

SAFETY DATA SHEET

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



Remover AR 600-71

Material number AR 600-71

Revision date: 13/7/2017
Version: 7

Language: en-GB,IE

Date of print: 7/5/2018
Page: 1 of 11

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

1.1 Product identifier

Trade name: Remover AR 600-71

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

General use: Intermediate for electronic industry
Restricted to professional users

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. 2; H225 Highly flammable liquid and vapour.
Eye Irrit. 2; H319 Causes serious eye irritation.
Repr. 1B; H360 May damage fertility or the unborn child.
STOT SE 3; H336 May cause drowsiness or dizziness.

2.2 Label elements

Labelling (CLP)



Signal word: **Danger**

| | | |
|--------------------|------|---|
| Hazard statements: | H225 | Highly flammable liquid and vapour. |
| | H319 | Causes serious eye irritation. |
| | H336 | May cause drowsiness or dizziness. |
| | H360 | May damage fertility or the unborn child. |

SAFETY DATA SHEET

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



Remover AR 600-71

Material number AR 600-71

Revision date: 13/7/2017
Version: 7

Language: en-GB,IE

Date of print: 7/5/2018
Page: 2 of 11

| | |
|--------------------------------|--|
| Precautionary statements: P201 | Obtain special instructions before use. |
| 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/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. |
| P308+P313 | IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. |
| 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. |
| P405 | Store locked up. |

Special labelling

Text for labelling: Contains 1,3-Dioxolane and 1-Methoxy-2-propanol.
Restricted to professional users

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

Hazardous ingredients:

| Ingredient | Designation | Content | Classification |
|-------------------------------------|----------------------|---------|--|
| EC No. 211-463-5 CAS 646-06-0 | 1,3-Dioxolane | >= 70 % | Flam. Liq. 2; H225. Eye Irrit. 2; H319. Repr. 1B; H360. |
| EC No. 203-539-1 CAS 107-98-2 | 1-Methoxy-2-propanol | < 30 % | Flam. Liq. 3; H226. STOT SE 3; H336. |

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 medical advice is needed, have product container or label at hand. First aider: Pay attention to self-protection! Take off immediately all contaminated clothing and wash it before reuse. |
| In case of inhalation: | Provide fresh air. Seek medical treatment in case of troubles. |
| Following skin contact: | Wash with generous amount of water and soap. In case of skin irritation, consult a physician. |

SAFETY DATA SHEET

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



Remover AR 600-71

Material number AR 600-71

Revision date: 13/7/2017
Version: 7

Language: en-GB,IE

Date of print: 7/5/2018
Page: 3 of 11

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 get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

May cause drowsiness or dizziness. Causes serious eye irritation.
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:

Water spray jet, Alcohol resistant foam, extinguishing powder, 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

Highly flammable liquid and vapour. With air, vapours form potentially explosive mixtures, which are heavier than air. Vapours may proceed on the ground over great distances and cause fire and backflashes.

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: •3YE

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

Provide adequate ventilation. Do not breathe vapour/aerosol.

Wear appropriate protective equipment. Avoid contact with the substance.

If possible, eliminate leakage. Keep unprotected people away.

Cordon off downwind area at risk and warn inhabitants.

6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains. Danger of explosion!

SAFETY DATA SHEET

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



Remover AR 600-71

Material number AR 600-71

Revision date: 13/7/2017
Version: 7

Language: en-GB,IE

Date of print: 7/5/2018
Page: 4 of 11

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: 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. Obtain special instructions before use. Do not breathe vapour/aerosol.
Wear appropriate protective equipment. Do not get in eyes, on skin, or on clothing.
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:

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

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 the original container.
Protect from heat and direct sunlight.
Store containers in upright position.
Provide solvent resistant flooring.
Storage temperature: 10 °C up to 18 °C.

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.

SAFETY DATA SHEET

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



Remover AR 600-71

Material number AR 600-71

Revision date: 13/7/2017
Version: 7

Language: en-GB,IE

Date of print: 7/5/2018
Page: 5 of 11

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

| CAS No. | Designation | Type | Limit value |
|----------|----------------------|-------------------------|---|
| 646-06-0 | 1,3-Dioxolane | Ireland: 8 hours | 20 ppm |
| 107-98-2 | 1-Methoxy-2-propanol | Europe: IOELV: STEL | 568 mg/m ³ ; 150 ppm (may be absorbed through the skin) |
| | | Europe: IOELV: TWA | 375 mg/m ³ ; 100 ppm (may be absorbed through the skin) |
| | | Great Britain: WEL-STEL | 560 mg/m ³ ; 150 ppm |
| | | Great Britain: WEL-TWA | 375 mg/m ³ ; 100 ppm |
| | | Ireland: 15 minutes | 568 mg/m ³ ; 150 ppm |
| | | Ireland: 8 hours | 375 mg/m ³ ; 100 ppm |

