SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006 (REACH) and Regulation (EU) No 453/2010

E-Beam Resists  AR-P 6200

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
Trade name: E-Beam Resists  AR-P 6200
CAS-Number: 100-66-3
EC-number: 202-876-1

1.2 Relevant identified uses of the substance or mixture and uses advised against
General use: intermediate for electronic industry

1.3 Details of the supplier of the safety data sheet
Company name: Allresist Gesellschaft für chemische Produkte zur Mikrostrukturierung mbH
Street/POB-No.: Am Biotop 14
Postal Code, city: 15344 Strausberg Germany
WWW: www.allresist.de
E-mail: info@allresist.de
Telephone: +49 (0)33 41-35 93-0
Telefax: +49 (0)33 41-35 93-29
Dept. responsible for information: Frau Feldt, Email: doerte.feldt@allresist.de

1.4 Emergency telephone number
Telephone: +49 (0)33 41-35 93-0
Only available during office hours.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to EC regulation 1272/2008 (CLP)
Flam. Liq. 3; H226 Flammable liquid and vapour.

Classification according to directive 67/548/EEC
R10 Flammable.

2.2 Label elements
Labelling (CLP)

Signal word: Warning
Hazard statements: H226 Flammable liquid and vapour.
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Precautionary statements:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370+P378 In case of fire: Use dry powder, foam or carbon dioxide for extinction.
P403+P235 Store in a well-ventilated place. Keep cool.

Labelling (67/548/EEC or 1999/45/EC)
R phrase(s): R 10 Flammable.
S phrase(s): S 16 Keep away from sources of ignition. - No smoking.
S 24 Avoid contact with skin.

2.3 Other hazards
No risks worthy of mention.

SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

3.2 Mixtures
Hazardous ingredients:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Designation</th>
<th>Content</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC No. 202-876-1</td>
<td>Anisole</td>
<td>&gt; 80 %</td>
<td>DSD/DPD: R10. CLP: Flam. Liq. 3; H226</td>
</tr>
<tr>
<td>CAS 100-66-3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures
In case of inhalation: Provide fresh air. Seek medical attention.
Following skin contact: Remove residues with water. Change contaminated clothing. Seek medical attention.
After eye contact: With eyelids open, wash out eyes for several minutes under flowing water. Subsequently consult an ophthalmologist.
After swallowing: Caution if victim vomits: Risk of aspiration! Immediately get medical attention.

4.2 Most important symptoms and effects, both acute and delayed
In case of inhalation: Mucous membrane irritation, cough, shortage of breath
In case of ingestion: Systemic effects: Nausea, vomiting, agitation, spasms, Headache, tremors.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media: foam, extinguishing powder, carbon dioxide.
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5.2 Special hazards arising from the substance or mixture
- Flammable liquid and vapour. The vapours of the product are heavier than air. Explosive mixtures with air may even form at room temperature.
- In case of fire may be liberated: Carbon monoxide and carbon dioxide.

5.3 Advice for firefighters
- Special protective equipment for firefighters:
  - Wear self-contained breathing apparatus. Wear suitable protective clothing.
- Additional information:
  - Hazchem-Code: 3Y
  - Move container away or cool with water from a protected position. Do not allow fire water to penetrate into surface or ground water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
- Avoid contact with the substance. Do not breathe vapour/aerosol.
- Ensure adequate ventilation, especially in confined areas.

6.2 Environmental precautions
- Do not allow to penetrate into soil, waterbodies or drains. Danger of explosion!

6.3 Methods and material for containment and cleaning up
- Soak up with absorbent materials such as sand, siliceous earth, acid- or universal binder.
- Store in special closed containers and dispose of according to ordinance. Final cleaning.

6.4 Reference to other sections
- not required

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Advices on safe handling:
  - Avoid contact with skin.
  - Provide adequate ventilation, and local exhaust as needed.
- Precautions against fire and explosion:
  - Keep away from sources of ignition and heat. Take precautionary measures against static discharges.

