



BATCH NUMBER: 4396505
BEST BEFORE DATE: MAY 2023

CERTIFICATE OF ANALYSIS

Product Isopropyl Alcohol (IPA)
Product S190
No.
Our Reference 818768
Your Reference 158874

Description	Results	Unit of Measure Code	Minimum Value	Maximum Value
Acidity as Acetic Acid	0.0007	% WT	0	0.007
Appearance	Colorless clear liquid without mechanical impurities			
Colour	4	PT-CO	0	10
Density at 20 °C	0.783	G/CM3	0.784	0.788
Isopropyl alcohol	99.83	% WT	99.7	100
Water	< 0.15	% WT	0	0.15

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This is a computer-generated document and therefore is not signed

SAFETY DATA SHEET

Product Name: Isopropanol

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

1.1. Product identifier

Product name Isopropyl Alcohol
Synonyms; trade names 2 Propanol, sec-Propyl Alcohol, Dimethyl Carbinol, iso Propanol
CAS number 67-63-0
EU index number 603-117-00-0
EC number 200-661-7

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

Identified uses Not known
Uses advised against Use only for intended applications.

1.3. Details of the supplier of the safety data sheet

Supplier

Madar Corporation Limited
19 - 20 Sandleheath Industrial Estate
Fordingbridge
SP6 1PA
Tel: 01425 655555
Email: technical@madarcorporation.co.uk

1.4. Emergency telephone number

Emergency telephone 01425 655555

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Flam. Liq. 2 - H225
Health hazards Eye Irrit. 2 - H319 STOT SE 3 - H336
Environmental hazards Not Classified

2.2. Label elements

EC number 200-661-7

Pictogram



Signal word Danger

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Product Name: Isopropanol

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.

P337+P313 If eye irritation persists: Get medical advice/ attention.

P403+P235 Store in a well-ventilated place. Keep cool.

Supplementary precautionary statements

P240 Ground/ bond container and receiving equipment.

P241 Use explosion-proof electrical equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing vapour/ spray.

P264 Wash contaminated skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

P314 Get medical advice/ attention if you feel unwell.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	Isopropanol
EU index number	603-117-00-0
CAS number	67-63-0
EC number	200-661-7

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

CAUTION! First aid personnel must be aware of own risk during rescue! Remove affected person from source of contamination. For breathing difficulties, oxygen may be necessary. If breathing stops, provide artificial respiration. Get medical attention immediately.

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Inhalation

Move affected person to fresh air at once. If breathing stops, provide artificial respiration. Keep affected person warm and at rest. Get medical attention immediately.

Ingestion

Never give anything by mouth to an unconscious person. Do not induce vomiting. Get medical attention immediately.

Skin contact

Remove affected person from source of contamination. Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if irritation persists after washing.

Eye contact

Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

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

Inhalation

There may be irritation of the throat with a feeling of tightness in the chest. May cause an asthma-like shortness of breath.

Ingestion

Overexposure may cause the following adverse effects: Unconsciousness. Nausea, vomiting.

Skin contact

There may be irritation and redness at the site of contact. An itchy rash may occur at the site of contact.

Eye contact

There may be pain and redness.

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

Notes for the doctor If exposed or concerned get medical advice/attention.

Specific treatments Eye bathing equipment should be available on the premises.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam. Carbon dioxide (CO₂). Dry chemicals, sand, dolomite etc.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards

May explode when heated or when exposed to flames or sparks. Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapours. May form explosive or toxic mixtures with air. May explode when heated or when exposed to flames or sparks. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Vapour explosion and poison hazard indoors, outdoors and in sewers.

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For personal protection, see Section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

Keep away from heat, sparks and open flame. Avoid spilling. Avoid contact with skin and eyes. Provide adequate ventilation. Avoid inhalation of vapours. Use approved respirator if air contamination is above an acceptable level. Avoid contact with the following materials: Acids. Moisture. Read and follow manufacturer's recommendations. Wear suitable protective equipment for prolonged exposure and/or high concentrations of vapours, spray or mist.

Advice on general occupational hygiene

Take off contaminated clothing and wash it before re-use.

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7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Keep away from oxidising materials, heat and flames. May attack some plastics, rubber and coatings. Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m³

Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m³

WEL = Workplace Exposure Limit

DNEL No data available.

PNEC No data available.

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Work in fume cupboard.

Eye/face protection

Wear chemical splash goggles.

Hand protection

Wear protective gloves made of the following material: Neoprene. Nitrile rubber.

Other skin and body protection

Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station and safety shower. Wear appropriate clothing to prevent any possibility of skin contact. Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes wet or contaminated. Contaminated clothing should be placed in a closed container for disposal or decontamination. Warn cleaning personnel of any hazardous properties of the product.

Respiratory protection

Wear a full face piece respirator fitted with the following cartridge: Organic vapour filter.

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SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance Liquid.

Colour Colourless.

Odour Alcoholic.

Odour threshold Data lacking.

pH Data lacking.

Melting point -89°C

Initial boiling point and range 82°C @

Flash point 12°C CC (Closed cup).

Evaporation rate 2.83 (ethanol = 1)

Evaporation factor Data lacking.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits Upper flammable/explosive limit: 12.7 Lower flammable/explosive limit: 2

Other flammability Data lacking.

Vapour pressure 44 mm Hg @ °C

Vapour density 2.1

Relative density 0.79 @ °C

Bulk density Data lacking.

Solubility(ies) Miscible with water. Miscible with the following materials: Alcohols. Ether.

Partition coefficient Data lacking.

Auto-ignition temperature 399°C

Decomposition Temperature Data lacking.

Viscosity 2.8 cP @ 20°C

Explosive properties Data lacking.

