

Isopropanol

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

1.1. Product identifier

Isopropanol

Further trade names

Isopropylalkohol; 2-Propanol

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

Solvent for resins, gums, fibres, foils, films and plastics. Solvent in oil and gas extraction. Solvent in paint removers. Manufacturing of printing inks, stencils, lithographic plates and similar products. Solvent for waxes, fats, rubber, asphalts and tars. Solvent in paints, laquers, printing inks, varnishes, glues and similar products. Degreasing agent. Miscellaneous industrial applications. Antifreeze agent. Distribution of substances. Formulation & (re)packing of substances and mixtures. Use in laboratories. Use in coatings. Use in cleaning agents. Manufacture of chemical products.

1.3. Details of the supplier of the safety data sheet

Company name: Arpadis Benelux NV
Residentie Hertogenpark
Street: Desguinlei 88A
Place: B-2018 Antwerp
Telephone: +32 (0) 3 206 93 70
e-mail: sds@arpadis.com
Internet: www.arpadis.com
Responsible Department: SHE department
Telefax: +32 (0) 3 233 72 07

1.4. Emergency telephone number:

+32 (0)3 575 55 55

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
Flammable liquid: Flam. Liq. 2
Serious eye damage/eye irritation: Eye Irrit. 2
Specific target organ toxicity - single exposure: STOT SE 3
Hazard Statements:
Highly flammable liquid and vapour.
Causes serious eye irritation.
May cause drowsiness or dizziness.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazardous components which must be listed on the label
propan-2-ol

Signal word: Danger

Pictograms:



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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.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.
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+P233 Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

Water contaminating class (Germany) WGK = 1 (VwVwS).

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: C₃H₈O
Molecular weight: 60,10

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
67-63-0	propan-2-ol			~ 100 %
	200-661-7	603-117-00-0		
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336			

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
If unconscious place in recovery position and seek medical advice.

After inhalation

Remove from exposure, lie down. Keep warm and in a quiet place. Consult a physician for severe cases. Give oxygen or artificial respiration if needed.

After contact with skin

In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing. If irritation develops, get medical attention.

After contact with eyes

Rinse immediately with plenty of water, also under the eyelids. Remove contact lenses. If eye irritation persists, consult a specialist.

After ingestion

If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Do not give milk, alcoholic beverages or castor oil. Consult a physician.

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

Irritating to eyes. Causes headache, drowsiness or other effects to the central nervous system.

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

In case of ingestion, the stomach should be emptied by gastric lavage under qualified medical supervision.

Control of circulatory system, shock therapy if needed. Later control for pneumonia and lung oedema.

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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Water spray jet, ABC powder, Sand, Carbon dioxide (CO₂), Alcohol-resistant foam.

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Hazardous decomposition products formed under fire conditions. Fire may cause evolution of: Organic decomposition products, Gases hazardous to health, Carbon oxides, Vapours may form explosive mixture with air.

5.3. Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary. According to size of fire Full protection, if necessary.

Additional information

Keep containers and surroundings cool with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated.

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

Remove all sources of ignition. In case of insufficient ventilation wear suitable respiratory equipment. Avoid inhalation, ingestion and contact with skin and eyes. Ensure adequate ventilation. Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2. Environmental precautions

Should not be released into the environment. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. Possible need to alert the neighbourhood. If the product contaminates rivers and lakes or drains inform respective authorities. Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Pick up contaminated soil. If spill area is on ground near valuable plants or trees, remove 5 cm of top soil after initial clean-up.

6.4. Reference to other sections

Clean contaminated floors and objects thoroughly while observing environmental regulations. Never return spills in original containers for re-use. Pay attention to flashback.

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

Use only in area provided with appropriate exhaust ventilation. Use only clean and dry utensils. In case of

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insufficient ventilation, wear suitable respiratory equipment. Keep product and empty container away from heat and sources of ignition. Only use working methods according to operating instructions. Never return unused material to storage receptacle. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Handle and open container with care.

