

SAFETY DATA SHEET

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



Positive Photoresist SX AR-P 5300/4

Revision date: 24/2/2016

Version: 4

Language: en-GB,IE

Date of print: 24/2/2016

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

1.1 Product identifier

Trade name: Positive Photoresist SX AR-P 5300/4

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.
Acute Tox. 4; H332	Harmful if inhaled.
Skin Irrit. 2; H315	Causes skin irritation.
STOT SE 3; H335, H336 (EUH066)	May cause respiratory irritation. May cause drowsiness or dizziness. Repeated exposure may cause skin dryness or cracking.

2.2 Label elements

Labelling (CLP)



Signal word:

Warning

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Hazard statements:	H226	Flammable liquid and vapour.
	H315	Causes skin irritation.
	H332	Harmful if inhaled.
	H335	May cause respiratory irritation.
	H336	May cause drowsiness or dizziness.
	EUH066	Repeated exposure may cause skin dryness or cracking.
Precautionary statements:		
	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P261	Avoid breathing vapours.
	P280	Wear protective gloves/protective clothing/eye protection.
	P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	P312	Call a POISON CENTER/doctor if you feel unwell.
	P403+P235	Store in a well-ventilated place. Keep cool.

Special labelling

Text for labelling: Attention - contains a substance not fully analyzed
Contains n-Butyl acetate and Pentan-1-ol

2.3 Other hazards

Vapours can form explosive mixtures with air.

SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

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3.2 Mixtures

Hazardous ingredients:

Ingredient	Designation	Content	Classification
EC No. 204-658-1 CAS 123-86-4	n-Butyl acetate	25 - 50 %	CLP: Flam. Liq. 3; H226. STOT SE 3; H336. (EUH066).
EC No. 200-752-1 CAS 71-41-0	Pentan-1-ol	25 - 50 %	CLP: Flam. Liq. 3; H226. Acute Tox. 4; H332. Skin Irrit. 2; H315. STOT SE 3; H335.
EC No. 270-931-7 CAS 68510-93-0	Naphthoquinone diazide	5 - 10 %	CLP: Aquatic Chronic 3; H412.
EC No. 215-293-2 CAS 1319-77-3	Cresol-isomers	< 0.5 %	CLP: Acute Tox. 3; H301. Acute Tox. 3; H311. Skin Corr. 1B; H314.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:	First aider: Pay attention to self-protection! If victim is at risk of losing consciousness, position and transport on their side.
In case of inhalation:	Move victim to fresh air, put at rest and loosen restrictive clothing. In case of respiratory difficulties seek medical attention. In case of irregular breathing or respiratory arrest provide artificial respiration.
Following skin contact:	Change contaminated clothing. Remove residues with soap and water. In case of skin reactions, consult a physician.
After eye contact:	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.
After swallowing:	Rinse mouth immediately and drink plenty of water. Avoid vomiting. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

In case of inhalation: Cough, nausea, vomiting, pain, Dizziness, shortage of breath.
After resorption: Narcosis, breathing paralysis, unconsciousness.
In case of ingestion:
Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. Gastrointestinal complaints.
Following intake of large amounts: headache, dizziness, amyosthenia, confusion, pneumonia, Nausea, vomiting, narcosis, coma. Toxic effect on liver. Toxic effect on kidneys.
After contact with skin:
Itching redness of the skin. Defatting properties may induce eczema.
After eye contact: May cause irritations.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Decontamination.
In the event of pulmonary irritation treat initially with dexamethasone - dosing aerosol.
Subsequent observance for pneumonia and lung oedema.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Water fog, foam, extinguishing powder, carbon dioxide.
In case of large fires: Water fog or alcohol resistant foam.

