

Safety Data Sheet

according to Regulation (EC) No 1907/2006

AMONIL MMS 4

Print date: 20.11.2020

Product code: 10779-0002

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

1.1. Product identifier

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

against Use of the substance/mixture

PC 9a: Coatings and paints, fillers, putties, thinners

SU 16: Manufacture of computer, electronic and optical products, electrical equipment.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name:	AMO GmbH	
Street:	Otto-Blumenthal-Str. 25	
Place:	D-52074 Aachen	
Telephone:	++49 (0) 2418867-200	Telefax: ++49 (0) 2418867-571
e-mail:	amo@amo.de	

<u>1.4. Emergency telephone number:</u>	++49 (0) 22819240
	++49 (0) 684119240

Further Information

This number is serviced during office hours.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Indications of danger: F - Highly flammable, Xn - Harmful, Xi - Irritant

R phrases: Highly flammable.

Harmful by inhalation and in contact with skin. Risk of serious damage to eyes.

GHS classification

Hazard categories:

Flammable liquid: Flam. Liq. 2

Acute toxicity: Acute Tox. 4

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Dam. 1

Hazard Statements:

Highly flammable liquid and vapour.

Harmful in contact with skin or if inhaled.

Causes skin irritation.

Causes serious eye damage.

2.2. Label elements

Hazardous components which must be listed on the label

2-isopropoxyethanol, ethylene glycol monoisopropyl ether

2-methylpropan-1-ol; iso-butanol

propan-1-ol; n-propanol

Signal word: Danger

Pictograms: GHS02-GHS05-GHS07

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Hazard statements

H225	Highly flammable liquid and vapour.
H312+H332	Harmful in contact with skin or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.

Precautionary statements

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
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.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P312	IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.

2.3. Other hazards

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
203-685-6	2-isopropoxyethanol, ethylene glycol monoisopropyl ether	70-80%
109-59-1	Xn - Harmful, Xi - Irritant R10-20/21-36	
603-013-00-5	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2; H226 H312 H332 H315 H319	
201-148-0	2-methylpropan-1-ol; iso-butanol	5-10%
78-83-1	Xi - Irritant R10-37/38-41-67	
603-108-00-1	Flam. Liq. 3, STOT SE 3, Skin Irrit. 2, Eye Dam. 1, STOT SE 3; H226 H335 H315 H318 H336	
200-746-9	propan-1-ol; n-propanol	1-5%
71-23-8	F - Highly flammable, Xi - Irritant R11-41-67	
603-003-00-0	Flam. Liq. 2, Eye Dam. 1, STOT SE 3; H225 H318 H336	
200-661-7	propan-2-ol; isopropyl alcohol; isopropanol	1-5%
67-63-0	F - Highly flammable, Xi - Irritant R11-36-67	
603-117-00-0	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336	

Full text of R and H phrases: see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Take off immediately all contaminated clothing.

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After inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with skin

Wash with generous amount of water. Change contaminated clothing. Medical treatment necessary.

After contact with eyes

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink large quantities of water.

Caution if victim vomits: Risk of aspiration!

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

Irritating to skin. Causes serious eye damage. Prolonged or repeated contact with skin or mucous membrane result in irritation symptoms such as redness, blistering, dermatitis, etc. Harmful by inhalation and in contact with skin.

4.3. Indication of any immediate medical attention and special treatment needed

in case of allergic symptoms especially in the breathing area, seek medical advice immediately. Caution if victim vomits: Risk of aspiration!

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Water. Carbon dioxide (CO₂). Foam. Extinguishing powder.

Extinguishing media which must not be used for safety reasons

High power water jet.

5.2. Special hazards arising from the substance or mixture

Combustible. Vapours may form explosive mixtures with air.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical resistant suit. Full protective suit.

Additional information

Use water spray/stream to protect personnel and to cool endangered containers. Use a water spray jet to knock down vapours/gases/mists. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eye and clothing. Wear personal protection equipment.

