

SAFETY DATA SHEETS

This SDS packet was issued with item:

073202801

N/A

Material Safety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard.
29 CFR 1900, 1200 Standard must be
consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY (As used on label and list)

Ti-Core Auto E (Base)

SECTION I

Manufacturer's Name

Essential Dental Systems, Inc.

Address (Number, Street, City, State, Zip)

89 Leuning Street
South Hackensack, NJ 07606

Emergency Telephone Number

Telephone Number for Information

(201) 487-9090

Date Prepared

March 1, 2009

SECTION II - Hazardous Ingredients/Identity Information

Hazardous Components

| (Specific Chemical Identity) | OSHA PEL | ACHIH TIV | Recommended | %Optional | Other Limits |
|--|----------|-----------|-------------|-----------|--------------|
| AROMATIC AND ALIPHATIC DIMETHACRYLATES | | | | | |
| INORGANIC PIGMENTS | | | | | |
| NN'-DIHYDROXYETHYL P-TOLUIDINE | | | | | |

SECTION III -Physical/Chemical Characteristics

Boiling Point

NE

Vapor Pressure (mm Hg)

N/A

Vapor Density (AIR =1)

N/A

Solubility in Water

INSOLUBLE

Appearance and Odor

OFF WHITE PASTE WITH CHARACTERISTIC ACRYLATE ODOR

Specific Gravity (H₂O = 1)

1.7

Melting Point

N/A

Evaporation Rate (Butyl Acetate = 1)

N/A

SECTION IV - Fire and Explosion Hazard Data

Flash Point (Method Used)

N/A

Flammable Limits

N/A

LEL

N/A

UEL

N/A

Extinguishing Media

DRY CHEMICAL FOAM, CO₂, DRY CHEMICAL

Special Fire Fighting Procedures

N/A

Unusual Fire and Explosion Hazards

MATERIAL MAY BURN IF EXPOSED TO FLAME.

SECTION V - Reactivity Data

| | | |
|------------------|-----------------|----------------------------|
| Stability | Unstable | Conditions to Avoid |
| | | HIGH TEMPERATURES |

Stable
X

Incompatibility (Materials to Avoid)

N/A

Hazardous Decomposition or Byproducts

N/A

| | |
|---------------------------------|------------------|
| Hazardous Polymerization | May Occur |
| | X |

Conditions to Avoid
HIGH TEMPERATURE, STRONG
OXIDIZERS AND PEROXIDES

Will not Occur

SECTION VI - Health Hazard Data

| | | | |
|-------------------------|-------------------|-------------|------------------|
| Routes of Entry: | Inhalation | Skin | Ingestion |
| | N/A | Yes | N/A |

Health Hazards (Acute and Chronic)

None

Carcinogenicity: NTP IARC Monographs OSHA Regulated

NONE KNOWN

Signs and Symptoms of Exposure:

REPEATED CONTACT WITH SKIN MAY CAUSE REDDENING AND IRRITATION.

Medical Conditions Generally Aggravated by Exposure:

UNKNOWN

Emergency and First Aid Procedures:

EYES – FLUSH WITH COPIOUS AMOUNTS OF WATER. SKIN- WASH WITH SOAP AND WATER.

SECTION VII - Precautions for Safe Handling and Use:**Steps to Be Taken in Case Material is Released or Spilled:****Waste Disposal Method**

DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL AUTHORITIES

Precautions to Be Taken in Handling and Storing:

STORE AT OR BELOW ROOM TEMPERATURE AVOID MOISTURE CONTACT IN UNPOLYMERIZED STATE

Other Precautions

NONE

SECTION VIII - Control Measures**Respiratory Protection (Specify Type)**

N/A

| | | |
|---------------------|----------------------|----------------|
| Ventilation: | Local Exhaust | Special |
| N/A | N/A | N/A |

| | | |
|--|-----------------------------|--------------|
| | Mechanical (General) | Other |
|--|-----------------------------|--------------|

| | |
|--------------------------|-----------------------|
| Protective Gloves | Eye Protection |
| RECOMMENDED | RECOMMENDED |

Other Protective Clothing or Equipment

N/A

Work/Hygienic Practices

GENERAL SAFE PRACTICES

The data given here is based on current knowledge and experience. The data does not signify any warranty with regard to the product's properties.

