



# SAFETY DATA SHEET

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

Revision date: 23/1/2019  
Version: 10  
Language: en-GB,IE  
Date of print: 28/8/2020

## Thinner AR 600-09

Material number AR 600-09

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

#### 1.1 Product identifier

Trade name: Thinner AR 600-09

CAS-Number: 687-47-8

EC-number: 211-694-1

EU index number: 607-129-00-7

#### 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  
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  
Department responsible for information:  
Frau Dr. Zimmermann, Email: 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.

Eye Dam. 1; H318 Causes serious eye damage.

STOT SE 3; H335 May cause respiratory irritation.

#### 2.2 Label elements

##### Labelling (CLP)



Signal word: **Danger**

Hazard statements: H226 Flammable liquid and vapour.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.



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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.
- P280 Wear protective gloves/protective clothing/eye protection.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER/doctor.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.

### Special labelling

Text for labelling: Contains Ethyl lactate.

### 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.

Results of PBT and vPvB assessment:

No data available

## SECTION 3: Composition / information on ingredients

### 3.1 Substances

Chemical characterisation: C<sub>5</sub>H<sub>10</sub>O<sub>3</sub> = CH<sub>3</sub>-CH(OH)-COO-C<sub>2</sub>H<sub>5</sub>  
Ethyl (S)-2-hydroxypropionate, Ethyl lactate

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## 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!  
Immediately remove any contaminated clothing, shoes or stockings.
- In case of inhalation: Move victim to fresh air; if necessary, provide artificial respiration or oxygen. Seek medical attention.
- Following skin contact: Immediately clean with water and soap followed by thorough rinsing. Take off immediately all contaminated clothing and wash it before reuse.  
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. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently seek the immediate attention of an ophthalmologist.
- After swallowing: Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.



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

May cause respiratory irritation. Causes serious eye damage.

### 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, water spray jet, 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. With air, vapours form potentially explosive mixtures, which are heavier than air. Vapours are heavier than air and will spread at floor level.

May form dangerous gases and vapours in case of fire.

Furthermore, there may develop: 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: •2Y

Heating will lead to pressure increase: Danger of bursting and explosion. Keep containers cool with water spray.

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.

## SECTION 6: Accidental release measures

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

Eliminate all ignition sources if safe to do so. If possible, eliminate leakage.

Avoid contact with the substance. Do not breathe vapour/aerosol.

Ensure adequate ventilation, especially in confined areas.

Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Keep unprotected people away.

Cordon off downwind area at risk and warn inhabitants.

### 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.



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### 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).

Additional information: Use explosion-proof equipment and non-sparking tools/utensils.

### 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 sources of ignition - No smoking.

Take precautionary measures against static discharge.

Use only explosion-protected equipment/instruments. 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:

Store in a well-ventilated place. Keep container tightly closed.

Storage temperature 10 - 22 °C.

Keep container dry. Keep only in the original container.

Protect from heat and direct sunlight.

Store containers in upright position. Explosion protection required.

Hints on joint storage:

Do not store together with strong oxidizing agents.

Keep away from food, drink and animal feedingstuffs.

### 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.



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PNEC: PNEC Water (freshwater): 0.32 mg/L  
PNEC Water (marine water): 0.032 mg/L  
PNEC Water (intermittent release): 3.2 mg/L  
PNEC sediment (freshwater): 1.66 mg/kg dw  
PNEC sediment (marine water): 0.166 mg/kg dw  
PNEC soil: 0.145 mg/kg dw

### 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. Use filter type A (= against vapours of organic substances) according to EN 14387.

Hand protection: Protective gloves according to EN 374.  
During full contact:  
Glove material: Butyl caoutchouc (butyl rubber) - Layer thickness: 0.7 mm.  
Breakthrough time: >480 min.  
During splash contact:  
Glove material: Nitrile rubber - Layer thickness: 0.4 mm.  
Breakthrough time: >30 min.  
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

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. Take off 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. Danger of explosion!

## 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  
Colour: colourless

Odour: fruity  
Odour threshold: No data available

pH value: at 20 °C, 50 g/L: approx. 4

Melting point/freezing point: -25 °C  
Initial boiling point and boiling range: 154 °C  
Flash point/flash point range: 53 °C (c.c.)  
Evaporation rate: No data available



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Flammability:	Flammable liquid and vapour.
Explosion limits:	LEL (Lower Explosion Limit): 1.50 Vol-% UEL (Upper Explosive Limit): 16.40 Vol-%
Vapour pressure:	at 20 °C: 1.6 hPa
Vapour density:	4.07
Density:	at 20 °C: 1.03 g/mL
Water solubility:	at 25 °C: soluble
Partition coefficient: n-octanol/water:	0.06 log P(o/w) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, dynamic:	at 20 °C: 2.8 mPa*s
Viscosity, kinematic:	at 25 °C: 2.7 mm <sup>2</sup> /s
Explosive properties:	Product is not explosive. Vapours can form explosive mixtures with air.
Oxidizing characteristics:	none

## 9.2 Other information

Ignition temperature: 400 °C

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Flammable liquid and vapour. Vapours can form explosive mixtures with air.  
Sensitive to air, hydrolyzes with water.

