

SAFETY DATA SHEET

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



Developer X AR 600-55/1

Material number X AR 600-55/1

Revision date: 5/4/2018
Version: 8

Language: en-GB,IE

Date of print: 9/5/2018
Page: 1 of 11

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

1.1 Product identifier

Trade name: Developer X AR 600-55/1

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. 2; H225 Highly flammable liquid and vapour.
Acute Tox. 4; H332 Harmful if inhaled.
Eye Irrit. 2; H319 Causes serious eye irritation.
STOT SE 3; H335, H336 May cause respiratory irritation. May cause drowsiness or dizziness.
(EUH066) Repeated exposure may cause skin dryness or cracking.

2.2 Label elements

Labelling (CLP)



Signal word: **Danger**

Hazard statements:	H225	Highly flammable liquid and vapour.
	H319	Causes serious eye irritation.
	H332	Harmful if inhaled.
	H335	May cause respiratory irritation.
	H336	May cause drowsiness or dizziness.
	EUH066	Repeated exposure may cause skin dryness or cracking.

SAFETY DATA SHEET

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



Developer X AR 600-55/1

Material number X AR 600-55/1

Revision date: 5/4/2018
Version: 8

Language: en-GB,IE

Date of print: 9/5/2018
Page: 2 of 11

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.
P312 Call a POISON CENTER/doctor if you feel unwell.
P370+P378 In case of fire: extinguishing powder, water spray jet or carbon dioxide.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Special labelling

Text for labelling: Contains Isopropyl alcohol and 4-Methylpentan-2-one.

2.3 Other hazards

Potentially explosive mixtures may form if adequate ventilation is not provided.
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 containing the substances listed below:

Hazardous ingredients:

Ingredient	Designation	Content	Classification
EC No. 200-661-7 CAS 67-63-0	Isopropyl alcohol	50 - 75 %	Flam. Liq. 2; H225. Eye Irrit. 2; H319. STOT SE 3; H336.
EC No. 203-550-1 CAS 108-10-1	4-Methylpentan-2-one	25 - 50 %	Flam. Liq. 2; H225. Acute Tox. 4; H332. Eye Irrit. 2; H319. STOT SE 3; H335. (EUH066).

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. In case of irregular breathing or respiratory arrest provide artificial respiration. If victim is at risk of losing consciousness, position and transport on their side. Seek medical attention.

Following skin contact: Thoroughly wash skin 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 consult an ophthalmologist.

After swallowing: Rinse mouth immediately and drink plenty of water. Do not induce vomiting. Immediately get medical attention. Never give anything by mouth to an unconscious person.

SAFETY DATA SHEET

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



Developer X AR 600-55/1

Material number X AR 600-55/1

Revision date: 5/4/2018
Version: 8

Language: en-GB,IE

Date of print: 9/5/2018
Page: 3 of 11

4.2 Most important symptoms and effects, both acute and delayed

Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness.

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

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. Use fine water spray to cool endangered containers.

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

If possible, eliminate leakage.

Take off immediately all contaminated clothing and wash it before reuse. Wear appropriate protective equipment. 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! If necessary notify appropriate authorities.

SAFETY DATA SHEET

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



Developer X AR 600-55/1

Material number X AR 600-55/1

Revision date: 5/4/2018
Version: 8

Language: en-GB,IE

Date of print: 9/5/2018
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).
Never return spills in original containers for re-use.

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.
Wear appropriate protective equipment. Do not breathe vapour/aerosol. 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:
Take precautionary measures against static discharges. Keep away from sources of ignition - No smoking. Use explosion-proof electrical/ventilating/lighting equipment. 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:
Keep container tightly closed in a cool, well-ventilated place.
Protect from heat and direct sunlight. Store containers in upright position.
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 strong oxidizing agents or strong bases.
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



Developer X AR 600-55/1

Material number X AR 600-55/1

Revision date: 5/4/2018
Version: 8

Language: en-GB,IE

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
67-63-0	Isopropyl alcohol	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
108-10-1	4-Methylpentan-2-one	Europe: IOELV: STEL	208 mg/m ³ ; 50 ppm
		Europe: IOELV: TWA	83 mg/m ³ ; 20 ppm
		Great Britain: WEL-STEL	416 mg/m ³ ; 100 ppm
		Great Britain: WEL-TWA	208 mg/m ³ ; 50 ppm
		Ireland: 15 minutes	208 mg/m ³ ; 50 ppm (may be absorbed through the skin)
Ireland: 8 hours	83 mg/m ³ ; 20 ppm (may be absorbed through the skin)		

Biological limit values:

CAS No.	Designation	Type	Limit value	Parameter	Sampling
108-10-1	4-Methylpentan-2-one	Great Britain: BMGV, urine	20 µmol/L	4-methylpentan - 2-one	end of exposure or end of shift

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: Respiratory protection must be worn whenever the WEL levels have been exceeded. Use filter type A (= against vapours of organic substances) according to EN 14387.

Hand protection: Protective gloves according to EN 374.
Glove material:
Nitrile rubber (NBR) - Layer thickness \geq 0.35 mm.
Butyl caoutchouc (butyl rubber) - Layer thickness \geq 0.5 mm.
Fluororubber (Viton) - Layer thickness \geq 0.4 mm.
Breakthrough time: \geq 480 min.
Unsuitable materials:
Protective gloves made of fabric, leather, natural rubber/natural latex (NR), polyvinyl chloride (PVC).
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.