Material Safety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard.
29 CFR 1900, 1200 Standard must be
consulted for specific requirements.

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Occupational Safety and Health Administration
(Non-Mandatory Form)
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IDENTITY (As used on label and list)

Ti-Core Auto E (Catalyst)

SECTION I

Manufacturer's Name

Essential Dental Systems, Inc.

Address (Number, Street, City, State, Zip)

89 Leuning Street
South Hackensack, NJ 07606

Emergency Telephone Number

Telephone Number for Information

(201) 487-9090

Date Prepared

March 1, 2009

SECTION II - Hazardous Ingredients/Identity Information

Hazardous Components

Other Limits

(Specific Chemical Identity) OSHA PEL ACHIH TIV Recommended %Optional

AROMATIC AND ALIPHATIC DIMETHACRYLATE MONOMERS

BENZOYL PEROXIDE

2,6-DI-TER BUTYL-P-CRESOL (BHT)

SECTION III -Physical/Chemical Characteristics

Boiling Point

NE

Specific Gravity (H₂O = 1)

1.7

Vapor Pressure (mm Hg)

N/A

Melting Point

N/A

Vapor Density (AIR =1)

N/A

Evaporation Rate (Butyl Acetate = 1)

N/A

Solubility in Water

INSOLUBLE

Appearance and Odor

OFF WHITE PASTE WITH CHARACTERISTIC ACRYLATE ODOR

SECTION IV - Fire and Explosion Hazard Data

Flash Point (Method Used)

N/A

Flammable Limits

N/A

LEL

N/A

UEL

N/A

Extinguishing Media

DRY CHEMICAL FOAM, CO₂, DRY CHEMICAL

Special Fire Fighting Procedures

N/A

Unusual Fire and Explosion Hazards

MATERIAL MAY BURN IF EXPOSED TO FLAME.

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

1.1. Product identifier

Product form : Mixture
 Trade name : Dual Cure Composite Base Paste
 Product code : 830-00, 832-00, 880-00

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Construction of dental composites. This product is part of a two-component system. For use with catalyst component.
 Use of the substance/mixture : For professional use only

1.3. Details of the supplier of the safety data sheet

Essential Dental Systems
 89 Leuning St, South Hackensack, NJ 07606
 Tel: (201) 487-9090
 Email: info@edsdental.com

1.4. Emergency telephone number

Emergency number : +1-201-487-9090 9:00 a.m. to 5:00 p.m. Eastern Standard Time

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irrit. 2 H315
 Eye Irrit. 2A H319
 Skin Sens. 1 H317
 Carc. 1A H350
 STOT SE 3 H335

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS07

GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H350 - May cause cancer (Inhalation)

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use
 P202 - Do not handle until all safety precautions have been read and understood
 P261 - Avoid breathing vapours
 P264 - Wash hands thoroughly after handling
 P271 - Use only outdoors or in a well-ventilated area
 P272 - Contaminated work clothing must not be allowed out of the workplace
 P280 - Wear eye protection, protective gloves
 P302+P352 - If on skin: Wash with plenty of water
 P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P308+P313 - If exposed or concerned: Get medical advice/attention
 P312 - Call a doctor, a POISON CENTER if you feel unwell
 P321 - Specific treatment (see on this label)
 P332+P313 - If skin irritation occurs: Get medical advice/attention
 P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
 P337+P313 - If eye irritation persists: get medical advice/attention
 P362 - Take off contaminated clothing and wash before reuse