6.2. Environmental precautions

Do not allow uncontrolled leakage of product into the environment. Explosion hazard.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the assimilated material according to the section on waste disposal.

6.4. Reference to other sections

See protective measures under point 7 and 8.
Treat the assimilated material according to the section on waste disposal.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

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Advice on safe handling

In case of open handling equipment with built-in suction must be used. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours may form explosive mixtures with air.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from sources of ignition - No smoking.

Advice on storage compatibility

Do not store together with: Material, rich in oxygen, oxidizing.

7.3. Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
78-83-1	2-Methylpropan-1-ol	50	154		TWA (8 h)	WEL
		75	231		STEL (15 min)	WEL
71-23-8	Propan-1-ol	200	500		TWA (8 h)	WEL
		250	625		STEL (15 min)	WEL
67-63-0	Propan-2-ol	400	999		TWA (8 h)	WEL
		500	1250		STEL (15 min)	WEL

Additional advice on limit values

No data available

8.2. Exposure controls



Occupational exposure controls

In case of open handling equipment with built-in suction must be used. Do not breathe gas/fumes/vapour/spray.

Protective and hygiene measures

Take off immediately all contaminated clothing. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

Respiratory protection

If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn. Respiratory protection required in case of: aerosol or mist generation.

Filter respirator (full mask or mouth-piece) with filter: A

Hand protection

Tested protective gloves are to be worn: Single-use gloves.

Type of chemical protective gloves to choose depends on the concentration and quantity of dangerous substances as well as on work place specifications.

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In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer of the gloves.
Breakthrough times and swelling characteristics of the material must be taken into consideration.
Before using check leak tightness / impermeability.

Eye protection

Suitable eye protection: Tightly sealed safety glasses.
Don't wear contact lenses.

Skin protection

Suitable protection of the body: Lab apron.

Environmental exposure controls

Do not allow uncontrolled leakage of product into the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	yellow
Odour:	Alcohol.

Test method

pH-Value:	No data available
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Changes in the physical state

Boiling point:	>82°C
Flash point:	<21°C

Explosive properties

Combustible. Vapours may form explosive mixtures with air.

Lower explosion limits:	ca. 1,4 vol. % 2-isopropoxyethanol, ethylene glycol monoisopropyl ether
Upper explosion limits:	13 vol. % 2-isopropoxyethanol, ethylene glycol monoisopropyl ether
Ignition temperature:	325 °C 2-methylpropan-1-ol; iso-butanol

Oxidizing properties

No data available

Vapour pressure:	No data available
Vapour pressure: (at 50 °C)	50 hPa
Density:	No data available
Water solubility:	No data available
Partition coefficient:	No data available
Viscosity / dynamic: (at 20 °C)	No data available
Viscosity / kinematic: (at 40 °C)	No data available
Flow time: (at 40 °C)	No data available
Vapour density:	No data available
Evaporation rate:	No data available

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9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

No data available

10.3. Possibility of hazardous reactions

Violent reaction with: Oxidizing agents, strong.

10.4. Conditions to avoid

Keep away from heat. Ignition hazard.

10.5. Incompatible materials

Oxidizing agents, strong.

10.6. Hazardous decomposition products

Can be released in case of fire: Carbon monoxide. Carbon dioxide (CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Harmful by inhalation and in contact with skin.

CAS No	Chemical name	Method	Dose	Species	Source
109-59-1	2-isopropoxyethanol, ethylene glycol monoisopropyl ether				
	oral	LD50	5660 mg/kg	Rat	
	dermal	LD50	1446 mg/kg	Rabbit	
	inhalative (4 h) vapour	LC50	> 15 mg/l	Rat	sigma-aldrich.com
	inhalative aerosol	ATE	1,5 mg/l		
78-83-1	2-methylpropan-1-ol; iso-butanol				
	oral	LD50 mg/kg	> 2830	Rat	
	dermal	LD50 mg/kg	> 2000	Rat	
	inhalative (4 h) vapour	LC50	> 24 mg/l	Rat	

Specific effects in experiment on an animal

No data available

Irritation and corrosivity

Irritating to eyes. Risk of serious damage to eyes.

