available.

Sensitizing effects

The product contains small quantities of sensitising substances. Allergic reactions were reported among humans. The data given above refers to the raw materials methyl methacrylate and dibenzoyl peroxide, which are contained in the product in small concentrations. Intensive skin contact with the dust can trigger an allergic reaction in persons previously sensitised.

STOT-single exposure

No information available.

Severe effects after repeated or prolonged exposure

No information available.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on existing data the substance does not fulfill the criteria of CMR-substances Cat. 1 and 2 according to 67/548/EEC. No indications of human germ cell mutagenicity exist. No indications of human reproductive toxicity exist.

Aspiration hazard

Not appropriately

Specific effects in experiment on an animal

No information available.

Additional information on tests

The biocompatibility tests carried out on comparable material (teeth), in accordance with EN ISO 10993, regarding cytotoxicity, irritation, sensitisation, haemolysis and gene toxicity according to OECD 471, did not result in any negative effects, under the test conditions, on the cell materials used.

Practical experience

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Observations relevant to classification

No information available.

Other observations

No information available.

Further information

None

SECTION 12: Ecological information**Toxicity**

No ecotoxicological data is available for the product. Due to the consistency along with the low water solubility of the product a bioavailability is unlikely. Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Persistence and degradability

No ecotoxicological data is available for the product. According to experiences this product is inert and not degradable.

Bioaccumulative potential

No ecotoxicological data is available for the product. On the basis of existing data about the elimination/degradation and bioaccumulation potential longer term damage to the environment is unlikely.

Mobility in soil

No ecotoxicological data is available for the product. Das Produkt hat aufgrund von Berechnungen geringe Mobilität in Böden.

Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

Other adverse effects

Hazardous to the aquatic environment:

Further information

Water solubility < 1 mg/L at 20°C. On the basis of existing data about the elimination/degradation and bioaccumulation potential longer term damage to the environment is unlikely. There are no data available on the mixture itself. According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as "dangerous for the environment".

SECTION 13: Disposal considerations**Waste treatment methods****Advice on disposal**

Waste disposal according to EC directives 75/442/EEC and 91/689/EEC in the corresponding versions, covering waste and dangerous waste. Dispose according to legislation. Can be incinerated together with household waste in compliance with applicable technical regulations following consultation with approved waste disposal management companies and authorities in charge.

Contaminated packaging

Recycling possible without special treatment.. May be disposed of in household waste landfill. Recycle sales packaging via DSD (Duales System Deutschland).

SECTION 14: Transport information**US DOT 49 CFR 172.101****Proper shipping name:**

Not a hazardous material with respect to these transport regulations. Not controlled under DOT

Marine transport (IMDG)**UN proper shipping name:**

No dangerous good in sense of these transport regulations.

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Other applicable information

None

Air transport (ICAO)**UN proper shipping name:**

No dangerous good in sense of these transport regulations.

Other applicable information

None

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

Danger releasing substance: None

Other applicable information

None

SECTION 15: Regulatory information**U.S. Regulations****SARA**Section 313 Toxic Release Chemicals
Methyl methacrylate (CAS 80-62-6).**Chemical Safety Assessment**

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)