Dual Cure Composite Base Paste

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

P362+P364 - Take off contaminated clothing and wash it before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to comply with applicable local, national and international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|---|----------------------|--------|---|
| 2-Propenoic acid, 2-methyl-, (1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] ester | (CAS No) 1565-94-2 | 5 - 25 | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 |
| 2-Propenoic acid, 2-methyl-, 1,6-hexanediyl ester | (CAS No) 6606-59-3 | 5 - 15 | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 |
| Quartz | (CAS No) 14808-60-7 | 5 - 15 | Acute Tox. 4 (Oral), H302 Carc. 1A, H350 |
| Silica, amorphous, fumed, crystalline-free | (CAS No) 112945-52-5 | 5 - 15 | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 |
| Triethylene glycol dimethacrylate | (CAS No) 109-16-0 | 1 - 10 | Skin Sens. 1B, H317 |
| 2-Propenoic acid, 2-methyl-, (1-methylethylidene)di-4,1-phenylene ester | (CAS No) 3253-39-2 | <= 1 | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 |
| Titanium dioxide | (CAS No) 13463-67-7 | < 1 | Carc. 2, H351 |
| Ethanol, 2,2'-[(4-methylphenyl)imino]bis- | (CAS No) 3077-12-1 | < 1 | Eye Irrit. 2A, H319 Skin Sens. 1, H317 |
| 2,4-Dihydroxybenzophenone | (CAS No) 131-56-6 | < 1 | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 |
| N,N-Dimethylaminoethyl methacrylate | (CAS No) 2867-47-2 | < 1 | Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 |

Titanium dioxide and Quartz used in this material does not have the potential to become of respirable size. Normal application procedures poses no hazard since the material is bound and encapsulated.

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures general | : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Assure fresh air breathing. Seek immediate medical advice. |
| First-aid measures after skin contact | : Rinse and then wash skin thoroughly with water and soap. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse. |
| First-aid measures after eye contact | : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub the skin and eyes after direct contact with the product. Get medical advice/attention. |
| First-aid measures after ingestion | : If swallowed, rinse mouth with water (only if the person is conscious). Consult physician immediately. Immediately call a POISON CENTER or doctor/physician. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|--------------------------------------|--|
| Symptoms/injuries after inhalation | : May cause respiratory irritation. Inhalation of dust may cause irritation of the respiratory system. May cause cancer by inhalation. |
| Symptoms/injuries after skin contact | : Causes skin irritation. May cause an allergic skin reaction. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : Swallowing a small quantity of this material will result in serious health hazard. |

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4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection.
- Other information : Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide, SiO₂. Titanium dioxide. Metal oxides.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Avoid raising powdered materials into airborne dust. Minimize generation of dust. Store away from other materials. Ensure all national/local regulations are observed.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust, mist or spray. Provide good ventilation in process area to prevent formation of vapour. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety procedures.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : A washing facility/water for eye and skin cleaning purposes should be present. Provide local exhaust or general room ventilation. Provide local exhaust to maintain dust levels below exposure limits.
- Storage conditions : Keep out of reach of children. Keep away from food and drink. Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use. Keep away from ignition sources (including static discharges). Keep the packing dry and well sealed to prevent contamination and absorption of humidity.
- Incompatible materials : Strong oxidizing agents. Strong acids, bases. Hydrogen fluoride.

7.3. Specific end use(s)

No additional information available

Dual Cure Composite Base Paste

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Quartz (14808-60-7) | | |
|---------------------|--------------------------------|-------------------------|
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.025 mg/m ³ |

| Silica, amorphous, fumed, crystalline-free (112945-52-5) | | |
|--|-------------------------------------|----------------------|
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 80 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 20 ppm |

| Titanium dioxide (13463-67-7) | | |
|-------------------------------|-------------------------------------|----------------------|
| USA ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ |

8.2. Exposure controls

Appropriate engineering controls : A washing facility/water for eye and skin cleaning purposes should be present. Use ventilation to keep exposure to airborne contaminants below the exposure limits. Provide local exhaust or general room ventilation to minimize exposure to dust.

Personal protective equipment : Avoid all unnecessary exposure. Gloves. Protective goggles. Protective clothing. For certain operations, additional Personal Protection Equipment (PPE) may be required.



Hand protection : Wear protective gloves.
Eye protection : Chemical goggles or safety glasses.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : Wear appropriate mask. Wear appropriate breathing apparatus if air renewal not sufficient to maintain dust/vapour under TLV.
Environmental exposure controls : Avoid release to the environment.
Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Appearance : Paste.
Colour : Yellow
Odour : Not available
Odour threshold : No data available
pH : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : > 1 g/cm³ at 23 °C / 73 °F
Solubility : Water: insoluble
Log Pow : No data available
Log Kow : No data available

Dual Cure Composite Base Paste

Safety Data Sheet

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| | |
|----------------------|---------------------|
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Hydrogen fluoride.