Extinguishing media which must not be used for safety reasons:

High power water jet

5.2 Special hazards arising from the substance or mixture

Flammable liquid and vapour. Vapours form potentially explosive mixtures with air. Heavier than air, they proceed at floor level and may backflash over great distances when ignited. In case of fire may be liberated: Nitrogen oxides (NO_x), carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information: Hazchem-Code: •3Y

Cool endangered containers with water spray and, if possible, remove from danger zone. 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

Eliminate all ignition sources if safe to do so. Provide adequate ventilation. Avoid contact with the substance. Wear suitable protective clothing. Do not breathe vapours.

In case of spills of large quantities: Use appropriate respiratory protection.

6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.

If necessary notify appropriate authorities.

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. Wash spill area with plenty of water.

In case of spills of large quantities: Dam spills.

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 vapours. Execute works under fume hood.

Avoid contact with skin, eyes, and clothing. Wear protective equipment.

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Precautions against fire and explosion:

Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges. Use grounding equipment. Use only spark proof tools. Do not weld. Vapours can form explosive mixtures with air.

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 away from sources of ignition and heat. Protect from direct sunlight.

Qualified materials: Refined steel.

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

Hints on joint storage: Do not store together with combustible or self-igniting materials or any highly flammable solids.

Storage class: 3 = Flammable liquids

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
123-86-4	n-Butyl acetate	Great Britain: WEL-STEL	966 mg/m ³ ; 200 ppm
		Great Britain: WEL-TWA	724 mg/m ³ ; 150 ppm
		Ireland: 15 minutes	950 mg/m ³ ; 200 ppm
		Ireland: 8 hours	710 mg/m ³ ; 150 ppm
1319-77-3	Cresol-isomers	Europe: IOELV: TWA	22 mg/m ³ ; 5 ppm
		Great Britain: WEL-TWA	22 mg/m ³ ; 5 ppm
		Ireland: 8 hours	22 mg/m ³ ; 5 ppm

8.2 Exposure controls

Withdraw by suction. Execute works under fume hood.

Personal protection equipment

Occupational exposure controls

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: PE/EVAL/PE - polyethylene/ethylene-vinyl-alcohol-copolymer/polyethylene.
Breakthrough time: >480 min.
Unsuitable materials: Nitrile rubber, butyl caoutchouc (butyl rubber), fluoro rubber.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Use solvent-resistant protective clothing.
In case of handling larger quantities: Flame-retardant protective clothing, antistatic.

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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

Appearance:	Form: liquid Colour: brown-red
Odour:	ester-like
Odour threshold:	no data available
pH value:	no data available
Melting point/freezing point:	no data available
Initial boiling point and boiling range:	126 °C (n-Butyl acetate)
Flash point/flash point range:	25 °C (n-Butyl acetate)
Evaporation rate:	no data available
Flammability:	Flammable liquid and vapour.
Explosion limits:	LEL (Lower Explosion Limit): 1.50 Vol-% (n-Butyl acetate) UEL (Upper Explosive Limit): 15.00 Vol-% (n-Butyl acetate)
Vapour pressure:	at 20 °C: 13.3 hPa (n-Butyl acetate)
Vapour density:	no data available
Density:	at 20 °C: approx. 1.1 g/mL
Water solubility:	partially soluble
Partition coefficient: n-octanol/water:	no data available
Auto-ignition temperature:	no data available
Thermal decomposition:	no data available
Viscosity, dynamic:	no data available
Explosive properties:	Vapours can form explosive mixtures with air.
Oxidizing characteristics:	no data available

9.2 Other information

Ignition temperature:	300 °C (Pentan-1-ol)
Additional information:	Information about n-Butyl acetate: Relative vapour density (air=1): 4.01

SECTION 10: Stability and reactivity

10.1 Reactivity

Flammable liquid and vapour. Vapours can form explosive mixtures with air.

10.2 Chemical stability

Product is stable under normal storage conditions.

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10.3 Possibility of hazardous reactions

Do not expose to high temperature. Danger of bursting and explosion.

10.4 Conditions to avoid

Keep away from heat. Protect from direct sunlight.

10.5 Incompatible materials

Oxidizing agents, alkali metals, alkali hydroxide. Attacks many plastics and rubbers.

