

Safety Data Sheet

according to Regulation (EC) No 1907/2006

PMMA Developer

Revision date: 21.02.2023

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

1.1. Product identifier

PMMA Developer

Product code:

20093

Substance name: propan-2-ol; isopropyl alcohol; isopropanol

REACH Registration Number: 01-2119457558-25-

CAS No: 67-63-0

Index No: 603-117-00-0

EC No: 200-661-7

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

Use of the substance/mixture

Intermediates Electronics industry

Reserved for industrial and professional use.

1.3. Details of the supplier of the safety data sheet

Company name: Raith GmbH

Street: Konrad-Adenauer-Allee 8

Place: D-44263 Dortmund

Telephone: +49 231 95004 0

Telefax: +49 231 95004 460

e-mail: info@raith.de

e-mail (Contact person): info@raith.de

Internet: www.raith.de

1.4. Emergency telephone number:

Giftnotruf der Charité Universitätsmedizin Berlin 030 192 40

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flam. Liq. 2; H225

Eye Irrit. 2; H319

STOT SE 3; H336

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008**Signal word:** Danger**Pictograms:****Hazard statements**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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P280 Wear protective gloves and eye/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.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P403+P235 Store in a well-ventilated place. Keep cool.
 P501 Dispose of waste according to applicable legislation.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Pictograms:



2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical characterization

Organic solvents

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			60-100 %
	200-661-7	603-117-00-0	01-2119457558-25-	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
67-63-0	200-661-7	propan-2-ol; isopropyl alcohol; isopropanol	60-100 %
	inhalation: LC50 = 37,5 mg/l (vapours); dermal: LD50 = 12800 mg/kg; oral: LD50 = 5045 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice.

After inhalation

Provide fresh air. If experiencing respiratory symptoms: Call a doctor.

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. In case of skin reactions, consult a physician.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink 1 glass of water. When in doubt or if symptoms are observed, get medical advice.

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

Vomiting, Causes serious eye irritation.
Dizziness, Anaesthetic state

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, alcohol resistant foam, Extinguishing powder, Carbon dioxide (CO₂)
Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Flammable. Vapours can form explosive mixtures with air.
In case of fire may be liberated: Carbon dioxide (CO₂), Carbon monoxide, Pyrolysis products, toxic

5.3. Advice for firefighters

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

Additional information

Use water spray jet to protect personnel and to cool endangered containers. 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

General advice

Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Evacuate area.

For non-emergency personnel

Remove all sources of ignition. Provide adequate ventilation. Use personal protection equipment.

For emergency responders

Wear personal protection equipment (refer to section 8).

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

Stop leak if safe to do so. Cover drains.

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Collect in closed and suitable containers for disposal.
Ventilate affected area.

Other information

Use non-sparking tools.
Clean contaminated articles and floor according to the environmental legislation.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Advice on safe handling

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes.

Use personal protection equipment.

Advice on protection against fire and explosion

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

Advice on general occupational hygiene

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff.

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 heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Do not store together with: ferrous metal, Strong acid, aldehydes, Aluminium, Amines, Nitro compound, Hydrogen peroxide, Phosgene, Oxidizing agents, strong.

Keep away from food, drink and animal feedingstuffs.

Further information on storage conditions

Recommended storage temperature +15 - +25 °C

Keep away from heat. Protect from direct sunlight.

7.3. Specific end use(s)

Intermediates Electronics industry

Reserved for industrial and professional use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
67-63-0	Isopropyl alcohol	200	-		TWA (8 h)	
		400	-		STEL (15 min)	

Biological limit values

CAS No	Substance	Parameter	Value	Test material	Sampling time
67-63-0	2-Propanol	Acetone	40 mg/L	Urine	End of shift at end of workweek

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			
Worker DNEL, long-term		dermal	systemic	888 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	500 mg/m ³
Worker DNEL, acute		inhalation	systemic	1000 mg/m ³

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PNEC values

CAS No	Substance	
Environmental compartment		Value
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	
Freshwater		140,9 mg/l
Marine water		140,9 mg/l
Freshwater sediment		552 mg/kg
Marine sediment		552 mg/kg
Micro-organisms in sewage treatment plants (STP)		2251 mg/kg
Soil		28 mg/l

8.2. Exposure controls



Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Individual protection measures, such as personal protective equipment

Eye/face protection

Use eye protection according to EN 166.

