SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name: CLAROFAST
Cat. No. 40100053, 40100054, 40100055

Container size: 1; 7.5; 25 kg

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

Application: For embedding of materialographic specimens
Uses advised against: No specific uses advised against are identified.

Details of the supplier of the safety data sheet

Supplier: Struers ApS
Pederstrupvej 84
DK-2750 Ballerup
Tel: +45 44 600 800

Responsible for material safety data sheet authoring: Responsible for material safety data sheet authoring: DHI
Any questions to the contents of this material safety data sheet should be sent to: struers@struers.dk

Emergency telephone number

National Capital Poison Center: 1-800-222-1222
Infotrac:
1-800-535-5053
Struers US:
1-440-871-0071

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

OSHA 2012: Combustible Dust

Label elements

Warning
May form combustible dust concentrations in air.

Other hazards

Contains Methyl methacrylate, Dibenzoyl peroxide. May produce an allergic reaction. Fine particles may form explosive vapor/air mixtures. May irritate eyes and skin. Inhalation of dust may irritate the respiratory system.

PBT/vPvB: Not Classified as PBT/vPvB by current EU criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

The product contains: acrylic resin. (*)
SECTION 4: FIRST AID MEASURES

**Description of first aid measures**

**Inhalation:** Move into fresh air and keep at rest.

**Skin contact:** Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and bring these instructions.

**Eye contact:** Immediately flush with plenty of water for at least 15 minutes. Remove any contact lenses and open eyes wide apart.

**Ingestion:** Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable take to hospital along with these instructions.

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

**Symptoms/effects:** See section 11 for more detailed information on health effects and symptoms.

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

**Medical attention/treatments:** Treat symptomatically.
SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Extinguishing media: Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards: In case of fire, toxic and irritating gases may be formed.

Advice for firefighters

Protective equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Avoid inhalation of dust and contact with skin and eyes. For personal protection, see section 8.

For emergency responders: For personal protection, see section 8. No specific recommendations.

Environmental precautions

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

Methods and material for containment and cleaning up

Spill Cleanup Methods: Dampen spillage with water. Collect spillage with shovel, broom or the like.

Reference to other sections

References: For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Safe handling advice: Observe good chemical hygiene practices. Avoid inhalation of dust and contact with skin and eyes.

Technical measures: Avoid spreading dust.

Technical precautions: Local exhaust is recommended.

Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: No special precautions.

Storage conditions: Store in tightly closed original container.

Specific end use(s)

Specific use(s): No information available.
SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational exposure limits:

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Chemical name</th>
<th>As</th>
<th>Exposure limits</th>
<th>Type</th>
<th>Notes</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-62-6</td>
<td>Methyl methacrylate</td>
<td>-</td>
<td>100 ppm</td>
<td>TWA</td>
<td>-</td>
<td>OSHA</td>
</tr>
<tr>
<td>94-36-0</td>
<td>Benzoyl peroxide</td>
<td>-</td>
<td>5 mg/m3</td>
<td>TWA</td>
<td>-</td>
<td>OSHA</td>
</tr>
<tr>
<td>-</td>
<td>Particulates not otherwise regulated (PNOR), respirable fraction</td>
<td>-</td>
<td>5 mg/m3</td>
<td>TWA</td>
<td>-</td>
<td>OSHA</td>
</tr>
<tr>
<td>-</td>
<td>Particulates not otherwise regulated (PNOR), total dust</td>
<td>-</td>
<td>15 mg/m3</td>
<td>TWA</td>
<td>-</td>
<td>OSHA</td>
</tr>
<tr>
<td>94-36-0</td>
<td>Benzoyl peroxide</td>
<td>-</td>
<td>5 mg/m3</td>
<td>TWA</td>
<td>A4</td>
<td>ACGIH</td>
</tr>
<tr>
<td>80-62-6</td>
<td>Methyl methacrylate</td>
<td>-</td>
<td>50 ppm</td>
<td>TWA</td>
<td>DSEN; A4</td>
<td>ACGIH</td>
</tr>
<tr>
<td>-</td>
<td>Particles (Insoluble or Poorly Soluble), not Otherwise Specified, respirable particles</td>
<td>-</td>
<td>3 mg/m3</td>
<td>TWA</td>
<td>-</td>
<td>ACGIH</td>
</tr>
<tr>
<td>-</td>
<td>Particles (Insoluble or Poorly Soluble), not Otherwise Specified, inhalable particles</td>
<td>-</td>
<td>10 mg/m3</td>
<td>TWA</td>
<td>-</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

Notes: DSEN: Dermal Sensitization. A4: Not Classifiable as a Human Carcinogen.

Exposure controls

Engineering measures: Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of dust. Local exhaust is recommended.

Personal protection: Personal protection equipment should be chosen according to the ANSI standards and in discussion with the supplier of the personal protective equipment.

Respiratory equipment: In case of inadequate ventilation use suitable respirator. Use respiratory equipment with particle filter, type P3.

