

SAFETY DATA SHEET

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



Developer X AR 600-50/5

Material number X AR 600-50/5

Revision date: 19/1/2018
Version: 12

Language: en-GB,IE

Date of print: 3/5/2018
Page: 1 of 10

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

1.1 Product identifier

Trade name: Developer X AR 600-50/5

CAS-Number: 67-63-0

EC-number: 200-661-7

EU index number: 603-117-00-0

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
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.

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.

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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.
P280	Wear protective gloves and 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.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

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.
Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

Results of PBT and vPvB assessment:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

SECTION 3: Composition / information on ingredients

3.1 Substances

Chemical characterisation: CH₃-CH(OH)CH₃, isopropanol

CAS-Number: 67-63-0
EC-number: 200-661-7
EU index number: 603-117-00-0
RTECS-Number: NT8050000

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:	First aider: Pay attention to self-protection! IF exposed or concerned: Get medical advice/attention. If medical advice is needed, have product container or label at hand.
In case of inhalation:	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention if problems persist.
Following skin contact:	Take off immediately all contaminated clothing and wash it before reuse. Immediately clean with water and soap followed by thorough rinsing. 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 get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

May cause drowsiness or dizziness.
Causes serious eye irritation.
Higher doses may lead to a narcotic effect. After resorption: Headache, dizziness, inebriation, unconsciousness.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Water spray jet, extinguishing powder, alcohol resistant foam, 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: •2YE

Move undamaged containers from immediate hazard area if it can be done safely.

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

Suppress gases/vapours/mists with water spray jet.

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Keep containers cool with water spray.

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

Avoid breathing vapours. Avoid contact with the substance. Eliminate all ignition sources if safe to do so. If possible, eliminate leakage. Provide adequate ventilation.

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.

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.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Avoid breathing vapours. 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 action to prevent static discharges.

With air, vapours form potentially explosive mixtures, which are heavier than air. In partially filled containers explosive mixtures may form.

Use only explosion-protected equipment/instruments. Do not weld.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep container tightly closed in a cool, well-ventilated place.

Protect from heat and direct sunlight. Breakable containers may not exceed 5,5 liters.

Maximum fill: 95 %

Storage temperature 10 - 22 °C.

Store containers in upright position.

Hints on joint storage:

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

Keep away from food, drink and animal feedingstuffs.

Avoid contact with strong oxidizing agents, strong acids, Alkalis and alkaline earth metals.

7.3 Specific end use(s)

intermediate for electronic industry

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

Type	Limit value
Great Britain: WEL-STEL	1250 mg/m ³ ; 500 ppm
Great Britain: WEL-TWA	999 mg/m ³ ; 400 ppm
Ireland: 15 minutes	400 ppm
Ireland: 8 hours	200 ppm

DNEL/DMEL:

DNEL long-term, workers, dermal, systemic: 888 mg/kg/d

DNEL long-term, workers, inhalative, systemic: 500 mg/m³

DNEL long-term, consumers, dermal, systemic: 319 mg/kg/d

DNEL long-term, consumers, inhalative, systemic: 89 mg/m³

DNEL long-term, consumers, oral, systemic: 26 mg/kg/d

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PNEC: PNEC water (freshwater): 140.9 mg/L
PNEC water (marine water): 140.9 mg/L
PNEC water (intermittent release): 140.9 mg/L
PNEC sediment: 552 mg/kg
PNEC soil: 28 mg/kg
PNEC sewage treatment plant (stp): 2,251 mg/L
PNEC oral: 160 mg/kg food

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: In case of inadequate ventilation wear respiratory protection. Respiratory protection must be worn whenever the WEL levels have been exceeded.
Recommendation: 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. If the concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection: Protective gloves according to EN 374.

Glove material:

Nitrile rubber, layer thickness: (≥ 0.35 mm), breakthrough time: 8 h

Butyl caoutchouc (butyl rubber), layer thickness: (≥ 0.5 mm), breakthrough time: 8 h

Polychloroprene, layer thickness: (≥ 0.5 mm), breakthrough time: 4 h

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

Unsuitable glove material: PVC (polyvinyl chloride), NR (natural rubber, natural latex).

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.

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.

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, clear

Odour: Alcoholic

Odour threshold: No data available

pH value: Neutral

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Melting point/freezing point:	-89 °C
Initial boiling point and boiling range:	82 °C (DIN 53171)
Flash point/flash point range:	12 °C (DIN 51755)
Evaporation rate:	No data available
Flammability:	Highly flammable liquid and vapour.
Explosion limits:	LEL (Lower Explosion Limit): 2.00 Vol-% UEL (Upper Explosive Limit): 12.00 Vol-%
Vapour pressure:	No data available
Vapour density:	No data available
Density:	at 20 °C: 0.785 g/mL
Water solubility:	at 20 °C: Completely miscible
Partition coefficient: n-octanol/water:	at 25 °C: 0.05 log P(o/w) (OECD 107) 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:	Not explosive. Vapours can form explosive mixtures with air.
Oxidizing characteristics:	No data available

9.2 Other information

Ignition temperature:	425 °C (DIN 51794)
Refraction index:	at 20 °C: 1.376 - 1.378
Molecular weight	60.11 g/mol
Additional information:	Relative vapour density at 20 °C (air=1): 2 Evaporation rate: 11 (ether = 1, DIN 53170) Saturation concentration at 20 °C 106,000 mg/m ³

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.

