SAFETY DATA SHEET

Product Name: Refrax Mounting Medium
Date: June 1, 2015
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SECTION 1: IDENTIFICATION

Product: Refrax Mounting Medium
Product number: 711
Synonyms: Coverslipping mounting medium
Recommended use: Laboratory chemical

Company

<table>
<thead>
<tr>
<th>Anatech Ltd</th>
<th>24 hour Transportation Emergency</th>
<th>800.424.9300 CHEMTREC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1020 Harts Lake Road</td>
<td>Product Technical Information</td>
<td>800.262.8324, M-F, 8 AM-5 PM, ET</td>
</tr>
<tr>
<td>Battle Creek, MI 49037, USA</td>
<td>Supplier General Contact</td>
<td>800.262.8324, M-F, 8 AM-5 PM, ET</td>
</tr>
</tbody>
</table>

SECTION 2: HAZARD(S) IDENTIFICATION

Classification of substance
- Flammable liquid (Category 2)
- Skin corrosion/irritation (Category 2)
- Reproductive toxicity (Category 2)
- Specific target organ toxicity, single exposure (Category 3) (narcotic effects)
- Specific target organ toxicity, repeated exposure (Category 2) (central nervous system, kidney, peripheral nervous system)
- Aspiration toxicity (Category 1)

Signal word
Danger

Hazard statement
Highly flammable liquid and vapor.
Causes skin irritation.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters the airways.

Pictogram

Precautionary statements

**Prevention**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use in a well-ventilated area.
Avoid breathing mist/vapors/spray.
Wash skin thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating and lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
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Response
If exposed/concerned/feel unwell: Get medical advice/attention.
If swallowed: Immediately call a poison center or doctor.
Do NOT induce vomiting.
If on skin/hair: Take off immediately all contaminated clothing. Rinse skin with plenty of water/shower.
Take off contaminated clothing and wash it before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If skin irritation occurs: Get medical advice/attention.
Specific treatment: See Section 4 of this SDS.
In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

Storage
Store in a well-ventilated place.
Keep container tightly closed.
Keep cool.
Store locked up.

Disposal
Dispose of contents/containers in accordance with governmental regulations.

Hazards not otherwise classified
None as defined under 29 CFR 1900.1200.

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS#</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylic resin</td>
<td>None assigned</td>
<td>*</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>&lt;70%</td>
</tr>
<tr>
<td>Plasticizer</td>
<td>*</td>
<td>≤5%</td>
</tr>
<tr>
<td>Anti-oxidant</td>
<td>*</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

*As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals in accordance with applicable provisions of paragraph (i).

SECTION 4: FIRST-AID MEASURES

Description of first-aid measures

**Inhalation**
Remove victim to fresh air if coughing or difficulty in breathing is experienced. Consult a physician if symptoms persist or worsen. Administer oxygen or artificial respiration as needed.

**Eye**
Flush eyes for at least 15 minutes in an eyewash station. Consult a physician.

**Skin**
Remove contaminated clothing, including footwear; wash before reuse or discard. For minor exposure, wash affected area with water and mild soap, rinsing thoroughly. In cases of prolonged, repeated or extensive exposure, rinse affected area or entire body for at least 15 minutes. Consult a physician.

**Ingestion**
Call a poison center immediately.

Important symptoms, acute and delayed
May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause drowsiness or dizziness.
May cause damage to organs through repeated exposure.

Recommendations for immediate medical care and special treatment
See listed first-aid procedures. No information available for special treatment. Treat according to symptoms.
SECTION 5: FIRE-FIGHTING MEASURES

Suitable and unsuitable extinguishing media
Use water spray, alcohol resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the product
Hazardous products of combustion: carbon monoxide and carbon dioxide.

Special protective equipment/precautions for fire-fighters
Fire-fighters may wear self-contained breathing apparatus if necessary. Keep unopened containers cool by spraying with water. Accumulated vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Vapors can accumulate in low areas.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions
Ensure adequate ventilation.
Avoid inhalation of vapors.
Avoid contact with skin and eyes.
Eliminate sources of ignition.
Take precautionary measures against static electricity.

Protective equipment
Wear protective gloves, impermeable aprons and splash-proof goggles.

Emergency procedures
See information in sub-section above.

Methods and materials for containment and cleanup
Eliminate sources of ignition.
Provide adequate ventilation.
Take precautionary measures against static electricity.
Use only non-sparking tools and explosion-proof equipment.
Contain and soak up spill with inert absorbent material.
Discard absorbents and other contaminated solids in a suitable trash receptacle.
Dispose absorbents and other contaminated solids as a hazardous waste.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes.
Avoid inhalation of vapors.
Wear protective gloves, impermeable aprons and splash-proof goggles.
Use with explosion-proof equipment.
Use proper grounding procedures when appropriate.

Conditions for safe storage including incompatibilities
Keep containers tightly closed in a dry and well-ventilated place.
Store at room temperature.
Keep away from heat and sources of ignition.
Flammable liquid.
**SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION**

Exposure limits

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS#</th>
<th>Exposure Limit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylic resin</td>
<td>None assigned</td>
<td>None established</td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>ACGIH TLV (TWA)</td>
<td>20 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA (8 hr TWA)</td>
<td>200 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA STEL</td>
<td>300 ppm</td>
</tr>
<tr>
<td>Plasticizer</td>
<td>Trade secret</td>
<td>None established</td>
<td></td>
</tr>
<tr>
<td>Anti-oxidant</td>
<td>Trade secret</td>
<td>None established for solution</td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Good general room ventilation should be provided so that exposure limits are not exceeded. If required provide local exhaust ventilation to control vapors.

