

SAFETY DATA SHEET

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



Thinner X AR 300-12/3

Material number X AR 300-12/3

Revision date: 26/2/2018
Version: 10

Language: en-GB,IE

Date of print: 2/3/2018
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: Thinner X AR 300-12/3

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
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.
Eye Dam. 1; H318 Causes serious eye damage.
Repr. 1B; H360Df May damage the unborn child. Suspected of damaging fertility.

2.2 Label elements

Labelling (CLP)



Signal word:

Danger

Hazard statements:

H226 Flammable liquid and vapour.
H318 Causes serious eye damage.
H360Df May damage the unborn child. Suspected of damaging fertility.

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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/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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.
P370+P378	In case of fire: water fog, extinguishing powder, alcohol resistant foam, carbon dioxide.
P403+P235	Store in a well-ventilated place. Keep cool.

Special labelling

Text for labelling: Contains 1-Ethylpyrrolidin-2-one.
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
REACH 01-2119475791-29-xxxx EC No. 203-603-9 CAS 108-65-6	2-Methoxy-1-methylethyl acetate	>= 70 %	Flam. Liq. 3; H226.
REACH 01-2119472138-36-xxxx EC No. 220-250-6 CAS 2687-91-4	1-Ethylpyrrolidin-2-one	< 30 %	Eye Dam. 1; H318. Repr. 1B; H360Df.

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! Obtain special instructions before use.

In case of inhalation: Move victim to fresh air; if necessary, provide artificial respiration or oxygen. Make sure he/she is warm and comfortable. If victim is at risk of losing consciousness, position and transport on their side. If you feel unwell, seek medical advice.

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- Following skin contact: Remove residues with soap and water. 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 get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Causes serious eye damage. 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:

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

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 may proceed on the ground over great distances and cause fire and backflashes. 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 self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Additional information:

Hazchem-Code: •3Y

Suppress gases/vapours/mists with water spray jet. Heating will lead to pressure increase: Danger of bursting and explosion. Move undamaged containers from immediate hazard area if it can be done safely.

In case of major fire and large quantities: Evacuate area. 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. 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

Avoid contact with the substance. Eliminate all ignition sources if safe to do so. Wear appropriate protective equipment. Keep unprotected people away. Provide adequate ventilation. Do not breathe gas/vapour/aerosol. Take off immediately all contaminated clothing and wash it before reuse. If possible, eliminate leakage. Cordon off downwind area at risk and warn inhabitants. Avoid exposure.

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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.

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: Avoid exposure - obtain special instructions before use. Provide adequate ventilation, and local exhaust as needed. Do not breathe gas/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. Work place should be equipped with a shower and an eye rinsing apparatus.

Precautions against fire and explosion:

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Do not weld. Vapours can form explosive mixtures with air. Use explosion-proof electrical/ventilating/lighting equipment.

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. Explosion protection required. Avoid admission of air/oxygene (formation of peroxide).

Qualified materials: steel, polypropylene.

Unsuitable materials: Copper, zinc.

Storage temperature: 8 - 12 °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 strong oxidizing agents.

Keep away from food, drink and animal feedingstuffs.

7.3 Specific end use(s)

No information available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
108-65-6	2-Methoxy-1-methylethyl acetate	Europe: IOELV: STEL	550 mg/m ³ ; 100 ppm (may be absorbed through the skin)
		Europe: IOELV: TWA	275 mg/m ³ ; 50 ppm (may be absorbed through the skin)
		Great Britain: WEL-STEL	548 mg/m ³ ; 100 ppm
		Great Britain: WEL-TWA	274 mg/m ³ ; 50 ppm
		Ireland: 15 minutes	550 mg/m ³ ; 100 ppm (may be absorbed through the skin)
		Ireland: 8 hours	275 mg/m ³ ; 50 ppm (may be absorbed through the skin)

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 wear filter apparatus type A (= against vapours of organic substances). 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.
Glove material: Butyl caoutchouc (butyl rubber) - Layer thickness: 0.5 mm
Breakthrough time: >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: Flame retardant, antistatic and chemical resistant protective clothing.

General protection and hygiene measures:

Avoid exposure - obtain special instructions before use. Use only non-sparking tools. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Do not breathe gas/vapour/aerosol. Wash hands before breaks and after work. When using do not eat, drink or smoke. Do not get in eyes, on skin, or on clothing. Contaminated work clothing should not be allowed out of the workplace. Take off immediately all contaminated clothing and wash it before reuse. Work place should be equipped with a shower and an eye rinsing apparatus.

