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

1.1. Product identifier
   Developer mr-Dev 600
   REACH Registration Number: 01-2119475791-29-
   CAS No: 108-65-6
   Index No: 607-195-00-7
   EC No: 203-603-9

1.2. Relevant identified uses of the substance or mixture and uses advised against
   Use of the substance/mixture
   developer liquid
   Product Categories [PC] 30: Photosensitive agent and other photochemicals
   Sector of uses [SU] 16: Manufacture of computer, electronic and optical products, electrical equipment.
   Uses advised against
   Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet
   Company name: micro resist technology GmbH
   Street: Koepenicker Str. 325
   Place: D-12555 Berlin
   Telephone: +49 30 641670-100
   Fax: +49 30 641670-200
   e-mail: safety@microresist.de
   Internet: www.microresist.de

1.4. Emergency telephone number
   Chemtrec (International - 24 h): +1 703 527 3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
   Regulation (EC) No. 1272/2008
   Hazard categories:
   Flammable liquid: Flam. Liq. 3
   Hazard Statements:
   Flammable liquid and vapour.

2.2. Label elements
   Regulation (EC) No. 1272/2008
   Signal word: Warning
   Pictograms:
   
   Hazard statements
   H226 Flammable liquid and vapour.
   Precautionary statements
   P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
   P243 Take precautionary measures against static discharge.
   P280 Wear protective gloves/protective clothing/eye protection/face protection.
   P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
**Safety Data Sheet**

**Developer mr-Dev 600**

Print date: 09.02.2017  
Product code: R815100

**Section 2.3: Other hazards**

No information available.

---

**Section 3: Composition/information on ingredients**

**3.2. Mixtures**

**Hazardous components**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-65-6</td>
<td>2-methoxy-1-methylethyl acetate</td>
<td>&gt; 99 %</td>
</tr>
<tr>
<td>203-603-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70657-70-4</td>
<td>2-methoxypropyl acetate</td>
<td>&lt; 0.3 %</td>
</tr>
<tr>
<td>274-724-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Classification according to Regulation (EC) No. 1272/2008 [CLP]

---

**Section 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

**After inhalation**

Provide fresh air. In case of breathing difficulties administer oxygen. If victim is at risk of losing consciousness, position and transport on their side. In case of respiratory tract irritation, consult a physician.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap. Change contaminated clothing. In case of skin irritation, seek medical treatment.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water.  
Caution if victim vomits: Risk of aspiration!  
Medical treatment necessary.

---

**Section 5: Firefighting measures**

**5.1. Extinguishing media**

Suitable extinguishing media

- Carbon dioxide (CO2).  
- Dry extinguishing powder.  
- Foam.
Unsuitable extinguishing media
High power water jet.

5.2. Special hazards arising from the substance or mixture
In case of fire and/or explosion do not breathe fumes.

5.3. Advice for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing. Full protective suit.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

6.2. Environmental precautions
Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Do not rinse down with water. Collect in closed containers for disposal. Clean contaminated articles and floor according to the environmental legislation.

6.4. Reference to other sections
Treat the recovered material as prescribed in the section on waste disposal. See protective measures under point 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Advice on safe handling
Use only in well-ventilated areas. Only use the material in places where open light, fire and other flammable sources can be kept away. Do not breathe vapour/aerosol.

Advice on protection against fire and explosion
Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on storage compatibility
Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

Further information on storage conditions
Protect against: heat.