Personal protective measures

- **Respiratory protection**: When risk assessment shows one is necessary, wear respirator with organic vapor cartridge.
- **Eye protection**: Use splash-proof goggles. Wear face shield if splashing hazard exists. An eyewash station must be nearby, no more than 10 seconds away.
- **Skin protection**: Wear nitrile or chemical resistant gloves. Do not use latex surgical gloves for protection. Safety shower must be nearby, no more than 10 seconds away.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Slight yellow, viscous liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic aromatic odor</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>52°F (11.1°C) closed cup</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available</td>
</tr>
</tbody>
</table>

**SECTION 10: STABILITY AND REACTIVITY**

Reactivity

No hazardous reactions if stored and handled as indicated.

Chemical stability

Stable under recommended storage conditions.
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Possibility of hazardous reaction
The product is chemically stable.

Conditions to avoid
Heat, flames and sparks.
Temperatures greater than flash point.

Incompatible materials
Strong oxidants, strong acids.

Hazardous decomposition products
Carbon oxides can form under fire conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely routes of exposure
Skin, eyes, inhalation.

Symptoms related to physical, chemical and toxicological characteristics
Causes skin irritation.
Direct contact with eyes may cause temporary irritation.

Delayed and immediate effects
See information in sub-section above.

Chronic effects from short- and long-term exposure
Specific target organ toxicity, repeated exposure causes damage to organs (central nervous system, kidney, peripheral nervous system).
Specific target organ toxicity, single exposure may cause drowsiness and dizziness.

Numerical measures of toxicity
The following data are for 100% toluene.

<table>
<thead>
<tr>
<th>Test</th>
<th>Duration</th>
<th>Organism</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity, oral (rat)</td>
<td></td>
<td></td>
<td>LD₅₀: 2.6 g/kg</td>
</tr>
<tr>
<td>Acute toxicity, inhalation (rat)</td>
<td></td>
<td></td>
<td>LC₅₀: 8,000 ppm, 4 hrs</td>
</tr>
<tr>
<td>Acute toxicity, dermal (rabbit)</td>
<td></td>
<td></td>
<td>LD₅₀: 14.1 ml/kg</td>
</tr>
</tbody>
</table>

Assessment of other acute effects
Experiments have shown reproductive toxicity effects in male and female laboratory animals.

Carcinogenicity
None as defined by 29 CFR 1900.1200.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
The following data are from studies using 100% toluene.

<table>
<thead>
<tr>
<th>Test</th>
<th>Duration</th>
<th>Organism</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity-fish</td>
<td>96 hours</td>
<td>Oncorhynchus mykiss</td>
<td>LC₅₀: 7.63 mg/l</td>
</tr>
<tr>
<td></td>
<td>7 days</td>
<td>Pimephales promelas</td>
<td>No observed effect concentration 5.44 mg/l</td>
</tr>
<tr>
<td>Toxicity-aquatic invertebrates</td>
<td>24 hours</td>
<td>Daphnia magna</td>
<td>EC₅₀: 8.0 mg/l</td>
</tr>
<tr>
<td>Toxicity-algae</td>
<td>24 hours</td>
<td>Chlorella vulgaris</td>
<td>EC₅₀: 245.0 mg/l</td>
</tr>
<tr>
<td></td>
<td>24 hours</td>
<td>Pseudokirchneriella subcapitata</td>
<td>EC₅₀: 10.0 mg/l</td>
</tr>
</tbody>
</table>
Persistence and degradability
100% toluene: readily biodegradable.

Bioaccumulative potential
Bioaccumulation (100% toluene): Leuciscus idus (Golden orfe), 3 days, 0.05 mg/l.

Mobility in soil
No data available.

Other adverse effects
Toxic to aquatic life.

SECTION 13: DISPOSAL CONSIDERATIONS
Contact a licensed professional waste disposal service to dispose of this material. Proper waste disposal is the generator's responsibility. Follow federal, state (provincial) and local regulations.

SECTION 14: TRANSPORT INFORMATION

DOT (USA) and IATA
Proper Shipping Name: Resin solution
Identification Number: UN1886
Hazard Class: 3
Packing Group: II

Marine pollutant
No information available.

SECTION 15: REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is considered hazardous in accordance with 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA (National Fire Protection Association) Rating
General note: The ratings provide information to emergency personnel on the fire hazards associated with the chemical. It is not descriptive of hazards under normal conditions of occupational use.

<table>
<thead>
<tr>
<th>Health</th>
<th>2</th>
<th>Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>3</td>
<td>Materials that can be ignited under almost all ambient temperature conditions.</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
<td>Materials that in themselves are normally stable, even under fire conditions.</td>
</tr>
</tbody>
</table>

Disclaimer
Anatech Ltd. believes the information in the SDS was obtained from reliable sources. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn may be from sources other than direct test data on the substance itself. It is the user's responsibility to determine suitability of the product for his/her own use, and to assure proper use and disposal of it to protect the safety and health of employees and the protection of the environment.

Date of preparation
June 1, 2015