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: No data available

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pH value:	at 20 °C, 200 g/L: 4 (2-Methoxy-1-methylethyl acetate)
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	145 °C (2-Methoxy-1-methylethyl acetate)
Flash point/flash point range:	46 °C (2-Methoxy-1-methylethyl acetate)
Evaporation rate:	No data available
Flammability:	Flammable liquid and vapour.
Explosion limits:	LEL (Lower Explosion Limit): 1.50 Vol-% (2-Methoxy-1-methylethyl acetate) UEL (Upper Explosive Limit): 10.80 Vol-% (2-Methoxy-1-methylethyl acetate)
Vapour pressure:	at 20 °C: 3.1 hPa (2-Methoxy-1-methylethyl acetate)
Vapour density:	4.56
Density:	at 20 °C: 0.967 g/mL (2-Methoxy-1-methylethyl acetate)
Solubility:	miscible with most organic solvents
Water solubility:	soluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, dynamic:	at 20 °C: 1.2 mPa*s
Explosive properties:	Vapours can form explosive mixtures with air.
Oxidizing characteristics:	No data available

9.2 Other information

Ignition temperature: 315 °C (2-Methoxy-1-methylethyl acetate)

SECTION 10: Stability and reactivity

10.1 Reactivity

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

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. Avoid admission of air/oxygene (formation of peroxide).

10.4 Conditions to avoid

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

Nitrogen oxides (NO_x), carbon monoxide and carbon dioxide.
Thermal decomposition: No data available

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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: > 5000 mg/kg
Acute toxicity (dermal): Based on available data, the classification criteria are not met.
ATEmix calculated: > 5000 mg/kg
Acute toxicity (inhalative): Based on available data, the classification criteria are not met. ATEmix calculated (Vapours): > 20 mg/L
Skin corrosion/irritation: Lack of data.
Serious eye damage/irritation: Eye Dam. 1; H318 = Causes serious eye damage.
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; H360Df = May damage the unborn child. Suspected of damaging fertility.
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 1-Ethylpyrrolidin-2-one:
LD50 Rat, oral: approx. 3200 mg/kg.
LD50 Rat, dermal: > 2000 mg/kg.
LC50 Rat, inhalative (Aerosol): > 5.1 mg/L/4h.
Information about 2-Methoxy-1-methylethyl acetate:
LD50 Rat, oral: 8500 mg/kg.
LD50 Rabbit, dermal: > 5000 mg/kg.
LC50 Rat, inhalative: 35.7 mg/L/4h.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Information about 2-Methoxy-1-methylethyl acetate:
Daphnia toxicity:
EC50 Daphnia magna (Big water flea): > 500 mg/L/48h
Fish toxicity:
LC50 Oncorhynchus mykiss: 134 mg/L/96h (OECD 203)
Information about 1-Ethylpyrrolidin-2-one:
Daphnia toxicity:
EC50 Daphnia magna: > 104 mg/L/48h (OECD 202)
Bacterial toxicity:
EC50 Pseudomonas putida: >1000 mg/L/16h. (DIN 38412)
Fish toxicity:
LC50 Brachydanio rerio (zebra-fish): 446-999 mg/L/96h (OECD 203).
Algae toxicity:
EC50 Desmodesmus subspicatus: > 101 mg/L/72h (OECD 201)

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12.2 Persistence and degradability

Further details: Information about 1-Ethylpyrrolidin-2-one:
Biodegradation:
90-100 %/28 d (OECD 301 A)
Easily bio-degradable
Information about 2-Methoxy-1-methylethyl acetate:
Biodegradation:
83 % /10 d (OECD 301 F)
Easily bio-degradable
Effects in sewage plants: Information about 2-Methoxy-1-methylethyl acetate:
EC10 activated sludge: >1000 mg/L/30min (OECD 209)

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:
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. Do not allow to enter undiluted resp. in large quantities into surface water or into drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 16 03 05* = organic wastes containing hazardous substances
* = 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. Handle empty containers with care.
Incineration may cause explosion.

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. (2-Methoxy-1-methylethyl acetate)

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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

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 1993
Hazard label: 3
Special provisions: 274 601
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

Sea transport (IMDG)

EmS: F-E, S-E
Special provisions: 223, 274, 955
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: T4
Tank instructions - Provisions: TP1, TP29
Stowage and handling: Category A.
Properties and observations: -
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
Special provisions: A3
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: •3Y
No data available

National regulations - EC member states

Labelling of packaging with <= 125mL content



Signal word:

Danger

Hazard statements: H318 Causes serious eye damage.
H360Df May damage the unborn child. Suspected of damaging fertility.

Precautionary statements: P201 Obtain special instructions before use.
P261 Avoid breathing vapours/spray.
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.
P310 Immediately call a POISON CENTER/doctor.

Further regulations, limitations and legal requirements:

Use restriction according to REACH annex XVII, no.: 3
Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]: annex I, part 1, P5c.

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.
H318 = Causes serious eye damage.
H360Df = May damage the unborn child. Suspected of damaging fertility.

Reason of change: Changes in section 2: Labelling
Changes in section 3: Composition / information on ingredients
Changes in section 15: Regulatory information
General revision

Date of first version: 20/1/2011

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.