



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH) and Regulation (EU) No. 2015/830

Revision date: 13/8/2019

Version: 3

Language: en-GB,IE

Date of print: 27/8/2020

## Negative E-Beam Resist Series AR-N 7520 new

Material number 7520 neu

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

#### 1.1 Product identifier

Trade name: Negative E-Beam Resist Series AR-N 7520 new

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

General use: Intermediate for electronic industry  
For industrial purposes only

#### 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  
WWW: [www.allresist.de](http://www.allresist.de)  
E-mail: [info@allresist.de](mailto:info@allresist.de)  
Telephone: +49 (0)33 41-35 93-0  
Telefax: +49 (0)33 41-35 93-29  
Department responsible for information:  
Frau Dr. Zimmermann, Email: [produktion@allresist.de](mailto:produktion@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.

#### 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.
- P261 Avoid breathing vapours/spray.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P370+P378 In case of fire: Use water spray, dry powder, foam or carbon dioxide for extinction.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container to hazardous or special waste collection point.

### 2.3 Other hazards

Potentially explosive mixtures may form if adequate ventilation is not provided. Inhaling can lead to irritations of the respiratory tract and mucous membrane. Higher doses may lead to a narcotic effect. Special danger of slipping by leaking/spilling product.

### Results of PBT and vPvB assessment:

No data available

## SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

### 3.2 Mixtures

Chemical characterisation: Mixture of the substances listed below with non-hazardous additions:

Hazardous ingredients:

Ingredient	Designation	Content	Classification
REACH 01-2119475791-29-xxxx EC No. 203-603-9 CAS 108-65-6	2-Methoxy-1-methylethyl acetate	70 - 95 %	Flam. Liq. 3; H226.
CAS 48180-65-0	4,4'-Diazidodiphenyl ether	< 10 %	Acute Tox. 4; H302. Acute Tox. 4; H312. Acute Tox. 4; H332. Skin Irrit. 2; H315. Eye Irrit. 2; H319. STOT SE 3; H335.

Full text of H- and EUH-statements: see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General information: IF exposed or concerned: Get medical advice/attention. If medical advice is needed, have product container or label at hand. First aider: Pay attention to self-protection!

In case of inhalation: Move victim to fresh air; if necessary, provide artificial respiration or oxygen. Make sure he/she is warm and comfortable. Seek medical attention. If victim is at risk of losing consciousness, position and transport on their side.



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- Following skin contact: Remove residues with soap and water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical attention.
- After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently consult an ophthalmologist.
- After swallowing: Never give anything by mouth to an unconscious person. Rinse mouth immediately and drink plenty of water.  
Do not induce vomiting. Seek medical attention.

### 4.2 Most important symptoms and effects, both acute and delayed

Inhaling can lead to irritations of the respiratory tract and mucous membrane. Higher doses may lead to a narcotic effect.

### 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:

Extinguishing powder, water spray jet, foam or carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet.

### 5.2 Special hazards arising from the substance or mixture

Flammable liquid and vapour. On contact with air, potentially explosive mixtures may develop. Vapours may proceed on the ground over great distances and cause fire and backflashes.

In case of fire may be liberated: nitrogen oxides (NO<sub>x</sub>), carbon monoxide and carbon dioxide.

### 5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Additional information:

Hazchem-Code: •3Y

Heating will lead to pressure increase: Danger of bursting and explosion. Use fine water spray to cool endangered containers. Move undamaged containers from immediate hazard area if it can be done safely. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Do not allow fire water to penetrate into surface or ground water. Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.



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### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/aerosol. Avoid contact with the substance. Eliminate all ignition sources if safe to do so. If possible, eliminate leakage. Provide adequate ventilation. Wear appropriate protective equipment. Keep unprotected people away. Cordon off downwind area at risk and warn inhabitants. Take off immediately all contaminated clothing and wash it before reuse.

#### 6.2 Environmental precautions

Do not allow to enter into ground-water, surface water or drains. Danger of explosion! In case of release, notify competent authorities.

#### 6.3 Methods and material for containment and cleaning up

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13). Beware of reignition. Thoroughly clean surrounding area. In case of greater quantities: Collect mechanically (use only explosion-proof equipment when pumping out). Never return spills in original containers for re-use.