Advice on protection against fire and explosion

Solvent vapours are heavier than air and may spread along floors. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Keep away from open flames, hot surfaces and sources of ignition. Keep away from heat. Electrical equipment should be protected to the appropriate standard. Storage must be in accordance with the BetrSichV (Germany). Preparation may charge electrostatically: always use earthing leads when transferring from one container to another.

Further information on handling

General industrial hygiene practice. Observe label precautions.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Not to be stored in gangways or stair wells. Keep in an area equipped with solvent resistant flooring. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Storage must be in accordance with the BetrSichV (Germany). Unsuitable materials: Product attacks most plastics.

Advice on storage compatibility

Do not store together with oxidizing and self-igniting products. Do not store near acids. Do not store with alkalis. Observe regulations for keeping separated.

Further information on storage conditions

Keep containers dry and tightly closed to avoid moisture absorption and contamination. Protect from frost, heat and sunlight. Keep at temperature not exceeding 50 °C.

7.3. Specific end use(s)

None known.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
67-63-0	Propan-2-ol	400	999		TWA (8 h)	WEL
		500	1250		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
67-63-0	propan-2-ol			
Worker DNEL, long-term		inhalation	systemic	500 mg/m ³
Worker DNEL, long-term		dermal	systemic	888 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	89 mg/m ³
Consumer DNEL, long-term		dermal	systemic	319 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	26 mg/kg bw/day

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PNEC values

CAS No	Substance	
Environmental compartment		Value
67-63-0	propan-2-ol	
Freshwater		140,9 mg/l
Marine water		140,9 mg/l
Freshwater (intermittent releases)		140,9 mg/l
Micro-organisms in sewage treatment plants (STP)		2251 mg/l
Freshwater sediment		552 mg/kg
Marine sediment		552 mg/kg
Soil		28 mg/kg
Secondary poisoning		160 mg/kg

Additional advice on limit values

Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

Protective and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. It is good practice in industrial hygiene to avoid contact with solvents by using appropriate protective measures whenever possible.

Eye/face protection

Tightly fitting safety goggles. If splashes are likely to occur, wear: Safety glasses and Face-shield.

Hand protection

Do not wear leather gloves. Do not wear cotton gloves. FKM gloves (gloves made of VITON®): 0,4mm|8h, Butyl rubber gloves (IIR): 0,5mm|8h, Nitrile rubber gloves (NBR): 0,35mm|8h. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin protection

Flame retardant protective clothing, Antistatic boots, Solvent-resistant apron

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment. (gas filter type A)

Environmental exposure controls

For environmental protection remove and wash all contaminated protective equipment before re-use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: liquid
 Colour: colourless
 Odour: aromatic, alcoholic

Test method

pH-Value (at 20 °C): neutral

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Changes in the physical state

Melting point:	~ -88 °C
Initial boiling point and boiling range:	~ 82 °C
Flash point:	~ 12 °C

Explosive properties

Not explosive. Vapours may form explosive mixtures with air.

Lower explosion limits:	50 g/m ³ / 2,0 vol. %
Upper explosion limits:	335 g/m ³ / 13,4 vol. %
Ignition temperature:	> 395 °C

Oxidizing properties

not applicable

Vapour pressure: (at 20 °C)	60 hPa
Vapour pressure: (at 50 °C)	229 hPa
Density (at 20 °C):	0,783 - 0,787 g/cm ³
Water solubility: (at 20 °C)	completely soluble
Partition coefficient:	log Pow = 0,05
Vapour density:	~2
Solvent content:	100%

9.2. Other information

Odour Threshold: 40-45 ppm

SECTION 10: Stability and reactivity

10.1. Reactivity

No decomposition if stored and applied as directed.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Fire or intense heat may cause violent rupture of packages. Vapours may form explosive mixture with air.

10.5. Incompatible materials

Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. Halogens, oleum.

