



# SAFETY DATA SHEET

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

Revision date: 11/3/2020  
Version: 6  
Language: en-GB,IE  
Date of print: 17/3/2020

## Developer AR 600-549

Material number AR 600-549

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

#### 1.1 Product identifier

Trade name: Developer AR 600-549

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

General use: Intermediate for electronic industry  
Reserved for industrial and professional use.

#### 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:  
Herr Claus Kramer, Email: Claus.Kramer@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)

Eye Irrit. 2; H319 Causes serious eye irritation.

#### 2.2 Label elements

##### Labelling (CLP)



Signal word: **Warning**

Hazard statements: H319 Causes serious eye irritation.

Precautionary Statements:

P264	Wash hands and face thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face 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.
P337+P313	If eye irritation persists: Get medical advice/attention.



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### 2.3 Other hazards

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
EC No. 203-305-9 CAS 105-53-3	Diethyl malonate	>= 90 %	Eye Irrit. 2; H319.
REACH 01-2119968918-13-xxxx EC No. 202-876-1 CAS 100-66-3	Anisole	< 10 %	Flam. Liq. 3; H226.

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. First aider: Pay attention to self-protection!
- In case of inhalation: Move victim to fresh air; if necessary, provide artificial respiration or oxygen. Seek medical attention.
- Following skin contact: Remove residues with soap and water. Take off 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 consult 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.

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

Causes serious eye irritation.

### 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:

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



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Extinguishing media which must not be used for safety reasons:

Full water jet

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

Combustible. Vapours can form explosive mixtures with air.

May form dangerous gases and vapours in case of fire. In case of fire may be liberated: 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: -

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. Fight fire remotely due to the risk of explosion. 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. Provide adequate ventilation. Avoid contact with the substance. Do not breathe vapour/aerosol. Take off contaminated clothing and wash it before reuse. Wear appropriate protective equipment. Keep unprotected people away.

### 6.2 Environmental precautions

Do not allow to enter into ground-water, surface water or drains.  
If necessary notify appropriate 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).

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. Avoid contact with skin, eyes, and clothing. Wear appropriate protective equipment. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Take off contaminated clothing and wash it before reuse. When handling large quantities, supply emergency spray. Avoid the formation of aerosol.



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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 only in the original container. Protect from heat and direct sunlight. Protect from humidity and water.

Storage temperature: 10 °C up to 22 °C.

Hints on joint storage:

Do not store together with combustible or self-igniting materials or any highly flammable solids.

Do not store together with oxidizing agents, acids, Alkali (lye) or reducing 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.

### 8.2 Exposure controls

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

### Personal protection equipment

#### Occupational exposure controls

Respiratory protection: If vapours form, use respiratory protection. Use filter type A (= against vapours of organic substances) according to EN 14387.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product.

Hand protection: Protective gloves according to EN 374

Suitable protective gloves: butyl caoutchouc (butyl rubber)-Layer thickness:  $\geq 0.5$  mm.

Breakthrough time:  $\geq 480$  min.

Unsuitable glove material:

Protective gloves made of fabric, leather, natural rubber (NR), polychloroprene (CR), polyvinyl chloride (PVC), fluoro rubber (FKM), nitrile rubber (NBR).

Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Wear suitable protective clothing.

In case of handling larger quantities: Flame-resistant antistatic protective clothing

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. When using do not eat, drink or smoke. Wash hands before breaks and after work. Take off contaminated clothing and wash it before reuse. When handling large quantities, supply emergency spray.



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### 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 Colour: colourless
Odour:	ester-like
Odour threshold:	not determined
pH value:	No data available
Melting point/freezing point:	-50 °C (Diethyl malonate)
Initial boiling point and boiling range:	199 °C (Diethyl malonate)
Flash point/flash point range:	88 °C
Evaporation rate:	No data available
Flammability:	not readily flammable
Explosion limits:	LEL (Lower Explosion Limit): 0.82 Vol-% (Diethyl malonate) UEL (Upper Explosive Limit): 12.80 Vol-% (Diethyl malonate)
Vapour pressure:	at 40 °C: 1.33 hPa (Diethyl malonate)
Vapour density:	No data available
Density:	at 20 °C: 1.055 g/mL (Diethyl malonate)
Water solubility:	slightly soluble
Partition coefficient: n-octanol/water:	0.96 log P(o/w) (Diethyl malonate) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
Auto-ignition temperature:	No data available
Decomposition temperature:	435 °C (Diethyl malonate)
Viscosity, dynamic:	at 20 °C: 2.1 mPa*s (Diethyl malonate)
Explosive properties:	Product is not explosive. Potentially explosive vapour/air mixtures may form.
Oxidizing characteristics:	No data available

