Safety data sheet
according to 1907/2006/EC, Article 31

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

· **1.1 Product identifier**

· **Trade name: AR-P 679 series**

· **Article number:** AR-P 679.01, AR-P 679.02, AR-P 679.03, AR-P 679.04
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **Application of the substance / the mixture**
Intermediate product for the electronics industry. For industrial and commercial use only.

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Allresist GmbH
Am Biotop 14
15344 Strausberg
GERMANY

E-Mail: info@allresist.de
Tel.: +49 3341 35 93 0

· **Further information obtainable from:** Sales
· **1.4 Emergency telephone number:**
Poison center of the Charité Berlin:
+4930 30686700
E-Mail: giftnotruf@charite.de

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

corrosion

Eye Dam. 1 H318 Causes serious eye damage.

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.

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· ***Hazard pictograms***

GHS02 GHS05 GHS07

· ***Signal word*** *Danger*

· ***Hazard-determining components of labelling:***
ethyl (S)-2-hydroxypropionate
n-butyl acetate

· ***Hazard statements***
H226 Flammable liquid and vapour.
H318 Causes serious eye damage.
H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

· ***Precautionary statements***
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion-proof [electrical/ventilating/lighting] equipment.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 Immediately call a POISON CENTER/doctor.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· ***2.3 Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable.*
· ***vPvB:*** *Not applicable.*

SECTION 3: Composition/information on ingredients

· ***3.2 Mixtures***
· ***Description:*** *Mixture of substances listed below with nonhazardous additions.*

· ***Dangerous components:***

CAS: 687-47-8 *EINECS: 211-694-1*	*ethyl (S)-2-hydroxypropionate* *Flam. Liq. 3, H226; Eye Dam. 1, H318; STOT SE 3, H335*	*≥50-≤100%*
CAS: 123-86-4 *EINECS: 204-658-1*	*n-butyl acetate* *Flam. Liq. 3, H226; STOT SE 3, H336, EUH066*	*≥25-≤50%*

· ***Additional information:*** *For the wording of the listed hazard phrases refer to section 16.*

SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information:*** *Immediately remove any clothing soiled by the product.*

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· **After skin contact:** Immediately rinse with water.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:** If symptoms persist consult doctor.
· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
· **5.3 Advice for firefighters**
· **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **Recommended storage temperature:** 10-22°C
· **Storage class (TRGS):** 3
· **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

123-86-4 n-butyl acetate

WEL	Short-term value: 966 mg/m³, 200 ppm Long-term value: 724 mg/m³, 150 ppm

· **DNELs**

123-86-4 n-butyl acetate

Oral	DNEL Long-term - oral, systemic effects	2 mg/kg_bw/day (rat)
	DNEL Acute - oral, systemic effects	2 mg/kg bw/day (rat)
Dermal	DNEL Long-term – dermal, systemic effects	7 mg/kg_bw/day (rat)
	DNEL Acute - dermal systemic effects	11 mg/kg bw/day (rat)
Inhalative	DNEL long-term - inhalation local effects	480 mg/m³ (rat)
	DNEL Long-term – inhalation, systemic effects	480 mg/m³/day (rat)
	DNEL Acute - inhalation, local effects	960 mg/m³ (rat)
	DNEL Acute inhalation systemic effects	960 mg/m³ (rat)

· **PNECs**

687-47-8 ethyl (S)-2-hydroxypropionate

PNEC short term, fresh water	0.32 mg/l (Aquatic organisms)
PNEC short term, sea water	0.032 mg/l (Aquatic organisms)
PNEC short term fresh water sediment	1.66 mg/kg (Aquatic organisms)
PNEC short term soil	0.145 mg/kg (Aquatic organisms)
PNEC short term sea water sediment	0.166 mg/kg (Aquatic organisms)
PNEC short term, intermittent releases	3.2 mg/l (Aquatic organisms)

123-86-4 n-butyl acetate

PNEC short term, fresh water	0.18 mg/l (Aquatic organisms)
PNEC short term, sea water	0.018 mg/l (Aquatic organisms)
PNEC short term, sewage plant	33.6 mg/l (Aquatic organisms)
PNEC short term fresh water sediment	0.981 mg/kg (Aquatic organisms)
PNEC short term soil	0.0903 mg/kg (Aquatic organisms)
PNEC short term sea water sediment	0.0981 mg/kg (Aquatic organisms)

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see item 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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· **Hand protection**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye/face protection**

Tightly sealed goggles

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Physical state**	Fluid
· **Colour:**	Colourless
· **Odour:**	Mild
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	Undetermined.
· **Boiling point or initial boiling point and boiling range**	126 °C
· **Flammability**	Not applicable.
· **Lower and upper explosion limit**	
· **Lower:**	1.5 Vol %
· **Upper:**	16.4 Vol %
· **Flash point:**	36 °C
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Decomposition temperature:**	Not determined.
· **pH**	Mixture is non-soluble (in water).
· **Viscosity:**	
· **Kinematic viscosity**	Not determined.
· **Dynamic:**	Not determined.
· **Solubility**	
· **water:**	Not miscible or difficult to mix.
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Vapour pressure:**	Not determined.
· **Density and/or relative density**	
· **Density:**	Not determined.
· **Relative density**	Not determined.