7.2 Conditions for safe storage, including any incompatibilities
- Requirements for storerooms and containers:
  - Store in a well-ventilated place. Keep container tightly closed.
  - Storage temperature 10 - 22 °C.
- Storage class:
  - 10 = Combustible liquids, unless storage class 3

7.3 Specific end use(s)
- No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
- Additional information: Contains no substances with occupational exposure limit values.
8.2 Exposure controls

When aerosols and vapours form: Withdraw by suction.

Personal protection equipment

Occupational exposure controls

Respiratory protection: If vapours form, use respiratory protection.
Use filter type A (= against vapours of organic substances) according to EN 14387.

Hand protection: Protective gloves according to EN 374.
Glove material: Fluororubber (Viton) - Layer thickness: 0.70 mm.
Breakthrough time: >480 min.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: In case of handling larger quantities: Flame-resistant antistatic protective clothing

General protection and hygiene measures:
Use only non-sparking tools. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.
Do not breathe vapour/aerosol. Avoid contact with skin and eyes.
Take off immediately all contaminated clothing.
When using do not eat, drink or smoke.
Wash hands before breaks and after work.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Form: liquid</td>
</tr>
<tr>
<td></td>
<td>Colour: colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>aromatic</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>pH value</td>
<td>no data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>-37 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>156 °C</td>
</tr>
<tr>
<td>Flash point/flash point range</td>
<td>44 °C (c.c.)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability</td>
<td>no data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>LEL (Lower Explosion Limit): 0.34 Vol-%</td>
</tr>
<tr>
<td></td>
<td>UEL (Upper Explosive Limit): 6.30 Vol-%</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>at 20 °C: 3.2 hPa</td>
</tr>
<tr>
<td>Vapour density</td>
<td>no data available</td>
</tr>
<tr>
<td>Density</td>
<td>at 20 °C: 0.995 g/mL</td>
</tr>
<tr>
<td>Water solubility</td>
<td>at 25 °C: 1.6 g/L</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>2.11 log P(o/w)</td>
</tr>
<tr>
<td></td>
<td>Appreciable bio-accumulation is not to be expected (log P(o/w 1-3).</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>&gt; 490 °C</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>at 15 °C: 1.42 mPa*s</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>no data available</td>
</tr>
<tr>
<td>Oxidizing characteristics</td>
<td>no data available</td>
</tr>
</tbody>
</table>
9.2 Other information

Ignition temperature: 475 °C
Refraction index: at 20 °C: 1.518
Additional information: Molar mass: 108.14 g/mol
Relative vapour density (air=1): 3.7

SECTION 10: Stability and reactivity

10.1 Reactivity
Flammable liquid and vapour. In case of heating: Vapours can form explosive mixtures with air.

10.2 Chemical stability
Sensitive to air.

10.3 Possibility of hazardous reactions
Danger of explosion with: Access of air and oxygen (Peroxide formation!)
Violent reaction with: strong oxidizing agents, strong acids, alkalis.

10.4 Conditions to avoid
Keep away from heat sources, sparks and open flames.
Protect against direct sunlight.

10.5 Incompatible materials
see section 10.3

10.6 Hazardous decomposition products
In case of fire may be liberated: Carbon monoxide and carbon dioxide.
Thermal decomposition: > 490 °C

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity:
LD50 Rat, oral: 3700 mg/kg (RTECS)
LC50 Rat, inhalative: > 6.51 mg/L/4h
Toxicological effects:

- Acute toxicity (oral): Lack of data.
- Acute toxicity (dermal): Lack of data.
- Acute toxicity (inhalative): Lack of data.
- Skin corrosion/irritation: Lack of data.
- Eye damage/irritation: Lack of data.
- Sensitisation to the respiratory tract: Lack of data.
- Skin sensitisation: Lack of data.
- Germ cell mutagenicity/Genotoxicity: Lack of data.
- Carcinogenicity: Lack of data.
- Reproductive toxicity: Lack of data.
- Effects on or via lactation: Lack of data.
- Specific target organ toxicity (single exposure): Lack of data.
- Specific target organ toxicity (repeated exposure): Lack of data.
- Aspiration hazard: Lack of data.

After swallowing:
When swallowed and vomited immediately, aspiration into the lungs may occur resulting in chemical pneumonia or suffocation.