10.6. Hazardous decomposition products

Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide, SiO₂. Fume. Metal oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified
(Based on available data, the classification criteria are not met)

| Quartz (14808-60-7) | |
|---------------------|--------------------|
| LD50 oral rat | 500 mg/kg |
| ATE US (oral) | 500.00000000 mg/kg |

| Silica, amorphous, fumed, crystalline-free (112945-52-5) | |
|--|--------------|
| LD50 oral rat | > 5000 mg/kg |
| LD50 dermal rabbit | > 2000 mg/kg |

| Titanium dioxide (13463-67-7) | |
|-------------------------------|---------------|
| LD50 oral rat | > 10000 mg/kg |

| N,N-Dimethylaminoethyl methacrylate (2867-47-2) | |
|---|--|
| LD50 oral rat | 1550 mg/kg |
| LD50 dermal rat | > 2000 mg/kg |
| LD50 dermal rabbit | > 3000 mg/kg |
| LC50 inhalation rat (mg/l) | 620 mg/m ³ (Exposure time: 4 h) |
| ATE US (oral) | 1550.00000000 mg/kg bodyweight |

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
(Based on available data, the classification criteria are not met)
Carcinogenicity : May cause cancer (Inhalation).

| Quartz (14808-60-7) | |
|--|-----------------------------|
| IARC group | 1 - Carcinogenic to humans |
| National Toxicity Program (NTP) Status | 2 - Known Human Carcinogens |

Dual Cure Composite Base Paste

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

| Silica, amorphous, fumed, crystalline-free (112945-52-5) | |
|---|----------------------|
| IARC group | 3 - Not classifiable |

| Titanium dioxide (13463-67-7) | |
|--------------------------------------|--------------------------------------|
| IARC group | 2B - Possibly carcinogenic to humans |

| | |
|--|---|
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : May cause respiratory irritation. |
| Specific target organ toxicity (repeated exposure) | : Not classified (Based on available data, the classification criteria are not met) |
| Aspiration hazard | : Not classified (Based on available data, the classification criteria are not met) |
| Symptoms/injuries after inhalation | : May cause respiratory irritation. Inhalation of dust may cause irritation of the respiratory system. May cause cancer by inhalation. |
| Symptoms/injuries after skin contact | : Causes skin irritation. May cause an allergic skin reaction. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : Swallowing a small quantity of this material will result in serious health hazard. |

SECTION 12: Ecological information

12.1. Toxicity

| Silica, amorphous, fumed, crystalline-free (112945-52-5) | |
|---|--------------|
| LC50 fishes 1 | > 10000 mg/l |

| N,N-Dimethylaminoethyl methacrylate (2867-47-2) | |
|--|--|
| EC50 Daphnia 1 | 53 mg/l (Exposure time: 48 h - Species: Daphnia magna) |

12.2. Persistence and degradability

| Dual Cure Composite Base Paste | |
|---------------------------------------|------------------|
| Persistence and degradability | Not established. |

12.3. Bioaccumulative potential

| Dual Cure Composite Base Paste | |
|---------------------------------------|------------------|
| Bioaccumulative potential | Not established. |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

| | |
|------------------------------|--|
| Effect on ozone layer | : No additional information available |
| Effect on the global warming | : No known ecological damage caused by this product. |
| Other information | : Avoid release to the environment. |

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--------------------------------|--|
| Waste disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with applicable local, national and international regulations. |
| Additional information | : Do not re-use empty containers. |
| Ecology - waste materials | : Avoid release to the environment. |

SECTION 14: Transport information

In accordance with DOT
Not regulated for transport

Additional information

| | |
|-------------------|---|
| Other information | : No supplementary information available. |
|-------------------|---|

Dual Cure Composite Base Paste

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

ADR

Transport document description : No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

No additional information available

15.2. International regulations

CANADA

Quartz (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Titanium dioxide (13463-67-7)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available

Classification according to Directive 67/548/EEC or 1999/45/EC

No additional information available

15.2.2. National regulations

No additional information available

15.3. US State regulations

U.S. State Regulations California Proposition 65: This product does not contain chemicals which qualify to the specifications set by California Proposition 65.