DNEL/DMEL: Information about 1,3-Dioxolane:
Systemic effects:
DNEL workers, long-term, inhalative: 19 mg/m³
DNEL workers, long-term, dermal: 4,1 mg/kg bw/d
DNEL consumers, long-term, inhalative: 5,7 mg/m³
DNEL consumers, long-term, dermal: 0,8 mg/kg bw/d
DNEL consumers, long-term, oral: 75 mg/kg bw/d

PNEC: Information about 1,3-Dioxolane:
PNEC water (freshwater): 19,7 mg/L
PNEC water (marine water): 1,97 mg/L
PNEC water (intermittent release): 0,95 mg/L
PNEC sewage treatment plant: 1 mg/L
PNEC sediment (freshwater): 77,7 mg/kg dw
PNEC sediment (marine water): 7,77 mg/kg dw
PNEC floor: 2,62 mg/kg dw

8.2 Exposure controls

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

Personal protection equipment Occupational exposure controls

Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded.
Use filter type A 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. If the concentration is exceeded, self-contained breathing apparatus must be used.

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

Eye protection: Tightly sealed goggles according to EN 166.

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

SAFETY DATA SHEET

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



Remover AR 600-71

Material number AR 600-71

Revision date: 13/7/2017
Version: 7

Language: en-GB,IE

Date of print: 7/5/2018
Page: 6 of 11

General protection and hygiene measures:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Obtain special instructions before use. Avoid breathing vapours. Do not get in eyes, on skin, or on clothing.
Take off immediately all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.
When using do not eat or drink. Wash hands thoroughly after handling.
When handling large quantities, supply emergency spray.

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: | characteristic |
| Odour threshold: | No data available |
| pH value: | No data available |
| Melting point/freezing point: | -95 °C (1,3-Dioxolane) |
| Initial boiling point and boiling range: | 75 - 76 °C (1,3-Dioxolane) |
| Flash point/flash point range: | -3 °C (1,3-Dioxolane, c.c.) |
| Evaporation rate: | No data available |
| Flammability: | Highly flammable liquid and vapour. |
| Explosion limits: | No data available |
| Vapour pressure: | at 20 °C: 93 h/Pa (1,3-Dioxolane) |
| Vapour density: | 2.56 (1,3-Dioxolane; Air =1) |
| Density: | at 20 °C: 1.0 - 1.1 g/mL |
| Water solubility: | completely soluble |
| Partition coefficient: n-octanol/water: | 0.37 log P(o/w) (1,3-Dioxolane) 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, kinematic: | No data available |
| Explosive properties: | Vapours can form explosive mixtures with air. |
| Oxidizing characteristics: | No data available |

9.2 Other information

Ignition temperature: 250 °C (1,3-Dioxolane)

SECTION 10: Stability and reactivity

10.1 Reactivity

Highly flammable liquid and vapour. Vapours can form explosive mixtures with air.

10.2 Chemical stability

Stable under recommended storage conditions.

SAFETY DATA SHEET

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



Remover AR 600-71

Material number AR 600-71

Revision date: 13/7/2017
Version: 7

Language: en-GB,IE

Date of print: 7/5/2018
Page: 7 of 11

10.3 Possibility of hazardous reactions

Heating will lead to pressure increase: Danger of bursting and explosion.
Danger of explosion with: perchlorate

10.4 Conditions to avoid

Access of air and oxygen (Peroxide formation!)
Keep away from heat sources, sparks and open flames. Protect against direct sunlight.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

No decomposition when used properly.

Thermal decomposition: No data available

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 mg/kg < ATE ≤ 5000 mg/kg

Acute toxicity (dermal): Based on available data, the classification criteria are not met.
ATEmix (calculated): 2000 mg/kg < ATE ≤ 5000 mg/kg

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.
ATEmix (calculated): ATE > 20 mg/L.

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: Repr. 1B; H360 = May damage fertility or the unborn child.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): STOT SE 3; H336 = May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Lack of data.

