Material Safety Data Sheet
Permalac-EF

SECTION 1: INGREDIENTS

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Weight %</th>
<th>Hazardous?</th>
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</thead>
<tbody>
<tr>
<td>Toluene:</td>
<td>108-88-3</td>
<td>16%</td>
</tr>
<tr>
<td>tert-Butyl Acetate</td>
<td>123-96-4</td>
<td>72%</td>
</tr>
<tr>
<td>Acrylic Resin</td>
<td></td>
<td>10%</td>
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</tbody>
</table>

SECTION 2: HEALTH HAZARDS
Health Rating: 2 Moderate
Flammability Rating: 3 - Severe
Reactivity Rating: 1 - Slight
Contact Rating: 3 Severe
Routes of Exposure: Inhalation, eye, skin
Signs and Symptoms of Exposure: Breathing of high vapor concentrations may produce narcosis. Causes nose and throat irritation. Causes eye irritation. Causes skin irritations.
Medical Conditions Generally Aggravated by Exposure: Repeated and prolonged overexposure to solvents could cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating & inhaling contents may be harmful or fatal.

SECTION 3: EMERGENCY AND FIRST AID PROCEDURES
Inhalation: Remove to fresh air, restore breathing. Consult a physician.
Skin Contact: Flush with water then wash skin thoroughly with soap and water while removing contaminated clothing. Consult a physician.
Eye Contact: flush immediately with large amounts of water for at least 15 minutes. Consult a physician.
Ingestion: Toluene is an aspiration hazard. DO NOT INDUCE VOMITING. Get medical attention immediately if vomiting occurs keep head below hips to prevent aspiration into lungs.

SECTION 4: FIRE & EXPLOSION DATA
Flammable liquid and vapor. Vapors may migrate to ignition source and cause flash fire. Isolate from heat, sparks, electrical equipment, appliances, pilot lights, flames and other sources of ignition.
Flash Point: TBAc -39.9 F(closed cup), Toluene 45F (closed Cup)
Flammable Limits in Air % by Volume: Lower Limit: Toluene 1.1%, TBAc 1.25%
Upper Limit Toluene 7.1%, 6.88%
Auto-Ignition Temperature: Toluene 422 C
Extinguisher Media: Dry chemical, carbon dioxide, or foam
Special Fire Fighting Procedures: Use NIOSH/MSHA approved gas mask for fire fighting personnel. Water may be used to cool containers. If water is used fog nozzles are preferred.

SECTION 5: SPILL/LEAK PROCEDURES
Ventilate area of leak or spill. Remove all sources of ignition. Contain and recover liquid when possible. Use non-sparking tools and equipment.
In case of spillage absorb with inert material (such as vermiculite, dry sand, or earth) and place in a waste chemical container and dispose of in accordance regulations of EPA and other local, state, and federal authorities. Do not use combustible materials such as saw dust. Do not flush to sewer.

If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. US regulations require reporting spills and releases to water, soil and water in excess of reportable quantities.

SECTION 6: HANDLING & STORAGE

Store in a cool, dry well-ventilated location, away from heat, sparks and open flame. All equipment used when handling this product must be grounded. Empty containers may retain hazardous properties and can be dangerous. Avoid prolonged skin contact. Do not breath spray mist.

Waste disposal methods (Consult federal, state, and local regulations). Place in closed containers. Dispose of product in accordance with local, country, state, and federal regulations.

SECTION 7: SPECIAL PROTECTION INFORMATION/CONTROL MEASURES

Airborne Exposure Limits:
Toluene:
OSHA Permissible Exposure Limit (PEL): 200 ppm (TWA); 300 ppm (acceptable ceiling conc.); 500 ppm (maximum Conc.)
ACGIH Threshold Limit Value (TLV): 50 ppm (TWA) skin, A4 - not classifiable as a human carcinogen
TBAc:
OSHA PEL: 200 ppm (TWA)
ACGIH TLV: 200 ppm (TWA)

Respiratory Protection: NIOSH/OSHA approved respirator types suitable for materials in section 1 recommended. Approved chemical/mechanical filters recommended when ventilation is restricted. Do not breathe (dust, vapors or spray mist). Wear appropriate respirator (NIOSH/MSHA approved) during & after application unless air monitoring records vapor/mist levels below applicable limits. Follow respirator manufacturer directions for use.

Ventilation: Sufficient ventilation, in volume and pattern, should be provided to keep air contamination below current applicable OSHA permissible exposure limit or ACGIH's TLV limit. Use with adequate ventilation.

Protective Gloves: Chemical resistant such as butyl rubber, nitrile or Teflon.

Eye Protection: Chemical goggles with side shields or face shield recommended. Maintain eye wash fountain and quick drench facility in work area.

Other Protective Clothing or Equipment: As required to avoid wetting clothing. Use protective creams where skin contact is likely. Remove and wash contaminated clothing before reuse. Eye bath and safety shower.

Work/Hygienic Practices: Do not get in eyes, on skin or on clothing. Wash thoroughly after handling.

SECTION 8: PHYSICAL & CHEMICAL CHARACTERISTICS

Appearance and Odor: Milky liquid with camphor like odor.
Boiling Point: N/A
Specific Gravity (water=1): N/A
Vapor Pressure (mm Hg): Toluene-22.0, TBAc 34.0
Vapor Density (Air=1): N/A, is heavier than air.
Solubility in Water: Slight
Reactivity in Water: None
Melting Point: N/A
VOC: 1.4 lbs./gal
Volatile (Weight %): 18
% Solids= 10
Lbs. Ozone per Lb. emitted (calculated using standard MIR Values) 6.87
The above data are approximate or typical values and should not be used for precise design purposes.

SECTION 9: STABILITY & REACTIVITY
Stability: Stable
Incompatibility (Materials to Avoid): Plastics, acids, alkalies, nitrates, and strong oxidizing agents. Avoid contact with heat, flames and sparks.
Hazardous Decomposition Products: Toluene and TBAc both generate carbon dioxide and Carbon monoxide upon decomposition.
Hazardous Polymerization: Will not occur under normal conditions.
Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

SECTION 10: TOXICOLOGICAL INFORMATION
Toluene: Oral rat LD50: 636 mg/Kg; skin rabbit LD50: 14100uL/Kg; inhalation rat LC50: 49 gm/m3/4 Hours.
Irritation data: skin rabbit 500 mg, moderate; eye rabbit, 2 mg/24 Hours severe. Investigated as a tumorigen, mutagen, reproductive effector. Has shown some evidence of reproductive effects in lab animals.
TBAc: Oral rat LD50 4500 mg/Kg; skin rabbit LD50: >2000 mg/Kg; inhalation rat LC50: >4000ppm/6 hours
TBAc is included in TSCA inventory in the US, DSL in Canada, IECS in China, and EINECS, ELINCS and NLP inventories of EU.
Chemical Listed as Carcinogen or Potential Carcinogen:
National Toxicology Program: No
I.A.R.C. Monographs: No (Toluene is IARC Category 3).
OSHA: No

SECTION 11: TRANSPORT INFORMATION
Proper Shipping Name: Paint
ID No: UN 1263
Hazard Class: 3
PG: II

SECTION 12: DISCLAIMER
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