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· **Vapour density**	Not determined.
· **9.2 Other information**	
· **Appearance:**	
· **Form:**	Fluid
· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	370 °C
· **Explosive properties:**	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· **Solvent content:**	
· **Organic solvents:**	38.5-39.5 %
· **VOC (EC)**	38.46-39.54 %
· **Change in condition**	
· **Evaporation rate**	Not determined.
· **Information with regard to physical hazard classes**	
· **Explosives**	Void
· **Flammable gases**	Void
· **Aerosols**	Void
· **Oxidising gases**	Void
· **Gases under pressure**	Void
· **Flammable liquids**	Flammable liquid and vapour.
· **Flammable solids**	Void
· **Self-reactive substances and mixtures**	Void
· **Pyrophoric liquids**	Void
· **Pyrophoric solids**	Void
· **Self-heating substances and mixtures**	Void
· **Substances and mixtures, which emit flammable gases in contact with water**	Void
· **Oxidising liquids**	Void
· **Oxidising solids**	Void
· **Organic peroxides**	Void
· **Corrosive to metals**	Void
· **Desensitised explosives**	Void

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity**

· **LD/LC50 values relevant for classification:**		
687-47-8 ethyl (S)-2-hydroxypropionate		
Oral	LD50	>5,000 mg/kg (rat)

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Dermal	*LD50*	*>5,000 mg/kg (rabbit)*

123-86-4 n-butyl acetate

Oral	*LD50*	*10,760 mg/kg (rat)*
Dermal	*LD50*	*5,000 mg/kg (rabbit)*

· ***Serious eye damage/irritation*** *Causes serious eye damage.*
· ***STOT-single exposure*** *May cause respiratory irritation. May cause drowsiness or dizziness.*
· ***11.2 Information on other hazards***

· ***Endocrine disrupting properties***

None of the ingredients is listed.

SECTION 12: Ecological information

· ***12.1 Toxicity***

· ***Aquatic toxicity:***

687-47-8 ethyl (S)-2-hydroxypropionate

	LC50 (96h) mg/ltr.	*320 mg/ltr (Fish)*
	EC50 (48h)	*683 mg/ltr. (daphnia)*

123-86-4 n-butyl acetate

Inhalative	*LC50 (4h)*	*>21 mg/l (rat)*

· ***12.2 Persistence and degradability***

687-47-8	*ethyl (S)-2-hydroxypropionate*	*86 %*
123-86-4	*n-butyl acetate*	*83 %*

· ***12.3 Bioaccumulative potential***

123-86-4	*n-butyl acetate*	*2,3*

· ***12.4 Mobility in soil*** *No further relevant information available.*
· ***12.5 Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable.*
· ***vPvB:*** *Not applicable.*
· ***12.6 Endocrine disrupting properties***
The product does not contain substances with endocrine disrupting properties.
· ***12.7 Other adverse effects*** *No further relevant information available.*
· ***Additional ecological information:***
· ***General notes:***
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.

SECTION 13: Disposal considerations

· ***13.1 Waste treatment methods***
· ***Recommendation***
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· ***Uncleaned packaging:***
· ***Recommendation:*** *Disposal must be made according to official regulations.*

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SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	UN1993
· **14.2 UN proper shipping name**	
· **ADR**	1993 FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATE, ETHYL LACTATE)
· **IMDG, IATA**	FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATE, ETHYL LACTATE)
· **14.3 Transport hazard class(es)**	
· **ADR, IMDG, IATA**	
· **Class**	3 Flammable liquids.
· **Label**	3
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Warning: Flammable liquids.
· **Hazard identification number (Kemler code):**	30
· **EMS Number:**	F-E,S-E
· **Stowage Category**	A
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	D/E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 1993 FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATE, ETHYL LACTATE), 3, III

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture: (Substances not listed)**

None of the ingredients is listed.

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· ***Directive 2012/18/EU***
· ***Named dangerous substances - ANNEX I*** *None of the ingredients is listed.*
· ***Seveso category*** *P5c FLAMMABLE LIQUIDS*
· ***Qualifying quantity (tonnes) for the application of lower-tier requirements*** *5,000 t*
· ***Qualifying quantity (tonnes) for the application of upper-tier requirements*** *50,000 t*

· ***National regulations:***
· ***VOC (EU)*** *384.6-395.4 g/l*
· ***15.2 Chemical safety assessment:*** *A Chemical Safety Assessment has not been carried out.*

SECTION 16: Other information

· ***Disclaimer***
This safety data sheet contains only safety relevant information. The information is based on the state of our knowledge at the time of revision, however, it does not constitute a guarantee of product properties, product information or product specifications and does not establish a contractual legal relationship. This document is only valid in its unchanged form. In the event of changes by third parties, the exhibitor accepts no responsibility for form and content or for any damages or claims arising from such changes. The information is not transferable to other products. If the product named in this safety data sheet is mixed, blended or processed with other materials or is subjected to processing, the information in this safety data sheet cannot be transferred to the new material produced in this way, unless expressly stated otherwise. The data sheet does not release the user from the obligation to ensure that he acts in accordance with all regulations in connection with his activity.

· ***Relevant phrases***
H226 Flammable liquid and vapour.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
EUH066 Repeated exposure may cause skin dryness or cracking.

· ***Department issuing SDS:*** *Quality Management department*
· ***Contact:*** *MSDS authorized Person*
· ***Abbreviations and acronyms:***
ADR: Accord relatif au transport international 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 Harmonised 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 (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3