After skin contact: irritant.

Sensitising effects

No data available

Severe effects after repeated or prolonged exposure

There are no data available on the mixture itself.

Carcinogenic/mutagenic/toxic effects for reproduction

No data available

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Additional information on tests

The classification was undertaken in accordance with the calculation method governed by the Preparations Directive (1999/45/EC).

SECTION 12: Ecological information

12.1. Toxicity

propan-2-ol; isopropyl alcohol; isopropanol 67-63-0:

Acute fish toxicity LC50 > 100 mg/l

Acute Daphnia toxicity EC50 > 100 mg/l

Algae toxicity IC50 > 100 mg/l

CAS No	Chemical name	Method	Dose	h	Species	Source
109-59-1	2-isopropoxyethanol, ethylene glycol monoisopropyl ether					
	Acute crustacea toxicity	EC50	3610 mg/l	48	Daphnia magna	
78-83-1	2-methylpropan-1-ol; iso-butanol					
	Acute fish toxicity	LC50	1430 mg/l	96	Pimephales promelas	
	Acute algae toxicity	ErC50	1250 mg/l		Desmodesmus subspicatus	
	Acute crustacea toxicity	EC50	1439 mg/l	48	Daphnia magna	

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

No indication of bio-accumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
78-83-1	2-methylpropan-1-ol; iso-butanol	0,79

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

If product enters soil, it will be mobile and may contaminate groundwater

Further information

The classification was undertaken in accordance with the calculation method governed by the Preparations Directive (1999/45/EC).

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Waste disposal according to official state regulations.

According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Waste disposal number of waste from residues/unused products

080111 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; waste paint and varnish containing organic solvents or other dangerous substances
Classified as hazardous waste.

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Waste disposal number of contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by dangerous substances Classified as hazardous waste.

Contaminated packaging

Waste disposal according to official state regulations.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN1866
14.2. UN proper shipping name: Resin solution
14.3. Transport hazard class(es): 3
14.4. Packing group: II
 Hazard label: 3



Classification code: F1
 Special Provisions: 640C
 Limited quantity: 5 L
 Transport category: 2
 Hazard No: 33
 Tunnel restriction code: D/E

Other applicable information (land transport)

Excepted Quantity: E2

Marine transport (IMDG)

14.1. UN number: UN1866
14.2. UN proper shipping name: Resin solution
14.3. Transport hazard class(es): 3
14.4. Packing group: II
 Hazard label: 3



Special Provisions: -
 Limited quantity: 5 L
 EmS: F-E, S-E

Other applicable information (marine transport)

Excepted Quantity: E2

Air transport (ICAO)

14.1. UN number: UN1866
14.2. UN proper shipping name: Resin solution
14.3. Transport hazard class(es): 3
14.4. Packing group: II
 Hazard label: 3

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Special Provisions:	A3	
Limited quantity Passenger:	1 L	
IATA-packing instructions - Passenger:		353
IATA-max. quantity - Passenger:		5 L
IATA-packing instructions - Cargo:		364
IATA-max. quantity - Cargo:		60 L

Other applicable information (air transport)

Excepted Quantity: E2
Passenger-LQ: Y341

14.5. Environmental hazards

Dangerous for the environment: no

14.6. Special precautions for user

No data available

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture EU regulatory information

1999/13/EC (VOC): 80-95 %

Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

National regulatory information

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.

Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Full text of R phrases referred to under Sections 2 and 3

10	Flammable.
11	Highly flammable.
20/21	Harmful by inhalation and in contact with skin.
36	Irritating to eyes.
37/38	Irritating to respiratory system and skin.
41	Risk of serious damage to eyes.
67	Vapours may cause drowsiness and dizziness.

Full text of H statements referred to under Sections 2 and 3

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H312	Harmful in contact with skin.
H312+H332	Harmful in contact with skin or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.

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H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)