Additional information: Use explosion-proof equipment and non-sparking tools/utensils.  
Special danger of slipping by leaking/spilling product.

#### 6.4 Reference to other sections

Refer additionally to section 8 and 13.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Do not breathe vapour/aerosol. Do not get in eyes, on skin, or on clothing. Wear appropriate protective equipment. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Take off immediately all contaminated clothing and wash it before reuse. Guarantee sufficient ventilation during and after use, in order to prevent vapour accumulation. When handling large quantities, supply emergency spray.

Precautions against fire and explosion:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Do not weld.

In partially filled containers explosive mixtures may form.

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep container tightly closed in a cool, well-ventilated place.

Keep container dry. Keep only in original container. Protect from heat and direct sunlight.

Explosion protection required.

Storage temperature: 10 °C up to 18 °C.

Hints on joint storage:

Do not store together with strong oxidizing agents or acids.

Keep away from food, drink and animal feedingstuffs.



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### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
108-65-6	2-Methoxy-1-methylethyl acetate	Europe: IOELV: STEL	550 mg/m <sup>3</sup> ; 100 ppm (may be absorbed through the skin)
		Europe: IOELV: TWA	275 mg/m <sup>3</sup> ; 50 ppm (may be absorbed through the skin)
		Great Britain: WEL-STEL	548 mg/m <sup>3</sup> ; 100 ppm (may be absorbed through the skin)
		Great Britain: WEL-TWA	274 mg/m <sup>3</sup> ; 50 ppm (may be absorbed through the skin)
		Ireland: 15 minutes	550 mg/m <sup>3</sup> ; 100 ppm (may be absorbed through the skin)
		Ireland: 8 hours	275 mg/m <sup>3</sup> ; 50 ppm (may be absorbed through the skin)
48180-65-0	4,4'-Diazidodiphenyl ether	Great Britain: WEL-TWA	10 mg/m <sup>3</sup> (Dust limit value, inhalable fraction)
		Great Britain: WEL-TWA	4 mg/m <sup>3</sup> (Dust limit value, respirable fraction)
		Ireland: 8 hours	10 mg/m <sup>3</sup> (Dust limit value, inhalable fraction)
		Ireland: 8 hours	4 mg/m <sup>3</sup> (Dust limit value, respirable fraction)
1319-77-3	Cresol-isomeric mixture	Europe: IOELV: TWA	22 mg/m <sup>3</sup> ; 5 ppm
		Ireland: 8 hours	22 mg/m <sup>3</sup> ; 5 ppm (may be absorbed through the skin)

### 8.2 Exposure controls

Provide for good ventilation or exhaust system or work with completely self-contained equipment. Explosion protection required.

### Personal protection equipment

#### Occupational exposure controls

Respiratory protection: When aerosols and vapours form: Use appropriate respiratory protection. Respiratory protection must be worn whenever the WEL levels have been exceeded.  
Use filter type A (= against vapours of organic substances) according to EN 14387.

Hand protection: Protective gloves according to EN 374.  
Glove material: butyl caoutchouc (butyl rubber) (0.7 mm).  
Breakthrough time: >480 min.  
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.



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Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Flame retardant, antistatic and chemical resistant protective clothing.

General protection and hygiene measures:  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe vapour/aerosol. Do not get in eyes, on skin, or on clothing. Contaminated work clothing should not be allowed out of the workplace. Take off immediately all contaminated clothing and wash it before reuse. When using do not eat or drink. Wash hands thoroughly after handling. When handling large quantities, supply emergency spray.

### Environmental exposure controls

Do not allow to enter into ground-water, surface water or drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance: Physical state at 20 °C and 101.3 kPa: liquid

Odour: ester-like

Odour threshold: No data available

pH value: No data available

Melting point/freezing point: -66 °C (2-Methoxy-1-methylethyl acetate)

Initial boiling point and boiling range: 146 °C (2-Methoxy-1-methylethyl acetate)

Flash point/flash point range: 45.5 °C (2-Methoxy-1-methylethyl acetate)

Evaporation rate: No data available

Flammability: flammable liquid and vapour

Explosion limits: No data available

Vapour pressure: at 20 °C: 3.5997 hPa (2-Methoxy-1-methylethyl acetate)

Vapour density: No data available

Density: at 20 °C: 0.9677 g/mL (2-Methoxy-1-methylethyl acetate)

Solubility: soluble (organic solvents)

Water solubility: at 20 °C, 198 g/L:

Partition coefficient: n-octanol/water: at 20 °C: 1.2 log K(o/w) (2-Methoxy-1-methylethyl acetate)  
Based on the n-octanol/water partition coefficient significant accumulation in organisms is not expected.