10.6. Hazardous decomposition products

Carbon oxides. In the case of fire: build up of organic decomposition products possible.

Further information

Keep containers dry and tightly closed to avoid moisture absorption and contamination.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No information available.

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Acute toxicity

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).
Components of the product may be absorbed into the body through the skin.
Components of the product may be absorbed into the body by inhalation.

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
67-63-0	propan-2-ol				
	oral	LD50	> 5000 mg/kg	Rat	
	dermal	LD50	> 5000 mg/kg	Rabbit	

Irritation and corrosivity

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in desiccation of the skin.
Severe eye irritation
Inhalation of vapours may cause irritation of the respiratory system in very susceptible persons.

Sensitising effects

Does not cause sensitization.

STOT-single exposure

Inhalation of high vapour concentrations can cause CNS-depression and narcosis.

Carcinogenic/mutagenic/toxic effects for reproduction

Not mutagenic in Ames Test. Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

Further information

Health injuries are not known or expected under normal use.

SECTION 12: Ecological information

12.1. Toxicity

LC50/bluegill sunfish (*Lepomis macrochirus*)/96h: ~1,4 g/L
EC50/daphnia/24h: > 9 g/L
IC50/scenedesmus subspicatus/72h: > 1 g/L

CAS No	Chemical name				
	Aquatic toxicity	Method	Dose	[h] [d]	Species
67-63-0	propan-2-ol				
	Acute fish toxicity	LC50	> 9000 mg/l	96 h	Pimephales promelas (fathead minnow)

12.2. Persistence and degradability

Inherent biodegradability = 95 % after 21 days (OECD 301 E (OECD screening test)).
Theoretical oxygen demand (ThOD) = 2,4g/g. Chemical Oxygen Demand (COD) = 2,23g/g. Biochemical oxygen demand within 5 days (BOD5) = 1,17g/g.

12.3. Bioaccumulative potential

The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.

12.4. Mobility in soil

Not expected to adsorb on soil.

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

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12.6. Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Further information

Ecological injuries are not known or expected under normal use.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Where possible recycling is preferred to disposal or incineration. Waste must be classified and labelled prior to recycling or disposal. Dispose of in accordance with the European Directives on waste and hazardous waste.

Can be landfilled or incinerated, when in compliance with local regulations. Waste codes should be assigned by the user based on the application for which the product was used.

Waste disposal number of waste from residues/unused products

070104 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals; other organic solvents, washing liquids and mother liquors
Classified as hazardous waste.

Waste disposal number of used product

070104 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals; other organic solvents, washing liquids and mother liquors
Classified as hazardous waste.

Contaminated packaging

Offer surplus and non-recyclable solutions to a licensed disposal company. Do not burn, or use a cutting torch on, the empty drum. Fully drained containers which are drop- and scrape-free can be treated as industrial waste, and can possibly be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN 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

Marine transport (IMDG)

14.1. UN number: UN 1219
14.2. UN proper shipping name: ISOPROPANOL (ISOPROPYL ALCOHOL)
14.3. Transport hazard class(es): 3

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14.4. Packing group: II
Hazard label: 3
Special Provisions: -
Limited quantity: 1 L
Excepted quantity: E2
EmS: F-E, S-D

Air transport (ICAO)

14.1. UN 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
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

No special precautions required.

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

No information available.

SECTION 15: Regulatory information

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

EU regulatory information

2010/75/EU (VOC): 100 % (783 g/l)
 2004/42/EC (VOC): 100 % (783 g/l)
 Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS
 Additional information:

National regulatory information

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing. Observe employment restrictions for women of child-bearing age.
Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version (2,00/31.10.2012) in section(s): 1-3, 8, 9, 11, 12, 14-16.



Safety Data Sheet

according to Regulation (EC) No 1907/2006

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Relevant H and EUH statements (number and full text)

- | | |
|------|-------------------------------------|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |

Further Information

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