10.6 Hazardous decomposition products

In case of fire may be liberated: Nitrogen oxides (NOx), carbon monoxide and carbon dioxide.

Thermal decomposition: no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects: Acute toxicity (oral): Lack of data.
Acute toxicity (dermal): Lack of data.
Acute toxicity (inhalative): Acute Tox. 4; H332 = Harmful if inhaled.
Skin corrosion/irritation: Skin Irrit. 2; H315 = Causes skin irritation.
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): STOT SE 3; H335, H336 = May cause respiratory irritation. May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure): Lack of data.
Aspiration hazard: Lack of data.

Other information: Information about n-Butyl acetate
LD50 Rat, oral: > 10000 mg/kg.
LD50 Rabbit, dermal: > 14000 mg/kg.
LC50 Rat, inhalative: > 21 mg/L/4h.
Information about Pentan-1-ol:
LD50 Rat, oral: 3670 mg/kg.
LD50 Rabbit, dermal: 2300 mg/kg.
LC50 Rat, inhalative: 14000 mg/m³/6 h

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Symptoms

In case of inhalation: Cough, nausea, vomiting, pain, Dizziness, shortage of breath.
After resorption: Narcosis, breathing paralysis, unconsciousness.
In case of ingestion:
Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. Gastrointestinal complaints.
Following intake of large amounts: headache, dizziness, amyosthenia, confusion, pneumonia, Nausea, vomiting, narcosis, coma. Toxic effect on liver. Toxic effect on kidneys.
After contact with skin:
Itching redness of the skin. Defatting properties may induce eczema.
After eye contact: May cause irritations.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Information about n-Butyl acetate:
Algae toxicity:
IC50 *Desmodesmus subspicatus* (green algae): 675 mg/L/72h.
Bacterial toxicity:
EC50 *Pseudomonas putida*: 959 mg/L/18h.
Daphnia toxicity:
EC50 *Daphnia magna* (Big water flea): 73 mg/L/24 h.
Fish toxicity:
LC50 *Leuciscus idus*: 62 mg/L/96h.

12.2. Persistence and degradability

Further details: Information about n-Butyl acetate:
Biodegradation: 98% /28d. Easily bio-degradable.
Information about Pentan-1-ol:
Biodegradability: 80 - 90%/ 28d. Easily bio-degradable.

12.3 Bioaccumulative potential

Bioconcentration factor (BCF):
no data available

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.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 16 03 05* = organic wastes containing dangerous substances
* = 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 1993

14.2 UN proper shipping name

ADR/RID, IMDG, IATA: UN 1993, FLAMMABLE LIQUID, N.O.S. (Butyl acetates, Pentanols 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

14.6 Special precautions for user

Land transport (ADR/RID)

Warning board: ADR/RID: Kemmler-number 30, UN number 1993

Hazard label: 3

Special provisions: 274 601 640E

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

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Sea transport (IMDG)

EmS: F-E, S-E
Special provisions: 223, 274, 955
Limited quantities: 5 L
EQ: 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: -

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
Cargo: Pack.Instr. 366 - Max. Net Qty/Pkg. 220 L
Special Provisioning: A3
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

Labelling of packaging with <= 125mL content



Signal word:

Warning

Hazard statements:

H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements:

P261 Avoid breathing vapours.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

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SECTION 16: Other information

Further information

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

H226 = Flammable liquid and vapour.

H301 = Toxic if swallowed.

H311 = Toxic in contact with skin.

H314 = Causes severe skin burns and eye damage.

H315 = Causes skin irritation.

H332 = Harmful if inhaled.

H335 = May cause respiratory irritation.

H336 = May cause drowsiness or dizziness.

H412 = Harmful to aquatic life with long lasting effects.

EUH066 = Repeated exposure may cause skin dryness or cracking.

Reason of change: General revision (Regulation (EU) Nr. 2015/830)

Date of first version: 21/1/2011

Department issuing data sheet

Contact person: 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.