SAFETY DATA SHEET

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



Developer X AR 600-55/1

Material number X AR 600-55/1

Revision date: 5/4/2018
Version: 8

Language: en-GB,IE

Date of print: 9/5/2018
Page: 6 of 11

General protection and hygiene measures:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe vapour/aerosol. Do not get in eyes, on skin, or on clothing. Contaminated work clothing should not be allowed out of the workplace. When using do not eat or drink.
Take off immediately all contaminated clothing and wash it before reuse. Wash hands thoroughly after handling.
Protect skin by using skin protective cream. When handling large quantities, supply emergency spray.

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, clear
Odour:	alcoholic
Odour threshold:	No data available
pH value:	neutral
Melting point/freezing point:	-89.5 °C (Isopropyl alcohol)
Initial boiling point and boiling range:	82 °C (Isopropyl alcohol)
Flash point/flash point range:	13 °C (Isopropyl alcohol)
Evaporation rate:	No data available
Flammability:	Highly flammable liquid and vapour.
Explosion limits:	LEL (Lower Explosion Limit): 1.20 Vol-% (4-Methylpentan-2-one) UEL (Upper Explosive Limit): 12.00 Vol-% (Isopropyl alcohol)
Vapour pressure:	at 20 °C: 48 hPa (Isopropyl alcohol) at 50 °C: 225 hPa (Isopropyl alcohol)
Vapour density:	No data available
Density:	at 20 °C: 0.78 - 0.80 g/mL
Water solubility:	at 20 °C: soluble
Partition coefficient: n-octanol/water:	-0.16 log P(o/w) (Isopropyl alcohol) 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: 2.43 mPa*s (Isopropyl alcohol)
Explosive properties:	Vapours can form explosive mixtures with air.
Oxidizing characteristics:	No data available

9.2 Other information

Ignition temperature: 425 °C (Isopropyl alcohol)

SECTION 10: Stability and reactivity

10.1 Reactivity

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

SAFETY DATA SHEET

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



Developer X AR 600-55/1

Material number X AR 600-55/1

Revision date: 5/4/2018
Version: 8

Language: en-GB,IE

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

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.

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, strong bases.

10.6 Hazardous decomposition products

No hazardous decomposition products when regulations for storage and handling are observed.

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: > 5000 mg/kg

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

Acute toxicity (inhalative): Acute Tox. 4; H332 = Harmful if inhaled.
ATEmix calculated: 10 mg/L < 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: Lack of data.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): STOT SE 3; H335, H336 = May cause respiratory irritation. May cause drowsiness or dizziness.

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

Aspiration hazard: Lack of data.

Other information: Information about Isopropyl alcohol:
LD50 Rat, oral: 4570 mg/kg
LD50 Rabbit, dermal: 13400 mg/kg
LC50 Rat, inhalative: 30 mg/L/4h.

Information about 4-Methylpentan-2-one:
LD50 Rat, oral: 2080 mg/kg (OECD 401)
LD50 Rabbit, dermal: > 16000 mg/kg
LC50 Rat, inhalative: 8.3 - 16.6 mg/L/4h.

SAFETY DATA SHEET

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



Developer X AR 600-55/1

Material number X AR 600-55/1

Revision date: 5/4/2018
Version: 8

Language: en-GB,IE

Date of print: 9/5/2018
Page: 8 of 11

Symptoms

After contact with skin: Repeated exposure may cause skin dryness or cracking.
After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Information about Isopropyl alcohol:
Algae toxicity:
EC50 Green algae: 17400 mg/L/24h.
Bacterial toxicity:
EC5 Pseudomonas putida: 1050 mg/L/16h.
Daphnia toxicity:
EC50 Daphnia magna (Big water flea): 13299 mg/L/48h.
Fish toxicity:
LC50 Lepomis macrochirus (bluegill): 1400 mg/L/96h.
Information about 4-Methylpentan-2-one:
Fish toxicity:
LC0 Leuciscus idus: 480 mg/L/48h
Daphnia toxicity:
EC50 Daphnia magna (Big water flea): 1550 - 3623 mg/L/24h
Algae toxicity:
EC50 Desmodesmus subspicatus (green algae): 980 - 2000 mg/L/48h

12.2 Persistence and degradability

Further details: Biodegradability:
Information about Isopropyl alcohol and 4-Methylpentan-2-one:
Easily bio-degradable.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:
-0.16 log P(o/w) (Isopropyl alcohol)
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: 16 03 05* = organic wastes containing hazardous substances
* = Evidence for disposal must be provided.

SAFETY DATA SHEET

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



Developer X AR 600-55/1

Material number X AR 600-55/1

Revision date: 5/4/2018
Version: 8

Language: en-GB,IE

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

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

Contaminated packaging

Recommendation: Dispose of waste according to applicable legislation.
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. (Isopropyl alcohol and 4-Methylpentan-2-one)

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



Developer X AR 600-55/1

Material number X AR 600-55/1

Revision date: 5/4/2018
Version: 8

Language: en-GB,IE

Date of print: 9/5/2018
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

Volatile organic compounds (VOC):
approx. 100 % by weight = 800 g/L

Labelling of packaging with <= 125mL content



Signal word: **Danger**
Hazard statements: EUH066 Repeated exposure may cause skin dryness or cracking.
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.

SAFETY DATA SHEET

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



Developer X AR 600-55/1

Material number X AR 600-55/1

Revision date: 5/4/2018
Version: 8

Language: en-GB,IE

Date of print: 9/5/2018
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.
- H319 = Causes serious eye irritation.
- H332 = Harmful if inhaled.
- H335 = May cause respiratory irritation.
- H336 = May cause drowsiness or dizziness.
- EUH066 = Repeated exposure may cause skin dryness or cracking.

Reason of change: Changes in section 2: Labelling
Changes in section 9: Physical and chemical properties
Changes in section 15: Regulatory information
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.