Hand protection

Wear suitable gloves tested to EN374.

Suitable material: NBR (Nitrile rubber)
 Thickness of the glove material: 0,4 mm
 Breakthrough time: > 480 min.

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

Respiratory protection necessary at: insufficient ventilation, exceeding exposure limit values.

Thermal hazards

Flame-retardant protective clothing. Wear anti-static footwear and clothing

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour:	like: Alcohol
Odour threshold:	not determined
Melting point/freezing point:	-89 °C

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Boiling point or initial boiling point and boiling range:	82 – 83 °C
Flammability:	Flammable
Lower explosion limits:	2 vol. %
Upper explosion limits:	13,4 vol. %
Flash point:	12 °C
Auto-ignition temperature:	425 °C
Decomposition temperature:	not determined
pH-Value (at 20 °C):	approx. 7
Viscosity / kinematic: (at 20 °C)	2,785 mm ² /s
Water solubility:	completely miscible
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	0,05
Vapour pressure:	43 hPa
Density (at 20 °C):	0,79 g/cm ³
Relative vapour density:	2,07
Particle characteristics:	not applicable

9.2. Other information

Information with regard to physical hazard classes

Explosive properties
 Vapours can form explosive mixtures with air.

Other safety characteristics

Viscosity / dynamic:
(at 20 °C) 2,2 mPa·s

Further Information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Vapours can form explosive mixtures with air.

Exothermic reaction with: ferrous metal, Strong acid, aldehydes, Aluminium, Amines Oxidizing agents, strong.

Explosion hazard with: Chlorates, Nitro compound, Hydrogen peroxide, Phosgene

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Heat. UV-radiation/sunlight.

10.5. Incompatible materials

plastic and rubber

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon dioxide (CO₂), Carbon monoxide, Pyrolysis products, toxic

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol					
	oral	LD50 mg/kg	5045	Rat	Manufacturer	
	dermal	LD50 mg/kg	12800	Rabbit	Manufacturer	
	inhalation (4 h) vapour	LC50	37,5 mg/l	Rat	Manufacturer	

Irritation and corrosivity

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

May cause drowsiness or dizziness. (propan-2-ol; isopropyl alcohol; isopropanol)

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

oral, Skin contact, Eye contact, Inhalation.

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

SECTION 12: Ecological information

12.1. Toxicity

Based on available data, the classification criteria are not met.

The product is not: Ecotoxic.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol					
	Acute fish toxicity	LC50 mg/l	10000	96 h Piscis	Manufacturer	

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			
	Biochemical oxygen demand	53 %	5	Manufacturer
	Readily biodegradable (according to OECD criteria).			

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12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	0,05

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 1219
14.2. UN proper shipping name:	ISOPROPANOL (ISOPROPYL ALCOHOL)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3



Classification code:	F1
Special Provisions:	601
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	33
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1219
14.2. UN proper shipping name:	ISOPROPANOL (ISOPROPYL ALCOHOL)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3

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Classification code: F1
 Special Provisions: 601
 Limited quantity: 1 L
 Excepted quantity: E2

Marine transport (IMDG)

14.1. UN number or ID number: UN 1219
14.2. UN proper shipping name: ISOPROPANOL (ISOPROPYL ALCOHOL)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
 Hazard label: 3



Marine pollutant: -
 Special Provisions: -
 Limited quantity: 1 L
 Excepted quantity: E2
 EmS: F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1219
14.2. UN proper shipping name: ISOPROPANOL
14.3. Transport hazard class(es): 3
14.4. Packing group: II
 Hazard label: 3



Special Provisions: A180
 Limited quantity Passenger: 1 L
 Passenger LQ: Y341
 Excepted quantity: E2
 IATA-packing instructions - Passenger: 353
 IATA-max. quantity - Passenger: 5 L
 IATA-packing instructions - Cargo: 364
 IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: Flammable liquids! Vapours can form explosive mixtures with air.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

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Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

2010/75/EU (VOC): <= 100 %

Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information

Abbreviations and acronyms

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

CAS: Chemical Abstracts Service

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)

IMDG: International Maritime Code for Dangerous Goods

EmS: Emergency Schedules

MFAG: Medical First Aid Guide

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

VOC: Volatile Organic Compounds

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

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H336 May cause drowsiness or dizziness.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.