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

| | |
|---------------------|---|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Carc. 1A | Carcinogenicity, Category 1A |
| Carc. 2 | Carcinogenicity, Category 2 |
| Eye Irrit. 2A | Serious eye damage/eye irritation, Category 2A |
| Flam. Liq. 4 | Flammable liquids Category 4 |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| Skin Sens. 1 | Sensitisation — Skin, category 1 |
| Skin Sens. 1B | Sensitisation — Skin, category 1B |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H227 | Combustible liquid |
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| H350 | May cause cancer |
| H351 | Suspected of causing cancer |

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

SDS US (GHS HazCom 2012)

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

1.1. Product identifier

Trade name : Dual Cure Composite Catalyst Paste
 Product code : 830-00, 832-00, 880-00

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Construction of dental composites. This product is part of a two-component system. For use with base component.
 Use of the substance/mixture : For professional use only

1.3. Details of the supplier of the safety data sheet

Essential Dental Systems
 89 Leuning St, South Hackensack, NJ 07606
 Tel: (201) 487-9090
 Email: info@edsdental.com

1.4. Emergency telephone number

Emergency number : +1-201-487-9090 9:00 a.m. to 5:00 p.m. Eastern Standard Time

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute Tox. 4 (Oral) H302
 Skin Irrit. 2 H315
 Eye Irrit. 2A H319
 Skin Sens. 1 H317
 Carc. 1A H350

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H302 - Harmful if swallowed
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H350 - May cause cancer (Inhalation)

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use
 P202 - Do not handle until all safety precautions have been read and understood
 P261 - Avoid breathing dust, fume, mist, spray, vapours
 P264 - Wash hands thoroughly after handling
 P270 - Do not eat, drink or smoke when using this product
 P272 - Contaminated work clothing must not be allowed out of the workplace
 P280 - Wear eye protection, protective clothing, protective gloves
 P301+P312 - If swallowed: Call a doctor, a POISON CENTER if you feel unwell
 P302+P352 - If on skin: Wash with plenty of 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
 P308+P313 - If exposed or concerned: Get medical advice/attention
 P321 - Specific treatment (see on this label)
 P330 - Rinse mouth
 P332+P313 - If skin irritation occurs: Get medical advice/attention
 P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
 P337+P313 - If eye irritation persists: get medical advice/attention
 P362 - Take off contaminated clothing and wash before reuse
 P362+P364 - Take off contaminated clothing and wash it before reuse

Dual Cure Composite Catalyst Paste

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according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

P405 - Store locked up
P501 - Dispose of contents/container to comply with applicable local, national and international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|---|----------------------|---------|--|
| Quartz | (CAS No) 14808-60-7 | 5 - 55 | Acute Tox. 4 (Oral), H302 Carc. 1A, H350 |
| 2-Propenoic acid, 2-methyl-, (1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] ester | (CAS No) 1565-94-2 | 5 - 35 | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 |
| Triethylene glycol dimethacrylate | (CAS No) 109-16-0 | 10 - 30 | Skin Sens. 1B, H317 |
| Silica, amorphous, fumed, crystalline-free | (CAS No) 112945-52-5 | 1 - 10 | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 |
| dibenzoyl peroxide, benzoyl peroxide | (CAS No) 94-36-0 | < 1 | Org. Perox. B, H241 Eye Irrit. 2A, H319 Skin Sens. 1, H317 |
| 2,6-Di-tert-butyl-4-methylphenol | (CAS No) 128-37-0 | < 1 | Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 |

Quartz used in this material does not have the potential to become of respirable size.
Normal application procedures poses no hazard since the material is bound and encapsulated.