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity, kinematic: at 20 °C: 1.23 mm<sup>2</sup>/s (2-Methoxy-1-methylethyl acetate)

Explosive properties: Vapours can form explosive mixtures with air.

Oxidizing characteristics: No data available

### 9.2 Other information

Ignition temperature: 333 °C (2-Methoxy-1-methylethyl acetate)



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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

Flammable liquid and vapour. On contact with air, potentially explosive mixtures may develop.

#### 10.2 Chemical stability

Stable under recommended storage conditions.

#### 10.3 Possibility of hazardous reactions

Heating will lead to pressure increase: Danger of bursting and explosion.  
Reacts with strong oxidizing agents.

#### 10.4 Conditions to avoid

Keep away from heat sources, sparks and open flames.  
Protect from direct sunlight.

#### 10.5 Incompatible materials

Strong oxidizing agents and acids.

#### 10.6 Hazardous decomposition products

No hazardous decomposition products when regulations for storage and handling are observed.

Thermal decomposition: No data available



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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.  
Acute toxicity (oral): Based on available data, the classification criteria are not met.  
ATEmix (calculated):  $2000 \text{ mg/kg} < \text{ATE} \leq 5000 \text{ mg/kg}$ .  
Acute toxicity (dermal): Based on available data, the classification criteria are not met.  
ATEmix (calculated):  $\text{ATE} > 5000 \text{ mg/kg}$ .  
Acute toxicity (inhalative): Based on available data, the classification criteria are not met.  
ATEmix calculated (Vapours):  $> 20 \text{ mg/L}$   
Skin corrosion/irritation: Lack of data.  
Serious 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.

Other information: Information about 2-Methoxy-1-methylethyl acetate:  
LD50 Rat, oral:  $> 5000 \text{ mg/kg}$ .  
LD50 Rat, dermal:  $> 2000 \text{ mg/kg}$ .  
LC50 Rat, inhalative (vapour)  $> 4345 \text{ ppm/6h}$

### SECTION 12: Ecological information

#### 12.1 Toxicity

Aquatic toxicity: Information about 2-Methoxy-1-methylethyl acetate:  
Daphnia toxicity:  
EC50 Daphnia magna (Big water flea), semistatic:  $> 500 \text{ mg/L/48h}$ .  
Fish toxicity:  
LC50 Oncorhynchus mykiss:  $134 \text{ mg/L/96h}$ . (OECD 203)  
Aquatic plants:  
EC50 Selenastrum capricornutum, static:  $> 1000 \text{ mg/L/72h}$  (OECD 201)  
Chronic toxicity fish:  
NOEC Oryzias latipes,  $47.5 \text{ mg/L/14d}$  (OECD 204)  
Chronic toxicity Aquatic organisms:  
NOEC Daphnia magna (Big water flea), semistatic:  $\geq 100 \text{ mg/L/21d}$  (OECD 202)

#### 12.2 Persistence and degradability

Further details: Biodegradability:  
Information about 2-Methoxy-1-methylethyl acetate:  
 $83 \% /10 \text{ d}$  (OECD 301 F).  
Easily bio-degradable





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Effects in sewage plants: Information about 2-Methoxy-1-methylethyl acetate:  
EC10 activated sludge: >1000 mg/L/30min (OECD 209)

### 12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:

at 20 °C: 1.2 log K(o/w) (2-Methoxy-1-methylethyl acetate)

Based on the n-octanol/water partition coefficient significant accumulation in organisms is not expected.

### 12.4 Mobility in soil

No data available

### 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: 16 03 05\* = Organic wastes containing hazardous substances  
\* = Evidence for disposal must be provided.

Recommendation: Dispose of waste according to applicable legislation. Do not dispose of with household waste.