### 9.2 Other information

Additional information: No data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Refer to 10.3

### 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. Vapours can form explosive mixtures with air.



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### 10.4 Conditions to avoid

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

### 10.5 Incompatible materials

Alkali (lye), strong oxidizing agents, strong acids, reducing agents.

### 10.6 Hazardous decomposition products

Carbon monoxide and carbon dioxide.

Thermal decomposition: 435 °C (Diethyl malonate)

## 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): ATE > 5000 mg/kg.

Acute toxicity (dermal): Based on available data, the classification criteria are not met.

ATEmix (calculated): ATE > 5000 mg/kg.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Lack of data.

Serious eye damage/irritation: Eye Irrit. 2; H319 = Causes serious eye irritation.

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 Diethyl malonate:

LD50 Rat, oral: 15794 mg/kg

LD50 Rabbit, dermal: > 5000 mg/kg

Information about Anisole:

LD50 Rat, oral: 3700 mg/kg

LC50 Rat, inhalative: > 6.1 mg/L/4h (OECD 403)

### Symptoms

After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.



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## SECTION 12: Ecological information

### 12.1 Toxicity

Aquatic toxicity: Information about Diethyl malonate:  
Daphnia toxicity:  
EC50 Daphnia magna (Big water flea): 179 mg/L/48h  
Algae toxicity:  
EC50 Scenedesmus subspicatus: 508.2 mg/L/72h  
Fish toxicity:  
LC50 Pimephales promelas (fathead minnow): 11.8 mg/L/96h  
Information about Anisole:  
Fish toxicity:  
LC50 Leuciscus idus: > 1000 mg/L/96h  
Daphnia toxicity:  
EC50 Daphnia magna (Big water flea): 27 mg/L/48h (OECD 202)  
Algae toxicity:  
ErC50 Scenedesmus subspicatus: 47 mg/L/72h (OECD 201)  
Bacterial toxicity:  
NOEC activated sludge: 300 mg/L/3h (OECD 209)

### 12.2 Persistence and degradability

Further details: Information about Diethyl malonate:  
Biodegradability: 99%/28d  
Easily bio-degradable  
Information about Anisole:  
Biodegradability: approx. 68% (OECD 301D)  
Easily bio-degradable

### 12.3 Bioaccumulative potential

Information about Anisole:  
log Pow 2.62 (OECD 117)  
Partition coefficient: n-octanol/water:  
0.96 log P(o/w) (Diethyl malonate)  
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. Do not allow to enter undiluted resp. in large quantities into surface water or into drains.



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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

##### Product

Waste key number: 07 07 04\* = Wastes from the MFSU of fine chemicals and chemical products not otherwise specified

\* = Evidence for disposal must be provided.

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

##### 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-DGR:  
not applicable

#### 14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:  
Not restricted

#### 14.3 Transport hazard class(es)

ADR/RID, IMDG, IATA-DGR:  
not applicable

#### 14.4 Packing group

ADR/RID, IMDG, IATA-DGR:  
not applicable

#### 14.5 Environmental hazards

Marine pollutant: no

#### 14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

#### 14.7 Transport in bulk according to Annex II of Marpol 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: -  
No data available





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### National regulations - EC member states

Volatile organic compounds (VOC):  
100 % by weight

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



Signal word:

**Warning**

Hazard statements: not applicable

Precautionary Statements:  
not applicable

Further regulations, limitations and legal requirements:  
Use restriction according to REACH annex XVII, no.: 3

### 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.

H319 = Causes serious eye 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  
AS/NZS: Australian Standards/New Zealand Standards  
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  
MFSU: Manufacture, formulation, supply and use  
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%  
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  
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  
vPvB: Very persistent and very bioaccumulative

Reason of change: Changes in section 9: Flash point

Date of first version: 9/3/2015

### 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.