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

1.1. Product identifier

Product name: PROTECTING LAQUER
Cat. No. 49900012
Container size: 400 ml

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

Application: For protection of materialographic specimens.

1.3. Details of the supplier of the safety data sheet

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

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

1.4. Emergency telephone number

NHS: 111

+45 44 600 800
(Only during office hours)
SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP:
Aerosol 1;H222,H229
Eye Irrit. 2;H319
STOT SE 3;H336
Aquatic Chronic 3;H412

2.2. Label elements

Danger
Contains:
Acetone
Hydrocarbons, C9, aromatics
2-Methoxy-1-methylethyl acetate
n-Butyl acetate (*)

H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P280 Wear protective gloves, eye and face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.

2.3. Other hazards

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

PBT/vPvB: No information available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

The product contains: organic solvent, binders and propellants. (*)
### CLP:

<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>25-&lt;50</td>
<td>67-64-1</td>
<td>200-662-2</td>
<td>01-2119471330-49-xxxx</td>
<td>Acetone</td>
<td>Flam. Liq. 2; H225 Ey. Irrit. 2; H319 STOT SE 3; H336 EUH066</td>
<td></td>
</tr>
<tr>
<td>12.5-&lt;20</td>
<td>74-98-6</td>
<td>200-827-9</td>
<td>01-2119486944-21-xxxx</td>
<td>Propane</td>
<td>Flam. Gas 1; H220 Press. Gas</td>
<td>U</td>
</tr>
<tr>
<td>12.5-&lt;20</td>
<td>106-97-8</td>
<td>203-448-7</td>
<td>01-2119474691-32-xxxx</td>
<td>Butane</td>
<td>Flam. Gas 1; H220 Press. Gas</td>
<td>C; U</td>
</tr>
<tr>
<td>5-&lt;10</td>
<td>1330-20-7; 100-41-4</td>
<td>905-588-0</td>
<td>01-2119486136-34-xxxx</td>
<td>Xylene, Ethylbenzene</td>
<td>Flam. Liq. 3; H226 Acute Tox. 4; H312 Acute Tox. 4; H332 Skin Irrit. 2; H315 Ey. Irrit. 2; H319 STOT SE 3; H335 STOT RE 2; H373 Asp. Tox. 1; H304</td>
<td></td>
</tr>
<tr>
<td>5-&lt;10</td>
<td>108-65-6</td>
<td>203-603-9</td>
<td>01-2119475791-29-xxxx</td>
<td>2-Methoxy-1-methylethyl acetate</td>
<td>Flam. Liq. 3; H226 STOT SE 3; H336</td>
<td></td>
</tr>
<tr>
<td>5-&lt;10</td>
<td>128601-23-0; 64742-95-6</td>
<td>918-668-5</td>
<td>01-2119455851-35-xxxx</td>
<td>Hydrocarbons, C9, aromatics</td>
<td>Flam. Liq. 3; H226 STOT SE 3; H335 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411</td>
<td></td>
</tr>
<tr>
<td>5-&lt;10</td>
<td>75-28-5</td>
<td>200-857-2</td>
<td>01-2119485395-27-xxxx</td>
<td>Isobutane</td>
<td>Flam. Gas 1; H220 Press. Gas</td>
<td>C; U</td>
</tr>
<tr>
<td>2.5-&lt;5</td>
<td>123-86-4</td>
<td>204-658-1</td>
<td>01-2119485493-29-xxxx</td>
<td>n-Butyl acetate</td>
<td>Flam. Liq. 3; H226 STOT SE 3; H336 EUH066</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Benzene < 0,1%
- 1,3-Butadien < 0,1% (*)

**References:**
The full text for all hazard statements is displayed in section 16.
SECTION 4: FIRST AID MEASURES

4.1. 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 clothes and rinse skin thoroughly with water.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. 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.

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

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

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

Medical attention/treatments: Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

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. Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards: The product is extremely flammable, and explosive vapour/air mixtures may be formed even at normal room temperatures. Aerosol containers can explode when heated, due to excessive pressure build-up.

5.3. 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

6.1. Personal precautions, protective equipment and emergency procedures
Protective equipment:
Do not smoke or use open fire, or other sources of ignition. Avoid inhalation of vapours and aerosols and contact with skin and eyes. For personal protection, see section 8.

Emergency procedures:
No specific recommendations. For personal protection, see section 8.

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

6.3. Methods and material for containment and cleaning up
Methods for cleaning up:
Large quantities should not be discharged into the drain but removed with absorbing material. Do not use sawdust or other combustible material.

6.4. Reference to other sections
References:
For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling
Safe handling advice:
Avoid inhalation of vapours and contact with skin and eyes. Observe good chemical hygiene practices.

Technical measures:
Do not smoke or use open fire or other sources of ignition.

Technical precautions:
Mechanical ventilation may be required.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures for safe storage:
Follow rules for flammable liquids.

Storage conditions:
Store in a cool and well-ventilated place. Avoid contact with oxidising agents.