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures general | : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Assure fresh air breathing. Seek immediate medical advice. |
| First-aid measures after skin contact | : Rinse and then wash skin thoroughly with water and soap. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse. |
| First-aid measures after eye contact | : Do not rub the skin and eyes after direct contact with the product. Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. |
| First-aid measures after ingestion | : If swallowed, rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Obtain emergency medical attention. Immediately call a POISON CENTER or doctor/physician. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|--------------------------------------|---|
| Symptoms/injuries after inhalation | : Inhalation of dust may cause irritation of the respiratory system. May cause cancer by inhalation. |
| Symptoms/injuries after skin contact | : Causes skin irritation. Frequent or prolonged contact with skin may cause dermal irritation. May cause an allergic skin reaction. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : Swallowing a small quantity of this material will result in serious health hazard. |

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Use extinguishing media appropriate for surrounding fire. Foam. Dry powder. Carbon dioxide. Water spray. Sand. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

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5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection.
- Other information : Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide, SiO₂. Titanium dioxide. Metal oxides.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Avoid raising powdered materials into airborne dust. Minimize generation of dust. Store away from other materials. Ensure all national/local regulations are observed.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust, mist or spray. Provide good ventilation in process area to prevent formation of vapour. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety procedures.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : A washing facility/water for eye and skin cleaning purposes should be present. Provide local exhaust or general room ventilation. Provide local exhaust to maintain dust levels below exposure limits.
- Storage conditions : Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use. Keep away from ignition sources (including static discharges). Keep the packing dry and well sealed to prevent contamination and absorption of humidity. Keep out of reach of children. Keep away from food and drink.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Quartz (14808-60-7) | | |
|--|-------------------------------------|-------------------------|
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.025 mg/m ³ |
| Silica, amorphous, fumed, crystalline-free (112945-52-5) | | |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 80 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 20 ppm |

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| dibenzoyl peroxide, benzoyl peroxide (94-36-0) | | |
|--|-------------------------------------|--------------------------|
| USA ACGIH | ACGIH TWA (mg/m ³) | 5 fibers/cm ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 5 mg/m ³ |

| 2,6-Di-tert-butyl-4-methylphenol (128-37-0) | | |
|---|--------------------------------|-----------------------------|
| USA ACGIH | ACGIH TWA (mg/m ³) | 2 mg/m ³ |
| USA ACGIH | Remark (ACGIH) | (inhalable fraction, vapor) |

8.2. Exposure controls

Appropriate engineering controls : A washing facility/water for eye and skin cleaning purposes should be present. Use ventilation to keep exposure to airborne contaminants below the exposure limits. Provide local exhaust or general room ventilation to minimize exposure to dust.

Personal protective equipment : Avoid all unnecessary exposure. Gloves. Protective goggles. Protective clothing. For certain operations, additional Personal Protection Equipment (PPE) may be required.



Hand protection : Wear protective gloves.
Eye protection : Chemical goggles or safety glasses.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : Wear appropriate mask. Wear appropriate breathing apparatus if air renewal not sufficient to maintain dust/vapour under TLV.
Environmental exposure controls : Avoid release to the environment.
Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Appearance : Paste.
Colour : White
Odour : Not available
Odour threshold : No data available
pH : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : > 1 g/cm³ at 23 °C / 73 °F
Solubility : Water: insoluble
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : No data available

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9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide, SiO₂. Fume. Metal oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

| Dual Cure Composite Catalyst Paste | |
|------------------------------------|-------------------------------|
| ATE US (oral) | 500.00000000 mg/kg bodyweight |

| Quartz (14808-60-7) | |
|---------------------|--------------------|
| LD50 oral rat | 500 mg/kg |
| ATE US (oral) | 500.00000000 mg/kg |

| Silica, amorphous, fumed, crystalline-free (112945-52-5) | |
|--|--------------|
| LD50 oral rat | > 5000 mg/kg |
| LD50 dermal rabbit | > 2000 mg/kg |

| 2,6-Di-tert-butyl-4-methylphenol (128-37-0) | |
|---|--------------------------------|
| LD50 oral rat | 890 mg/kg |
| LD50 dermal rat | 2000 mg/kg |
| ATE US (oral) | 890.00000000 mg/kg bodyweight |
| ATE US (dermal) | 2000.00000000 mg/kg bodyweight |

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
(Based on available data, the classification criteria are not met)
Carcinogenicity : May cause cancer (Inhalation).

