SAFETY DATA SHEET

SECTION 1: Identification

Product Name:  SML series electron beam resist
Identified Uses:  Positive tone electron beam resist
Company:  EM Resist Ltd.
           23G
           Alderley Park
           Macclesfield
           SK10 4TG
           UNITED KINGDOM
Telephone:  +44 (0)1625 704465
E-mail Address:  info@emresist.com
Emergency Phone #:  +44 (0)1625 704465

SECTION 2: Hazards identification

Classification

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

Label Elements

Pictogram

Signal Word  Warning

Hazard statement(s) :

H226  Flammable liquid and vapour
H302  Harmful if swallowed
H315  Causes skin irritation

Precautionary statement(s):

P210  Keep away from heat/sparks/open flames/hot surfaces – No smoking
P261  Avoid breathing dust/fume/gas/mist/vapours/spray
P280  Wear protective gloves/protective
H319  Causes serious eye irritation

H336  May cause drowsiness or dizziness

H373  May cause damage to organs through prolonged or repeated exposure

P301 + P310  IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician

P303 + P361 + P353  IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P271  Use only outdoors or in a well-ventilated area.

P304 + P340  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P370 + P378  In case of fire: Use CO2, dry chemical or foam for extinction.

P403  Store in a well-ventilated place. 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 CAS: 100-66-3</td>
<td>&lt;=90%</td>
</tr>
<tr>
<td>Component A Trade Secret</td>
<td>&lt;=10%</td>
</tr>
<tr>
<td>Component B Trade Secret</td>
<td>&lt;=2%</td>
</tr>
<tr>
<td>Component C Trade Secret</td>
<td>&lt;=2%</td>
</tr>
<tr>
<td>Component D Trade Secret</td>
<td>&lt;=2%</td>
</tr>
<tr>
<td>Component E Trade Secret</td>
<td>&lt;=2%</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>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>
Flammability (solid, gas) Not applicable
Flammability or explosive limits
   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 Products 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 12: Ecological Information

Ecotoxicity  Not available
BOD5 and COD  Not available
Products of Biodegradation  Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. The products of degradation are more toxic.
Toxicity of the Products of Biodegradation  Not available
Special remarks on the Products of Biodegradation  Not available

SECTION 13: Disposal Considerations

Product  Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated Packaging

Dispose of as unused product.

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
23-October-2017

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
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.