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

8.1. 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>1330-20-7</td>
<td>Xylene, o-, m-, p- or mixed isomers</td>
<td>-</td>
<td>50 ppm</td>
<td>220 mg/m3</td>
<td>TWA</td>
<td>Sk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td>100 ppm</td>
<td>441 mg/m3</td>
<td>STEL</td>
<td>Sk; 15min</td>
</tr>
<tr>
<td>123-86-4</td>
<td>Butyl acetate</td>
<td>-</td>
<td>150 ppm</td>
<td>724 mg/m3</td>
<td>TWA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td>200 ppm</td>
<td>966 mg/m3</td>
<td>STEL</td>
<td>15min</td>
</tr>
<tr>
<td>108-65-6</td>
<td>1-Methoxypropylacetate</td>
<td>-</td>
<td>50 ppm</td>
<td>274 mg/m3</td>
<td>TWA</td>
<td>Sk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td>100 ppm</td>
<td>548 mg/m3</td>
<td>STEL</td>
<td>Sk; 15min</td>
</tr>
<tr>
<td>67-64-1</td>
<td>Acetone</td>
<td>-</td>
<td>500 ppm</td>
<td>1210 mg/m3</td>
<td>TWA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td>1500 ppm</td>
<td>3620 mg/m3</td>
<td>STEL</td>
<td>15min</td>
</tr>
<tr>
<td>100-41-4</td>
<td>Ethylbenzene</td>
<td>-</td>
<td>100 ppm</td>
<td>441 mg/m3</td>
<td>TWA</td>
<td>Sk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td>125 ppm</td>
<td>552 mg/m3</td>
<td>STEL</td>
<td>Sk; 15min</td>
</tr>
<tr>
<td>106-97-8</td>
<td>Butane</td>
<td>-</td>
<td>600 ppm</td>
<td>1450 mg/m3</td>
<td>TWA</td>
<td>Carc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td>750 ppm</td>
<td>1810 mg/m3</td>
<td>STEL</td>
<td>Carc; 15min</td>
</tr>
</tbody>
</table>

Notes: Sk: Can be absorbed through skin. Carc: Capable of causing cancer and/or heritable genetic damage.

8.2. Exposure controls

Engineering measures: Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours and spray mist. Provide easy access to water supply or an emergency shower.

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

Respiratory equipment: In case of inadequate ventilation: Use respiratory equipment with combination filter, type AX/P2.

Hand protection: Butyl rubber gloves are recommended, but 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.

Eye protection: Wear goggles/face shield.

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

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

9.1. Information on basic physical and chemical properties

Form: Aerosol.
Odour: Characteristic.
Odour threshold: Not available.
\[ \text{pH: Not available.} \]
Melting point: Not available.
Boiling point: Not available.
Flash point: Not available.
Evaporation rate: Not available.
Flammability (solid, gas): Not available.
Explosive limits: 1.5-13.0 vol%
Vapour pressure: 8300 hPa (20°C)
Vapour density: Not available.
Relative density: 0.77
Solubility: Insoluble in water (<1%)
Partition coefficient (n-octanol/water): Not available.
Auto-ignition temperature (°C): Not available.
Decomposition temperature (°C): Not available.
Viscosity: Not available.
Explosive properties: Not available.
Oxidising properties: Not available.

9.2. Other information

Other data: Volatile Organic Compound (VOC): 683 g/l (calculated)
SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
Reactivity: No data available.

10.2. Chemical stability
Stability: Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions
Hazardous Reactions: No data available.

10.4. Conditions to avoid
Conditions/materials to avoid: Avoid exposing aerosol containers to high temperatures or direct sunlight.

10.5. Incompatible materials
Incompatible materials: No information available.

10.6. Hazardous decomposition products
Hazardous decomposition products: No information available.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. 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: Causes serious eye irritation.
Respiratory or skin sensitisation: 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.
Reproductive Toxicity: Based on available data the classification criteria are not met.
STOT - Single exposure: May cause drowsiness or dizziness.
STOT - Repeated exposure: Based on available data the classification criteria are not met.
Aspiration hazard: Vapours and spray mist may irritate throat and respiratory system and cause coughing.
Inhalation: Repeated exposure may cause skin dryness or cracking.
Ingestion: Delayed symptoms include nausea, vomiting, headache and dizziness.
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

12.1. Toxicity
Ecotoxicity: Harmful to aquatic life with long lasting effects. The product contains volatile, organic compounds which have a photochemical ozone creation potential.

12.2. Persistence and degradability
Degradability: The degradability of the product has not been stated.

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

12.4. Mobility in soil
Mobility: No data available.

12.5. Results of PBT and vPvB assessment
PBT/vPvB: No information available.

12.6. Other adverse effects
Other adverse effects: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Waste from residues: Dispose of waste and residues in accordance with local authority requirements. Waste is classified as hazardous waste. Do not puncture or incinerate even when empty.

Used cloths, etc. EWC-code: 15 02 02

Contaminated packaging: Dispose of waste and residues in accordance with local authority requirements. Empty aerosol containers before disposal.
EWC-code: 15 01 10
SECTION 14: TRANSPORT INFORMATION

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

14.1. UN number

UN-No: 1950

14.2. UN proper shipping name

Proper Shipping Name: AEROSOLS

Additional IMDG information:
EmS: F-D, S-U
MFAG: 1

14.3. Transport hazard class(es)

Class: 2.1

14.4. Packing group

PG: -

14.5. Environmental hazards

Marine pollutant: No.
Environmentally Hazardous substance: No.

14.6. Special precautions for user

Special precautions: None known.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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

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

**Special provisions:**
As a general rule, persons under 18 years of age are not allowed to work with this product. Users must be carefully instructed in the proper work procedure, the dangerous properties of the product and the necessary safety instructions.

**National regulation:**


The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.


The Aerosol Dispensers Regulations 2009 (SI 2824), with amendments.

The Management of Health and Safety at Work Regulations 1999 (SI 1999 No. 3242), with amendments.


15.2. Chemical Safety Assessment

**CSA status:**
No chemical safety assessment has been carried out.
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: 2, 3.
The (*) indicates the changes made with respect to the previous version.

Approved by DHI.

[Signature]

Additional information: Classification according to Regulation (EC) No. 1272/2008:
Calculation method.

Wording of H-statements:

H220 Extremely flammable gas.
H222 Extremely flammable aerosol.
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H229 Pressurised container: May burst if heated.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H322 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

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.