7.3. Specific end use(s)
developer liquid
Product Categories [PC] 30: Photosensitive agent and other photochemicals
Sector of uses [SU] 16: Manufacture of computer, electronic and optical products, electrical equipment.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-65-6</td>
<td>1-Methoxypropyl acetate</td>
<td>50</td>
<td>274</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td>548</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

DNEL/DMEL values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>DNEL type</th>
<th>Exposure route</th>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-65-6</td>
<td>2-methoxy-1-methylethyl acetate</td>
<td>Consumer DNEL,</td>
<td>oral</td>
<td>systemic</td>
<td>1,67 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>long-term</td>
<td>Worker DNEL,</td>
<td>systemic</td>
<td>153,5 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>long-term</td>
<td>systemic</td>
<td>54,8 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Worker DNEL,</td>
<td>systemic</td>
<td>275 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Consumer DNEL,</td>
<td>systemic</td>
<td>33 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>long-term</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional advice on limit values

No data available

8.2. Exposure controls

Appropriate engineering controls
If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Wear personal protection equipment. Provide adequate ventilation.

Protective and hygiene measures
Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

Eye/face protection
Suitable eye protection: Tightly sealed safety glasses.

Hand protection
Tested protective gloves are to be worn: Single-use gloves.
German Industry Norms (DIN) / European Norms (EN): DIN EN 374

Duration of wearing with permanent contact:
Suitable material: Butyl rubber.
Thickness of glove material: 0.7 mm
penetration time (maximum wearing period): > 480 min
Recommended protective gloves brand: KCL 898 Butoject, Manufacturer: KCL GmbH, D-36124 Eichenzell,
Source of supply: www.kcl.de

Wearing time with occasional contact (splashes):
Suitable material: NBR (Nitrile rubber).
Thickness of glove material: 0.4 mm
penetration time (maximum wearing period): > 30 min
Recommended protective gloves brand: KCL 730 Camatril-Velours, Manufacturer: KCL GmbH, D-36124
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

**Skin protection**

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

**Respiratory protection**

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Respiratory protection necessary at: aerosol or mist generation. Filtering device (full mask or mouthpiece) with filter: A

**Environmental exposure controls**

Do not empty into drains.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>colourless - light yellow</td>
</tr>
<tr>
<td>Odour:</td>
<td>characteristic</td>
</tr>
<tr>
<td><strong>Test method</strong></td>
<td>No data available</td>
</tr>
</tbody>
</table>

**pH-Value:**

No data available

**Changes in the physical state**

<table>
<thead>
<tr>
<th>Melting point:</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>148 °C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>48 °C</td>
</tr>
</tbody>
</table>

**Flammability**

<table>
<thead>
<tr>
<th>Solid:</th>
<th>not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas:</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

**Explosive properties**

The product is: not explosive.

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

<table>
<thead>
<tr>
<th>Lower explosion limits:</th>
<th>1,2 vol. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper explosion limits:</td>
<td>10,6 vol. %</td>
</tr>
<tr>
<td>Ignition temperature:</td>
<td>315 °C</td>
</tr>
</tbody>
</table>

**Auto-ignition temperature**

<table>
<thead>
<tr>
<th>Solid:</th>
<th>not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas:</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

**Decomposition temperature:**

not determined

**Oxidizing properties**

Not oxidizing.

<table>
<thead>
<tr>
<th>Vapour pressure: (at 20 °C):</th>
<th>5 hPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapour pressure: (at 50 °C):</td>
<td>21 hPa</td>
</tr>
<tr>
<td>Density (at 20 °C):</td>
<td>0,97 g/cm³</td>
</tr>
<tr>
<td>Water solubility: (at 20 °C):</td>
<td>190 g/L</td>
</tr>
</tbody>
</table>
Solubility in other solvents
not determined
Partition coefficient: No data available
Viscosity / dynamic: <7 mPa·s (at 25 °C)
Viscosity / kinematic: No data available
Flow time: No data available
Vapour density: No data available
Evaporation rate: No data available

9.2. Other information
No data available

SECTION 10: Stability and reactivity

10.1. Reactivity
Flammable, Ignition hazard.

10.2. Chemical stability
The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions
No known hazardous reactions.

10.4. Conditions to avoid
UV-radiation/sunlight.
Keep away from heat. Keep away from sources of ignition. No smoking.
Ignition hazard.

