SAFETY DATA SHEET

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

Product identifier

Product name: CLAROCIT LIQUID
Cat. No. 40200073, 40200072

Container size: 500 ml, 1 l

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:
Flammable Liquid Category 2
Skin Irritant Category 2
Skin Sensitizer Category 1
Category 3 Target organ toxicant, Single Exposure (respiratory tract irritation)
SAFETY DATA SHEET

Product name: CLAROCIT LIQUID
Revision Date: 2019-12-03
Document No.: M0159

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

Other hazards

The product is highly flammable, and explosive vapors/air mixtures may be formed even at normal room temperatures.

PBT/vPvB: No information available.
The product contains: organic solvents, binders and additives.

OSHA 2012:

<table>
<thead>
<tr>
<th>%</th>
<th>CAS-No.</th>
<th>EC No.</th>
<th>REACH Reg. No:</th>
<th>Chemical name:</th>
<th>Hazard classification:</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-100</td>
<td>80-62-6</td>
<td>201-297-1</td>
<td>-</td>
<td>Methyl methacrylate</td>
<td>Flammable Liquid</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Category 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Category 3 Target organ toxicant, Single Exposure (respiratory tract irritation)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin Irritant Category 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin Sensitizer Category 1</td>
<td></td>
</tr>
<tr>
<td>1-5</td>
<td>67-64-1</td>
<td>200-662-2</td>
<td>-</td>
<td>Acetone</td>
<td>Flammable Liquid</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Category 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eye irritant Category 2A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Category 3 Target organ toxicant</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Single Exposure (narcotic effects)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EUH066</td>
<td></td>
</tr>
<tr>
<td>1-&lt;5</td>
<td>2082-81-7</td>
<td>218-218-1</td>
<td>-</td>
<td>Tetramethylene dimethacrylate</td>
<td>Skin Sensitizer Category 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

**Description of first aid measures**

**Burns:** Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

**Inhalation:** Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and bring these instructions.

**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 eyelids widely. If irritation persists: Seek medical attention and bring along these instructions.

**Ingestion:** Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions. Do not induce vomiting.

**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**

Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

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:** During fire, health hazardous gases may be formed.

**Advice for firefighters**

Protective equipment for firefighters:

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:** Do not smoke or use open fire, or other sources of ignition. Avoid inhalation of vapors and contact with skin and eyes. For personal protection, see section 8.

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

**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:** Remove sources of ignition. Dam and absorb spillages with sand, earth or other non-combustible material.

**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: Do not smoke or use open fire or other sources of ignition. Avoid inhalation of vapors and contact with skin and eyes. Observe good chemical hygiene practices.

Technical measures: Work practice should minimize contact.

Technical precautions: Local exhaust is recommended.

**Conditions for safe storage, including any incompatibilities**

**Technical measures for safe storage:** Follow rules for flammable liquids.

**Storage conditions:** Store in tightly closed original container in a well-ventilated place.

**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>67-64-1</td>
<td>Acetone</td>
<td>-</td>
<td>1000 ppm</td>
<td>2400 mg/m3</td>
<td>TWA</td>
<td>-</td>
</tr>
<tr>
<td>80-62-6</td>
<td>Methyl methacrylate</td>
<td>-</td>
<td>100 ppm</td>
<td>410 mg/m3</td>
<td>TWA</td>
<td>-</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></td>
<td>-</td>
<td>100 ppm</td>
<td>STEL</td>
<td>DSEN; A4; 15min</td>
<td></td>
</tr>
<tr>
<td>67-64-1</td>
<td>Acetone</td>
<td>-</td>
<td>250 ppm</td>
<td>TWA</td>
<td>A4; BEI</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td>500 ppm</td>
<td>STEL</td>
<td>A4; BEI; 15min</td>
<td></td>
</tr>
</tbody>
</table>

Notes: DSEN: Dermal Sensitization.
A4: Not Classifiable as a Human Carcinogen.
BEI: Biological Exposure Index.