Other information: Information about 1,3-Dioxolane:
LD50 Rat, oral: 5200 mg/kg (OECD 401)
LD50 Rat, dermal: 15000 mg/kg
LC50 Rat, inhalative: 68.4 mg/L/4h (OECD 403)

SAFETY DATA SHEET

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Remover AR 600-71

Material number AR 600-71

Revision date: 13/7/2017
Version: 7

Language: en-GB,IE

Date of print: 7/5/2018
Page: 8 of 11

Symptoms

In case of inhalation: Headache, drowsiness
Vapours of organic solvents may have a narcotic effect.
In case of ingestion: Gastrointestinal complaints.
After absorption of large quantities: narcosis.
Systemic effects: vomiting, dizziness, Fatigue, Diarrhoea, unconsciousness. When swallowed and vomited immediately, aspiration into the lungs may occur resulting in chemical pneumonia or suffocation.
After contact with skin:
Has degreasing effect on the skin. Danger of cutaneous absorption.
After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Information about 1,3-Dioxolane:
Fish toxicity:
LC50 *Lepomis macrochirus* (bluegill): >95,4 mg/L/96h (OECD 203)
Daphnia toxicity:
EC50 *Daphnia magna* (Big water flea): >772 mg/L/48h (OECD 202)
Algae toxicity:
EC50 *Pseudokirchneriella subcapitata* (green algae): >877 mg/L/72h (OECD 201)

12.2 Persistence and degradability

Further details: Biodegradability
Information about 1,3-Dioxolane: 3.7 %/35d. Not easily bio-degradable (OECD 301 D).

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.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 07 01 04* = Other organic solvents, washing liquids and mother liquors
* = Evidence for disposal must be provided.

Recommendation: Special waste. Incinerate according to applicable local, state and federal regulations.

SAFETY DATA SHEET

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



Remover AR 600-71

Material number AR 600-71

Revision date: 13/7/2017
Version: 7

Language: en-GB,IE

Date of print: 7/5/2018
Page: 9 of 11

Contaminated packaging

Recommendation: Handle empty containers with care. Incineration may cause explosion.
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:
UN 1993

14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:
UN 1993, FLAMMABLE LIQUID, N.O.S. (1,3-Dioxolane, 1-Methoxy-2-propanol)

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:
II

14.5 Environmental hazards

Marine pollutant: no

14.6 Special precautions for user

Land transport (ADR/RID)

Warning board: ADR/RID: Kemmler-number 33, UN number UN 1993
Hazard label: 3
Special provisions: 274 601 640D
Limited quantities: 1 L
EQ: E2
Contaminated packaging - Instructions: P001 IBC02 R001
Special provisions for packing together: MP19
Portable tanks - Instructions: T7
Portable tanks - Special provisions: TP1 TP8 TP28
Tank coding: LGBF
Tunnel restriction code: D/E

SAFETY DATA SHEET

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



Remover AR 600-71

Material number AR 600-71

Revision date: 13/7/2017
Version: 7

Language: en-GB,IE

Date of print: 7/5/2018
Page: 10 of 11

Sea transport (IMDG)

EmS: F-E, S-E
Special provisions: 274
Limited quantities: 1 L
Excepted quantities: E2
Contaminated packaging - Instructions: P001
Contaminated packaging - Provisions: -
IBC - Instructions: IBC02
IBC - Provisions: -
Tank instructions - IMO: -
Tank instructions - UN: T7
Tank instructions - Provisions: TP1, TP8, TP28
Stowage and handling: Category B.
Properties and observations: -
Segregation group: none

Air transport (IATA)

Hazard label: Flamm. liquid
Excepted Quantity Code: E2
Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y341 - Max. Net Qty/Pkg. 1 L
Passenger and Cargo Aircraft: Pack.Instr. 353 - Max. Net Qty/Pkg. 5 L
Cargo Aircraft only: Pack.Instr. 364 - Max. Net Qty/Pkg. 60 L
Special provisions: A3
Emergency Response Guide-Code (ERG): 3H

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: •3YE
No data available

National regulations - EC member states

Labelling of packaging with <= 125mL content



Signal word: **Danger**

Hazard statements: H360 May damage fertility or the unborn child.
Precautionary statements: P201 Obtain special instructions before use.
P308+P313 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

SAFETY DATA SHEET

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



Remover AR 600-71

Material number AR 600-71

Revision date: 13/7/2017
Version: 7

Language: en-GB,IE

Date of print: 7/5/2018
Page: 11 of 11

SECTION 16: Other information

Further information

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

- H225 = Highly flammable liquid and vapour.
- H226 = Flammable liquid and vapour.
- H303 = May be harmful if swallowed.
- H319 = Causes serious eye irritation.
- H336 = May cause drowsiness or dizziness.
- H360 = May damage fertility or the unborn child.

Reason of change: Changes in section 2: Precautionary statements
Changes in section 3: Composition / Information on ingredients
General revision

Date of first version: 29/10/2010

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.