10.5. Incompatible materials
Oxidizing agents. (Ignition hazard.)

10.6. Hazardous decomposition products
No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity
Based on available data, the classification criteria are not met.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-65-6</td>
<td>2-methoxy-1-methylethyl acetate</td>
<td>oral</td>
<td>LD50</td>
<td>Rat</td>
<td>RTECS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>Rabbit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8532 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7500 mg/kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Based on available data, the classification criteria are not met.

Sensitising effects
Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.
STOT-single exposure
Based on available data, the classification criteria are not met.

STOT-repeated exposure
Based on available data, the classification criteria are not met.

Aspiration hazard
Based on available data, the classification criteria are not met.

Additional information on tests
No data available

SECTION 12: Ecological information

12.1. Toxicity
not determined

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Aquatic toxicity</th>
<th>Dose</th>
<th>[h]</th>
<th>[d]</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-65-6</td>
<td>2-methoxy-1-methylethyl acetate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>161  mg/l</td>
<td>96  h</td>
<td>Pimephales promelas</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>408  mg/l</td>
<td>48  h</td>
<td>Daphnia magna</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crustacea toxicity</td>
<td>NOEC</td>
<td>&gt;100 mg/l</td>
<td>21  d</td>
<td>Daphnia magna</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
Easily biodegradable (concerning to the criteria of the OECD)

12.3. Bioaccumulative potential
Distribution coefficient (n-octanol / water) (log P O/W): 0.43 at °C: 25 (literature value)
On the basis of existing data about disposal/decomposition and bio-accumulation potential, long term environmental damage is unlikely.

Partition coefficient n-octanol/water

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-65-6</td>
<td>2-methoxy-1-methylethyl acetate</td>
<td>0.43</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment
No data available

12.6. Other adverse effects
No data available

Further information
Do not allow uncontrolled leakage of product into the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Advice on disposal
Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.
Delivery to an approved waste disposal company.

Contaminated packaging
Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)
### 14.1. UN number:
UN 3272

### 14.2. UN proper shipping name:
ESTERS, N.O.S. (1-Methoxy-2-propyl acetate)

### 14.3. Transport hazard class(es):
3

### 14.4. Packing group:
III

### Classification code:
F1

### Special Provisions:
274

### Limited quantity:
5 L

### Excepted quantity:
E1

### Transport category:
3

### Hazard No:
30

### Tunnel restriction code:
D/E

### Marine transport (IMDG)

#### 14.1. UN number:
UN 3272

#### 14.2. UN proper shipping name:
ESTERS, N.O.S. (1-Methoxy-2-propyl acetate)

#### 14.3. Transport hazard class(es):
3

#### 14.4. Packing group:
III

### Air transport (ICAO)

#### 14.1. UN number:
UN 3272

#### 14.2. UN proper shipping name:
ESTERS, N.O.S. (1-Methoxy-2-propyl acetate)

#### 14.3. Transport hazard class(es):
3

#### 14.4. Packing group:
III

### Special Provisions:
A3

### Limited quantity Passenger:
10 L

### Passenger LQ:
Y344

### Exempted quantity:
E1

### IATA-packing instructions - Passenger:
355

### IATA-max. quantity - Passenger:
60 L

### IATA-packing instructions - Cargo:
366

### IATA-max. quantity - Cargo:
220 L

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no
14.6. Special precautions for user
No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information
2004/42/EC (VOC): 100 % (970 g/l)

Additional information

National regulatory information
Employment restrictions: Observe restrictions to employment for juvenils according to the ‘juvenile work protection guideline’ (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes
chapter: 1; 2; 3; 5; 7; 9; 10; 11; 13; 14; 15

Abbreviations and acronyms
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Relevant H and EUH statements (number and full text)
H226 Flammable liquid and vapour.
H335 May cause respiratory irritation.
H360D May damage the unborn child.

Further Information
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor’s safety data sheet.)