### 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, various plastics

### 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

Acute toxicity: LD50 Rat, oral: > 2000 mg/kg (OECD 401)  
LC50 Rat, inhalative: > 5.4 mg/L/4h (OECD 403)

Toxicological effects: Acute toxicity (oral): Based on available data, the classification criteria are not met.  
Acute toxicity (dermal): Lack of data.  
Acute toxicity (inhalative): Based on available data, the classification criteria are not met.  
Skin corrosion/irritation: Based on available data, the classification criteria are not met.  
Specific symptoms in animal studies (Rabbit): Does not cause irritation. (OECD 404)  
Serious eye damage/irritation: Eye Dam. 1; H318 = Causes serious eye damage.  
Sensitisation to the respiratory tract: Lack of data.  
Skin sensitisation: Based on available data, the classification criteria are not met.  
Specific symptoms in animal studies (Mouse): not sensitising (EU Method B.42 )  
Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.  
Carcinogenicity: Based on available data, the classification criteria are not met.  
Reproductive toxicity: Lack of data.  
Effects on or via lactation: Lack of data.  
Specific target organ toxicity (single exposure): STOT SE 3; H335 = May cause respiratory irritation.  
Specific target organ toxicity (repeated exposure): Based on available data, the classification criteria are not met.  
NOAEL Rat, inhalative: 200 mg/m<sup>3</sup> (OECD 412)  
Aspiration hazard: Lack of data.

#### Symptoms

In case of inhalation: Mucous membrane irritation, cough, shortage of breath.  
In case of ingestion:  
Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.  
After contact with skin: Mild irritant.

### SECTION 12: Ecological information

#### 12.1 Toxicity

Aquatic toxicity: Algae toxicity:  
IC50 Pseudokirchneriella subcapitata (green algae): 2200 mg/L/70h  
Daphnia toxicity:  
EC50 Daphnia magna (Big water flea): 683 mg/L/48h  
Fish toxicity:  
LC50 Danio rerio (zebrafish): 320 mg/L/96h

#### 12.2 Persistence and degradability

Further details: Biodegradability: 86 % / 28 d.  
Product is readily biodegradable.



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Oxygen demand: COD: 1,62

### 12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:  
0.06 log P(o/w)  
Based on the n-octanol/water partition coefficient 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: 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 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 1192

### 14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:  
UN 1192, ETHYL LACTATE

### 14.3 Transport hazard class(es)

ADR/RID: Class 3, Code: F1  
IMDG: Class 3, Subrisk -  
IATA-DGR: Class 3

### 14.4 Packing group

ADR/RID, IMDG, IATA-DGR:  
III







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### 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 1192  
Hazard label: 3  
Limited quantities: 5 L  
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: 5 L  
Excepted quantities: 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: Colourless liquid. Flashpoint: 46°C c.c. Explosive limits: 1,5% to 11,4%. Miscible with water.  
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  
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: •2Y

No data available

##### National regulations - EC member states

Volatile organic compounds (VOC):

100 % by weight = 1030 g/L

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



Signal word:

**Danger**

Hazard statements:

H318

Causes serious eye damage.

Precautionary Statements:

P280

Wear protective gloves/protective clothing/eye protection.

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310

Immediately call a POISON CENTER/doctor.

#### 15.2 Chemical Safety Assessment

No data available



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### SECTION 16: Other information

#### Further information

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  
AS/NZS: Australian Standards/New Zealand Standards  
CAS: Chemical Abstracts Service  
CFR: Code of Federal Regulations  
CLP: Classification, Labelling and Packaging  
COD: Chemical Oxygen Demand  
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  
IC50: Inhibition Concentration 50%  
IMDG Code: International Maritime Dangerous Goods Code  
LC50: Median lethal concentration  
LD50: Lethal dose 50%  
LEL: Lower Explosion Limit  
log P(o/w): Partition coefficient: octanol/water  
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships  
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  
UN: United Nations  
vPvB: Very persistent and very bioaccumulative

Reason of change: Changes in section 1.3: Department responsible for information

Date of first version: 19/8/2010

#### 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.