Following skin contact:
Specific symptoms in animal studies (Rabbit): mild irritant.

After eye contact:
Specific symptoms in animal studies (Rabbit): Does not cause irritation.

Other information:
Further hazardous properties cannot be excluded.

Symptoms:
In case of inhalation: Mucous membrane irritation, cough, shortage of breath
In case of ingestion:
Systemic effects: Nausea, vomiting, agitation, spasms, Headache, tremors.

**SECTION 12: Ecological information**

**12.1 Toxicity**

Aquatic toxicity:
- Daphnia toxicity:
  - EC50 Daphnia magna (Big water flea): 40 mg/L/24h
- Fish toxicity:
  - LC50 Brachydanio rerio (zebra-fish): >1 mg/L/96h (Source: ECOTOX)

**12.2. Persistence and degradability**

Further details:
Biodegradation: approx. 68 % (OECD 301 D).
Product is readily biodegradable.
Abiotic degradation: (Air)

Oxygen demand:
ThOD: 2.52 g/g

**12.3 Bioaccumulative potential**

Partition coefficient: n-octanol/water:
- 2.11 log P(o/w)
Appreciable bio-accumulation is not to be expected (log P(o/w 1-3).

**12.4 Mobility in soil**

no data available
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12.5 Results of PBT and vPvB assessment
no data available

12.6 Other adverse effects
General information: Do not allow to enter into ground-water, surface water or drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Waste key number: 07 01 04* = organic solvents, halogen-free
* = Evidence for disposal must be provided.
Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

Contaminated packaging
Recommendation: Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself. Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number
ADR/RID, IMDG, IATA: UN 2222

14.2 UN proper shipping name
ADR/RID, IMDG, IATA: UN 2222, Anisole solution

14.3 Transport hazard class(es)
ADR/RID: Class 3, Code: F1
IMDG: Class 3, Subrisk -
IATA: Class 3

14.4 Packing group
ADR/RID, IMDG, IATA: III

14.5 Environmental hazards
Marine pollutant: No
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14.6 Special precautions for user
Land transport (ADR/RID)
Warning board:  ADR/RID: Kemmler-number 30, UN number 2222
Hazard label:  3
Limited quantities:  5L
EQ:  E1
Contaminated packaging - Instructions: P001 IBC03 LP01 R001
Special provisions for packing together: MP19
Portable tanks - Instructions: T2
Portable tanks - Special provisions: TP1
Tank coding:  LGBF
Tunnel restriction code:  D/E

Sea transport (IMDG)
EmS:  F-E, S-D
Special provisions: -
Limited quantities:  5L
EQ:  E1
Contaminated packaging - Instructions: P001, LP01
Contaminated packaging - Provisions: -
IBC - Instructions: IBC03
IBC - Provisions: -
Tank instructions - IMO: -
Tank instructions - UN: T2
Tank instructions - Provisions: TP1
Stowage and handling: Category A
Properties and observations:
Colorless to yellow liquid. Flashpoint: 41°C c.c. Explosive limits: 0,3% to 6,3%. Immiscible with water. Irritating to skin, eyes and mucous membranes.
Segregation group: none

Air transport (IATA)
Hazard:  Flammable liquid
EQ:  E1
Passenger Ltd Qty.: Pack.Instr. Y344 - Max. Net Qty/Pkg. 10 L
Passenger: Pack.Instr. 355 - Max. Net Qty/Pkg. 60 L
ERG:  3L

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
no data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations - Great Britain
Hazchem-Code:  3Y

National regulations - EC member states
Volatile organic compounds (VOC):
85 % by weight = 846 g/L
Labelling of packaging with <= 125mL content

Signal word: **Warning**
Hazard statements: not applicable
Precautionary statements: not applicable

**15.2 Chemical Safety Assessment**

no data available

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**SECTION 16: Other information**

**Further information**

Reason of change: Changes in section 4, 5, 9, 10, 15: General revision
Changes in section 14: IMDG 2015

Date of first version: 19/8/2010

Department issuing data sheet: see section 1: Dept. responsible for information

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.