10.3 Possibility of hazardous reactions

Exothermic reactions with strong acid.
Liquid evaporates quickly. Vapours are heavier than air and will spread at floor level.
Vapours can form explosive mixtures with air. Beware of reignition.
Heating will lead to pressure increase: Danger of bursting and explosion.

10.4 Conditions to avoid

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

10.5 Incompatible materials

Strong acid, strong oxidizing agents, pyrophoric solids.
Reacts at room temperature with alkali, less so with alkaline earth metals (with formation of hydrogen), at higher temperatures a measurably stronger reaction occurs.

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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

Acute toxicity: LD50 Rat, oral: 5840 mg/kg bw (OECD 401)
LD50 Rabbit, dermal: 13900 mg/kg bw (OECD 402)
LC50 Rat, inhalative: > 25 mg/L/6h (OECD 403)

Toxicological effects: Acute toxicity (oral): Based on available data, the classification criteria are not met.
Acute toxicity (dermal): Based on available data, the classification criteria are not met.
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.
Serious eye damage/irritation: Eye Irrit. 2; H319 = Causes serious eye irritation.
Sensitisation to the respiratory tract: Based on available data, the classification criteria are not met.
Skin sensitisation: Based on available data, the classification criteria are not met.
Specific symptoms in animal studies, guinea pig: not sensitising (OECD 406).
Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.
Gene-mutations mammalian cells (in-vitro, hamster): negative. (OECD 476)
Bacterial mutagenicity: (in-vitro, Ames test): negative. (OECD 471)
Micronucleus test: (in-vivo, Mouse): negative. (OECD 474)
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.
Effects on or via lactation: Based on available data, the classification criteria are not met.
Specific target organ toxicity (single exposure): STOT SE 3; H336 = May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure): Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.
In severe cases, pneumonia or a pulmonary edema may develop. Aspiration hazard: in case of swallowing or vomiting danger of penetration into the lungs.

Symptoms

In case of inhalation: Headache, dizziness, inebriation, unconsciousness.

In case of ingestion:

Nausea, vomiting, abdominal pain, gastrointestinal complaints, blood pressure drop.

After intake of large amounts: unconsciousness, coma, breathing paralysis (death).

If swallowed or in the event of vomiting, risk of entering the lungs. Absorption can lead to kidney and liver damage.

After contact with skin:

Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

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: Toxic effect on fishes and plankton.
Algae toxicity:
EC50 Green algae: >100 mg/L/72h.
Bacterial toxicity:
EC50: >100 mg/L
EC5 Pseudomonas putida : 1,050 mg/L/16h.
Daphnia toxicity:
EC50 Daphnia magna (Big water flea): 9,714 mg/L/48h.
Fish toxicity:
LC50 Lepomis macrochirus (bluegill): 1,400 mg/L/96h.
LC50 Leuciscus idus test: 8,970 mg/L/48h.
LC50 Pimephales promelas (fathead minnow): 9,640 mg/L/96h.

12.2 Persistence and degradability

Further details: Product is readily biodegradable.
Oxygen demand: BOD 5: 53 %
ThOD: 72 %

12.3 Bioaccumulative potential

Bioconcentration factor (BCF):
Bio-accumulation is not to be expected ($\log P(o/w) < 1$).

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

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 contaminated packages in the same way as the substance itself. Non-contaminated packages may be recycled.

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SECTION 14: Transport information

14.1 UN number

ADR/RID, IMDG, IATA-DGR:
UN 1219

14.2 UN proper shipping name

ADR/RID, IMDG: UN 1219, ISOPROPANOL (ISOPROPYL ALCOHOL)
IATA-DGR: UN 1219, Isopropanol

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 1219
Hazard label: 3
Special provisions: 601
Limited quantities: 1 L
EQ: E2
Contaminated packaging - Instructions: P001 - IBC02 - R001
Special provisions for packing together: MP19
Portable tanks - Instructions: T4
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: 1 L
Excepted quantities: E2
Contaminated packaging - Instructions: P001
Contaminated packaging - Provisions: -
IBC - Instructions: IBC02
IBC - Provisions: -
Tank instructions - IMO: -
Tank instructions - UN: T4
Tank instructions - Provisions: TP1
Stowage and handling: Category B.
Properties and observations: Colourless, mobile liquid. Flashpoint: 12°C c.c. Explosive limits: 2% to 12%. Miscible with water.
Segregation group: none

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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:	A180
Emergency Response Guide-Code (ERG):	3L

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: •2YE
No data available

National regulations - EC member states

Volatile organic compounds (VOC):
100 % by weight = 780 g/L

Labelling of packaging with <= 125mL content



Signal word: **Danger**

Hazard statements:	H336	May cause drowsiness or dizziness.
Precautionary statements:	P261	Avoid breathing vapours.
	P403+P233	Store in a well-ventilated place. Keep container tightly closed.

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

Further information

Reason of change: Changes in section 1.3: Corporate headquarters
Date of first version: 19/8/2010

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.

