SAFETY DATA SHEET

Creation Date 21-May-2011                                      Revision Date 13-October-2015

SECTION 1: Identification

Product Name: SML series electron beam resist
Identified Uses: Positive tone electron beam resist
Company: EM Resist Ltd.
          Unit 6
          Normans Hall Farm
          Shrigley Road
          Macclesfield
          SK10 5SE
          UNITED KINGDOM
Telephone: +44 (0)1625 573304
E-mail Address: info@emresist.com
Emergency Phone #: +44 (0)1625 573304

SECTION 2: Hazards identification

Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>3</td>
</tr>
<tr>
<td>Acute toxicity, Oral</td>
<td>4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>2</td>
</tr>
<tr>
<td>Specific target organ toxicity</td>
<td>3</td>
</tr>
<tr>
<td>Specific target organ toxicity</td>
<td>2</td>
</tr>
</tbody>
</table>

Label Elements

Pictogram

<table>
<thead>
<tr>
<th>Hazard statement(s) :</th>
</tr>
</thead>
<tbody>
<tr>
<td>H226 Flammable liquid and vapour</td>
</tr>
<tr>
<td>H302 Harmful if swallowed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Precautionary statement(s) :</th>
</tr>
</thead>
<tbody>
<tr>
<td>P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking</td>
</tr>
<tr>
<td>P261 Avoid breathing</td>
</tr>
</tbody>
</table>
H315  Causes skin irritation  P280  dust/fume/gas/mist/vapours/spray
P280  Wear protective gloves/protective clothing

H319  Causes serious eye irritation  P301 + P310  IF SWALLOWED: Immediately call a
P301  POISON CENTRE or doctor/physician
P310  IF ON SKIN (or hair): Remove/Take
P303 + P361 + P353  off immediately all contaminated
P303  clothing. Rinse skin with
P361  water/shower.
P353

H336  May cause drowsiness or dizziness  P271  Use only outdoors or in a
P304 + P340  well-ventilated area.
P340  IF INHALED: Remove victim to
P370 + P378  fresh air and keep at rest in a
P370  position comfortable for breathing.
P378  In case of fire: Use CO₂, dry
P403  chemical or foam for extinction.
P501  Store in a well-ventilated place.
P501  Keep container tightly closed
P501  Dispose of contents/container to
an approved waste disposal plant

SECTION 3: Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anisole</td>
<td>&lt;=90%</td>
</tr>
<tr>
<td>CAS: 100-66-3</td>
<td></td>
</tr>
<tr>
<td>Component A</td>
<td>&lt;=5%</td>
</tr>
<tr>
<td>Trade Secret</td>
<td></td>
</tr>
<tr>
<td>Component B</td>
<td>&lt;=5%</td>
</tr>
<tr>
<td>Trade Secret</td>
<td></td>
</tr>
<tr>
<td>Component C</td>
<td>&lt;=5%</td>
</tr>
<tr>
<td>Trade Secret</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: First-aid measures

Eye Contact  Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention

Skin Contact  Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Inhalation  Move to fresh air. If breathing is difficult give oxygen. Get medical attention if symptoms occur.

Ingestion  Do not induce vomiting. Obtain medical attention
Most important symptoms/effects

Breathing difficulties. Symptoms of overexposure may be headaches, dizziness, tiredness, nausea and vomiting.

SECTION 5: Fire-fighting measures

Suitable Extinguishing Media

User water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Flash Point

43°C / 109.4°F

Autoignition Temperature

475°C / 887°F

Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Vapours may from explosive mixtures with air. Vapours may travel to source of ignition and flash back. Thermal decomposition can lead to release of irritating gases and vapours. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NOx), Phenols.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

SECTION 6: Accidental release measures

Personal Precautions

Use personal protective equipment as required. Remove all sources of ignition. Ensure adequate ventilation. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing

Environmental Precautions

Avoid release to the environment

Methods for Containment and Clean Up

Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Use spark-proof tools and explosion-proof equipment

SECTION 7: Handling and storage

Handling

Wear person protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Ensure adequate ventilation. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharge. Avoid contact with skin, eyes and clothing
Storage

Keep containers tightly closed in a dry, cool and well ventilated place. Keep away from heat and sources of ignition. Flammables areas

SECTION 8: Exposure controls/personal protection

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice

SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Black</td>
</tr>
<tr>
<td>Odor</td>
<td>Sweet aromatic</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No Information available</td>
</tr>
<tr>
<td>pH</td>
<td>No Information available</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>-37°C / -34.6°F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>154°C / 309.2°F @ 760 mmHg</td>
</tr>
<tr>
<td>Flash Point</td>
<td>43°C / 109.4°F</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td>No Information available</td>
</tr>
</tbody>
</table>
Upper 6.3 vol %
Lower 0.34 vol %
Vapor Pressure 10 mmHg @ 42°C
Vapor Density 3.72
Relative Density No information available
Solubility Insoluble in water
Autoignition Temperature 475°C / 887°F
Decomposition Temperature No information available
Partition coefficient: n-octanol/water No information available
Viscosity No information available

SECTION 10: Stability and reactivity

Reactive Hazard None known, based on information available
Stability Stable under normal conditions
Conditions to avoid Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition
Incompatible Materials Strong oxidising agents
Hazardous Decomposition Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx), Phenols
Hazardous Polymerisation Hazardous polymerisation does not occur
Hazardous Reactions May form explosive peroxides

SECTION 11: Toxicological information

Acute Toxicity

Product Information
Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anisole</td>
<td>Not listed</td>
<td>Not listed</td>
<td>3021 mg/m3/2h (Mouse)</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available
Sensitization
No information available

Carcinogenicity
None of the components have been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs or found to be a potential carcinogen by OSHA. None of the components are listed in the National Toxicological Program (NTP) Report on Carcinogens

Mutagenic Effects
No information available

Reproductive Effects
No information available

Developmental Effects
No information available

Teratogenicity
No information available

STOT – single exposure
Central nervous system (CNS)

STOT – repeated exposure
Liver, Kidney

Aspiration hazard
No information available

Symptoms/effects, both acute and delayed
Symptoms of overexposure may be headache, dizziness, tiredness, nausea, and vomiting

Endocrine Disruptor Information
No information available

SECTION 14: Transport Information

UN-No
UN2222
Proper Shipping Name
ANISOLE SOLUTION
Hazard Class
3
Packing Group
III

SECTION 16: Other information

Prepared By
EM Resist Ltd.
Creation Date
21-May-2011
Revision Date
13-October-2015
Revision Summary
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer
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