Biological Limit Values:

<table>
<thead>
<tr>
<th>CAS-No.:</th>
<th>Chemical name:</th>
<th>As:</th>
<th>Exposure limits:</th>
<th>Sampling time:</th>
<th>Notes:</th>
<th>References:</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-64-1</td>
<td>Acetone</td>
<td>Acetone in urine</td>
<td>25 mg/L</td>
<td>End of shift</td>
<td>Na</td>
<td>-</td>
</tr>
</tbody>
</table>

Exposure controls

Engineering measures: Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors. Provide easy access to water supply and eye wash facilities.

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 and work of brief duration, use suitable respiratory equipment. Use respiratory equipment with gas filter, type AX.

Hand protection: Wear protective gloves. Butyl rubber gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.
Thickness: 0.1 - 0.2 mm
Breakthrough time: 5 min (*)

Eye protection: Wear goggles/face shield.

Skin protection: Risk of contact: Wear apron or protective clothing in case of splashes.

Hygiene measures: Remove contaminated clothing and wash the skin thoroughly with soap and water after work. When using do not eat, drink or smoke.

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>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Ester</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>Not available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>214 °F</td>
</tr>
<tr>
<td>Flash point</td>
<td>50 °F</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>2.1-12.5 vol%</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>47 hPa (68 °F)</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Miscible with water</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>The product is highly flammable, and explosive vapors/air mixtures may be formed even at normal room temperatures.</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Not available</td>
</tr>
</tbody>
</table>

**Other information**

**Other data:** Volatile Organic Compound (VOC): 691 g/l (calculated)
SECTION 10: STABILITY AND REACTIVITY

**Reactivity**

Reactivity: No data available.

**Chemical stability**

Stability: Stable under normal temperature conditions.

**Possibility of hazardous reactions**

Hazardous Reactions: Polymerises generating heat.

**Conditions to avoid**

Conditions/materials to avoid: Avoid exposure to high temperatures or direct sunlight.

**Incompatible materials**

Incompatible materials: Avoid contact with oxidizing agents.

**Hazardous decomposition products**

Hazardous decomposition products: No information available.
**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:** Causes skin irritation.

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

**Respiratory or skin sensitization:** May cause an allergic skin reaction.

**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. OSHA: No.

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

**STOT - Single exposure:** May cause respiratory irritation.

**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:** Vapors may cause headache, fatigue, dizziness and nausea.

**Skin contact:** Contains components which may penetrate the skin.

**Eye contact:** May irritate and cause redness and pain.

**Ingestion:** Irritating. May be absorbed in the body and cause dizziness, nausea and vomiting.

**Specific effects:** Frequent inhalation of even small concentrations may cause irritability, fatigue and memory failure and eventually permanent damage to the nervous system, including the brain.

**SECTION 12: ECOLOGICAL INFORMATION**

**Toxicity**

**Ecotoxicity:** The product is not expected to be hazardous to the environment.

**Persistence and degradability**

**Degradability:** The degradability of the product has not been stated.

**Bioaccumulative potential**

**Bioaccumulative potential:** No data available on bioaccumulation.

**Mobility in soil**

**Mobility:** No data available.

**Results of PBT and vPvB assessment**

**PBT/vPvB:** No information available.

**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)
RCRA: Waste number U002 (Acetone)

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

SECTION 14: TRANSPORT INFORMATION

The product is covered by international regulation on the transport of dangerous goods (IMDG, IATA).

UN number

UN-No: 1866

UN proper shipping name

Proper Shipping Name: RESIN SOLUTION, flammable (Methyl methacrylate)

Additional IMDG information:
EmS: F-E, S-E
MFAG: 1

Transport hazard class(es)

Class: 3

Packing group

PG: II

Environmental hazards

Marine pollutant: No.
Environmentally Hazardous substance: No.

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: 2  Fire: 3  Reactivity: 2  Other:-

SARA Section 302: No.
SARA Section 304: Yes.
SARA Section 313: Yes.
SARA (311/312) Hazard categories: Yes.
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: 1, 8. The (*) indicates the changes made with respect to the previous version.

Approved by DHI.

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.

Wording of H-statements:
EUH066 Repeated exposure may cause skin dryness or cracking.

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.