| Quartz (14808-60-7) | |
|--|-----------------------------|
| IARC group | 1 - Carcinogenic to humans |
| National Toxicity Program (NTP) Status | 2 - Known Human Carcinogens |

| Silica, amorphous, fumed, crystalline-free (112945-52-5) | |
|--|----------------------|
| IARC group | 3 - Not classifiable |

| 2,6-Di-tert-butyl-4-methylphenol (128-37-0) | |
|---|----------------------|
| IARC group | 3 - Not classifiable |

Reproductive toxicity : Not classified
(Based on available data, the classification criteria are not met)
Specific target organ toxicity (single exposure) : Not classified
(Based on available data, the classification criteria are not met)

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| | |
|---|---|
| Specific target organ toxicity (repeated exposure) | : Not classified (Based on available data, the classification criteria are not met) |
| Aspiration hazard | : Not classified (Based on available data, the classification criteria are not met) |
| Potential Adverse human health effects and symptoms | : Harmful if swallowed. |
| Symptoms/injuries after inhalation | : Inhalation of dust may cause irritation of the respiratory system. May cause cancer by inhalation. |
| Symptoms/injuries after skin contact | : Causes skin irritation. Frequent or prolonged contact with skin may cause dermal irritation. May cause an allergic skin reaction. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : Swallowing a small quantity of this material will result in serious health hazard. |

SECTION 12: Ecological information

12.1. Toxicity

Silica, amorphous, fumed, crystalline-free (112945-52-5)

| | |
|---------------|--------------|
| LC50 fishes 1 | > 10000 mg/l |
|---------------|--------------|

2,6-Di-tert-butyl-4-methylphenol (128-37-0)

| | |
|---------------|-------------------|
| ErC50 (algae) | > 0.42 mg/l 72 hr |
|---------------|-------------------|

12.2. Persistence and degradability

Dual Cure Composite Catalyst Paste

| | |
|-------------------------------|------------------|
| Persistence and degradability | Not established. |
|-------------------------------|------------------|

12.3. Bioaccumulative potential

Dual Cure Composite Catalyst Paste

| | |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |
|---------------------------|------------------|

2,6-Di-tert-butyl-4-methylphenol (128-37-0)

| | |
|------------|------------|
| BCF fish 1 | 230 - 2500 |
|------------|------------|

| | |
|---------|------|
| Log Pow | 0.62 |
|---------|------|

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

| | |
|------------------------------|--|
| Effect on ozone layer | : No additional information available |
| Effect on the global warming | : No known ecological damage caused by this product. |
| Other information | : Avoid release to the environment. |

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--------------------------------|--|
| Waste disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with applicable local, national and international regulations. |
| Additional information | : Do not re-use empty containers. |
| Ecology - waste materials | : Avoid release to the environment. |

SECTION 14: Transport information

In accordance with DOT
Not regulated for transport

Additional information

| | |
|-------------------|---|
| Other information | : No supplementary information available. |
|-------------------|---|

ADR

| | |
|--------------------------------|---------------------------------------|
| Transport document description | : No additional information available |
|--------------------------------|---------------------------------------|

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Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

No additional information available

15.2. International regulations

CANADA

Quartz (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available

Classification according to Directive 67/548/EEC or 1999/45/EC

No additional information available

15.2.2. National regulations

No additional information available

15.3. US State regulations

U.S. State Regulations California Proposition 65: This product does not contain chemicals which qualify to the specifications set by California Proposition 65.

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

| | |
|-----------------------|---|
| Acute Tox. 4 (Dermal) | Acute toxicity (dermal) Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Carc. 1A | Carcinogenicity, Category 1A |
| Eye Irrit. 2A | Serious eye damage/eye irritation, Category 2A |
| Org. Perox. B | Organic Peroxides, Type B |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| Skin Sens. 1 | Sensitisation — Skin, category 1 |
| Skin Sens. 1B | Sensitisation — Skin, category 1B |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H241 | Heating may cause a fire or explosion |
| H302 | Harmful if swallowed |
| H312 | Harmful in contact with skin |
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| H350 | May cause cancer |

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product