#### Contaminated packaging

Recommendation: Dispose of waste according to applicable legislation. Handle empty containers with care. Incineration may cause explosion. 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-DGR:

UN 1993

### 14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

UN 1993, FLAMMABLE LIQUID, N.O.S. (2-Methoxy-1-methylethyl acetate)

### 14.3 Transport hazard class(es)

ADR/RID: Class 3, Code: F1

IMDG: Class 3, Subrisk -

IATA-DGR: Class 3





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### 14.4 Packing group

ADR/RID, IMDG, IATA-DGR:  
III

### 14.5 Environmental hazards

Marine pollutant: no

### 14.6 Special precautions for user

#### Land transport (ADR/RID)

Warning board: ADR/RID: Kemmler-number 30, UN number UN 1993  
Hazard label: 3  
Special provisions: 274 601  
Limited quantities: 5 L  
EQ: E1  
Contaminated packaging - Instructions: P001 IBC03 LP01 R001  
Special provisions for packing together: MP19  
Portable tanks - Instructions: T4  
Portable tanks - Special provisions: TP1 TP29  
Tank coding: LGBF  
Tunnel restriction code: D/E

#### Sea transport (IMDG)

EmS: F-E, S-E  
Special provisions: 223, 274, 955  
Limited quantities: 5 L  
Excepted quantities: E1  
Contaminated packaging - Instructions: P001, LP01  
Contaminated packaging - Provisions: -  
IBC - Instructions: IBC03  
IBC - Provisions: -  
Tank instructions - IMO: -  
Tank instructions - UN: T4  
Tank instructions - Provisions: TP1, TP29  
Stowage and handling: Category A.  
Properties and observations: -  
Segregation group: none

#### Air transport (IATA)

Hazard label: Flamm. liquid  
Excepted Quantity Code: E1  
Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y344 - Max. Net Qty/Pkg. 10 L  
Passenger and Cargo Aircraft: Pack.Instr. 355 - Max. Net Qty/Pkg. 60 L  
Cargo Aircraft only: Pack.Instr. 366 - Max. Net Qty/Pkg. 220 L  
Special provisions: A3  
Emergency Response Guide-Code (ERG): 3L

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

No data available



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### 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  
No data available

##### National regulations - EC member states

Volatile organic compounds (VOC):  
approx. 92 % by weight

##### Labelling of packaging with <= 125mL content



Signal word: **Warning**  
Hazard statements: not applicable  
Precautionary Statements:  
P261 Avoid breathing vapours/spray.

#### 15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

### SECTION 16: Other information

#### Further information

Wording of the H-phrases under paragraph 2 and 3:

- H226 = Flammable liquid and vapour.
- H302 = Harmful if swallowed.
- H312 = Harmful in contact with skin.
- H315 = Causes skin irritation.
- H319 = Causes serious eye irritation.
- H332 = Harmful if inhaled.
- H335 = May cause respiratory irritation.



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### Abbreviations and acronyms:

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road  
OEL: Occupational Exposure Limit Value  
AS/NZS: Australian Standards/New Zealand Standards  
ATEmix: Acute Toxicity Estimate of mixture  
CAS: Chemical Abstracts Service  
CFR: Code of Federal Regulations  
CLP: Classification, Labelling and Packaging  
DMEL: Derived minimal effect level  
DNEL: Derived no-effect level  
EC50: Effective Concentration 50%  
EC: European Community  
EN: European Standard  
EU: European Union  
IATA: International Air Transport Association  
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
IMDG Code: International Maritime Dangerous Goods Code  
LC50: Median lethal concentration  
LD50: Lethal dose 50%  
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships  
NOEC: No Observed Effect Concentration  
OSHA: Occupational Safety and Health Administration  
PBT: Persistent, bioaccumulative and toxic  
PNEC: Predicted no-effect concentration  
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals  
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail  
STOT SE: Specific target organ toxicity - single exposure  
TLV: Threshold Limit Value  
UN: United Nations  
vPvB: Very persistent and very bioaccumulative  
WEL: Workplace Exposure Limit

Reason of change: Changes in section 8: Occupational exposure limit values (Germany)

Date of first version: 7/11/2017

### Department issuing data sheet

Contact person: see section 1: Department responsible for information

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.