Hand protection: Risk of contact: Wear protective gloves. Nitrile gloves are recommended. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Eye protection: Risk of contact: Wear goggles/face shield.

Skin protection: No special precautions.

Environmental Exposure Controls: Not available.
**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form:</td>
<td>Solid</td>
</tr>
<tr>
<td>Color:</td>
<td>White</td>
</tr>
<tr>
<td>Odor:</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>Not available</td>
</tr>
<tr>
<td>pH:</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting point:</td>
<td>150-230°C / 302-446°F</td>
</tr>
<tr>
<td>Boiling point:</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash point:</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosion limits:</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor pressure:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor density:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density:</td>
<td>1.18</td>
</tr>
<tr>
<td>Solubility:</td>
<td>insoluble in water</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature (°F):</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature (°F):</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive properties:</td>
<td>Fine particles may form explosive vapor/air mixtures.</td>
</tr>
<tr>
<td>Oxidizing properties:</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**Other information**

**Other data:** Volatile Organic Compound (VOC): <10 g/l (calculated)
SECTION 10: STABILITY AND REACTIVITY

Reactivity
Reactivity: None under normal conditions.

Chemical stability
Stability: Stable under normal temperature conditions.

Possibility of hazardous reactions
Hazardous Reactions: No data available.

Conditions to avoid
Conditions/materials to avoid: Heating. Avoid dust formation.

Incompatible materials
Incompatible materials: No data available.

Hazardous decomposition products
Hazardous decomposition products: When heated and in case of fire, irritating vapors/gases may be formed.
SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

**Acute Toxicity (Oral):** Based on available data, the classification criteria are not met.

**Acute Toxicity (Dermal):** Based on available data, the classification criteria are not met.

**Acute Toxicity (Inhalation):** Based on available data, the classification criteria are not met.

**Skin Corrosion/Irritation:** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation:** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitization:** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

**Carcinogenicity:** Based on available data, the classification criteria are not met. National Toxicology Program (NTP): No. IARC Cancer Review: Group 3 for Methyl methacrylate. IARC Cancer Review: Group 3 for Benzoyl peroxide. OSHA: No.

**Reproductive Toxicity:** Based on available data, the classification criteria are not met.

**STOT - Single exposure:** Based on available data, the classification criteria are not met.

**STOT - Repeated exposure:** Based on available data, the classification criteria are not met.

**Aspiration hazard:** Based on available data, the classification criteria are not met.

**Inhalation:** Dust may irritate throat and respiratory system and cause coughing.

**Skin contact:** Prolonged contact may cause redness and irritation.

**Eye contact:** Dust in the eyes will cause irritation.

**Ingestion:** May irritate and cause malaise.

**Specific effects:** The product contains a small amount of sensitizing substance which may provoke an allergic reaction among sensitive individuals.

SECTION 12: ECOLOGICAL INFORMATION

**Toxicity**

**Ecotoxicity:** The environmental hazard of the product is considered to be limited.

**Persistence and degradability**

**Degradability:** The product is not biodegradable.

**Bioaccumulative potential**

**Bioaccumulative potential:** Bioaccumulation: Is not expected to be bio-accumulable.

**Mobility in soil**

**Mobility:** No data available.

**Results of PBT and vPvB assessment**

**PBT/vPvB:** This product does not contain any PBT or vPvB substances.

**Other adverse effects**

**Other adverse effects:** No information available.
SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues: Dispose of waste and residues in accordance with local authority requirements. RCRA: Waste number U162 (Methyl methacrylate)

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

SECTION 14: TRANSPORT INFORMATION

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, DOT).

UN number

UN-No: -

UN proper shipping name

Proper Shipping Name: -

Transport hazard class(es)

Class: -

Packing group

PG: -

Environmental hazards

Marine pollutant: -

Environmentally Hazardous substance: -

Special precautions for user

Special precautions: None known.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport in bulk: Not relevant.
SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Special provisions: State and local regulation may apply.

TSCA: Listed.

NFPA Rating: Health:1 Fire:1 Reactivity:0 Other:-

SARA Section 302: No.
SARA Section 304: Yes.
SARA Section 313: Yes.
SARA (311/312) Hazard categories: No.
CAA: Yes. (Methyl methacrylate)

National regulation: The following lists have been checked:
Threshold Limit Values (2019), ACGIH, by the American Conference on Governmental Industrial Hygienists.
NIOSH Pocket Guide to Chemical Hazards.
The Code of Federal Regulation, Title 40, part 261.33. Identification and listing of hazardous waste.
SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

The following sections contain revisions or new statements: 3.
The (*) indicates the changes made with respect to the previous version.

Approved by DHI.

[DIGITAL SIGNATURE]

Abbreviations and acronyms used in the safety data sheet:
PBT = Persistent, Bioaccumulative and Toxic.
vPvB = very Persistent and very Bioaccumulative.

Additional information:
Classification according to HCS 2012:
Calculation method.

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

Made by DHI - Environment and Toxicology, Agern Allé 5, DK-2970 Hørsholm, Denmark.