

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**PMMA Stopper**

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 Stopper

**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			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	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 (CO<sub>2</sub>)  
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 (CO<sub>2</sub>), 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 <sup>3</sup>	fib/cm <sup>3</sup>	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 <sup>3</sup>
Worker DNEL, acute		inhalation	systemic	1000 mg/m <sup>3</sup>

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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 <sup>2</sup> /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 <sup>3</sup>
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:

2,2 mPa·s

(at 20 °C)

**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 (CO<sub>2</sub>), 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)**

<b>14.1. UN number or ID number:</b>	UN 1219
<b>14.2. UN proper shipping name:</b>	ISOPROPANOL (ISOPROPYL ALCOHOL)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	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)**

<b>14.1. UN number or ID number:</b>	UN 1219
<b>14.2. UN proper shipping name:</b>	ISOPROPANOL (ISOPROPYL ALCOHOL)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	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): &lt;= 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.