Explosive under the influence of a flame Not considered to be explosive.

Oxidising properties There are no chemical groups present in the product that are associated with oxidising properties.

9.2. Other information

Refractive index 1.37

Molecular weight 60.1

Volatility 100

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity

Stable under recommended transport or storage conditions.

10.2. Chemical stability

Stability

Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions

Will not polymerise.

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10.4. Conditions to avoid

Conditions to avoid

Avoid contact with strong oxidising agents. Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid

Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Other health effects There is no evidence that the product can cause cancer.

Skin corrosion/irritation

Skin corrosion/irritation Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Causes eye irritation.

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties.

Genotoxicity - in vivo This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity There is no evidence that the product can cause cancer.

Reproductive toxicity

Reproductive toxicity - fertility This substance has no evidence of toxicity to reproduction.

Reproductive toxicity – development No evidence of reproductive toxicity in animal studies.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation

Vapours in high concentrations are anaesthetic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Central nervous system depression.

Ingestion

Swallowing concentrated chemical may cause severe internal injury.

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Skin contact

Contains components which may penetrate the skin. Prolonged contact may cause redness, irritation and dry skin.

Eye contact

Irritation of eyes and mucous membranes.

Acute and chronic health hazards

Exposure; This chemical has good warning properties. Gas or vapour is harmful on prolonged exposure or in high concentrations. Symptoms following overexposure may include the following: Irritation of eyes and mucous membranes. Toxic through skin absorption (percutaneous). Narcotic effect. A single exposure may cause the following adverse effects: Central nervous system depression. May cause chemical eye burns. Swallowing concentrated chemical may cause severe internal injury. Unconsciousness. Death.

Route of entry

Inhalation Ingestion. Skin and/or eye contact

Target organs

Central nervous system Eyes Respiratory system, lungs Skin

Medical symptoms

Irritation of eyes and mucous membranes. Dilated pupils. Rhinitis (inflammation of the nasal mucous membranes). Upper respiratory irritation. General respiratory distress, unproductive cough. May cause suffocation. Skin irritation. Nausea, vomiting. Unconsciousness, possibly death. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo. Behavioural changes. Hypotension (low blood pressure). Dizziness.

Medical considerations

Convulsions. Central nervous system depression.

SECTION 12: Ecological Information

Ecotoxicity Not regarded as dangerous for the environment.

12.1. Toxicity

Toxicity LOW

Acute toxicity - fish LC₅₀, 96 hours: >100 mg/l, Algae

12.2. Persistence and degradability

Persistence and degradability No data available.

12.3. Bioaccumulative potential

Bioaccumulative potential Data lacking.

Partition coefficient Data lacking.

12.4. Mobility in soil

Mobility Highly volatile.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment

This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

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Product Name: Isopropanol

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information

If this product becomes waste it is to be treated as hazardous waste. Any other constituents or contaminants in the waste stream must be taken into account when classifying the waste. In the EU, the European Waste Catalogue Code to be assigned is dependant on the processes giving rise to the waste. In the absence of any such processes having taken place EWC 140603* (other solvents and solvent mixtures) may be used. Hazardous waste must be suitably contained, stored, packaged and transported, see section 7 and 4 for such details. In the UK only waste carriers registered with the Environment Agency may transport waste.

Disposal methods

Waste and residues must be disposed of in accordance with national regulatory requirements.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1219
UN No. (IMDG)	1219
UN No. (ICAO)	1219
UN No. (ADN)	1219

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ISOPROPANOL (ISOPROPYL ALCOHOL)
Proper shipping name (IMDG)	ISOPROPANOL (ISOPROPYL ALCOHOL)
Proper shipping name (ICAO)	ISOPROPANOL (ISOPROPYL ALCOHOL)
Proper shipping name (ADN)	ISOPROPANOL (ISOPROPYL ALCOHOL)

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels



14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ADN packing group	II
ICAO packing group	II

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14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS	F-E, S-D
ADR transport category	2
Emergency Action Code	•2YE
Hazard Identification Number (ADR/RID)	33
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

SECTION 15: Regulatory information

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

National regulations

Classification, Packaging and Labelling Regulations 1984.

Highly Flammable Liquid Regulations 1972.

Health and Safety at Work etc. Act 1974 (as amended).

The Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No. 2677) (as amended).

15.2. Chemical safety assessment

SECTION 16: Other information

General information

Please ensure that this Safety Data Sheet is passed onto the relevant person(s) in your company, who are capable of acting on the information given.

Key literature references and sources for data

Handbook of Toxic and Hazardous Chemicals and Carcinogens, Sittig, 1985. Material Safety Data Sheet, Misc. manufacturers. Sigma-Aldrich Library of Chemical Safety Data. Edition 2, 1988. The Condensed Chemical Dictionary, Hawley, 11th. edition, 1987. NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards, 1981. Suspect Chemicals Sourcebook, Roytech Publications, 1985. The Firefighter's Handbook of Hazardous Materials, Maltese Ent. 1984. Emergency Handling of Hazardous Materials in Surface Transportation, 1981. Rapid Guide to Hazardous Chemicals in the Workplace, NI Sax, 1986. IPCS via ILO Croner's :Substances Hazardous to the Environment.2005. www.msdsolutions.com Sigma Aldrich msds Dangerous Properties of Industrial Chemicals, 6.edition, N.Sax, 1984. OSHA Air Contaminants - Permissible Exposure Limits (Title 29). Hazardous Materials, Emergency Response Guidebook, DOT-P 5800.3, 1984. NIOSH/OSHA Pocket Guide to Chemical Hazards, 1978. Chemical Hazards of the Workplace, Proctor & Hughes, Lippincott, 1978 Threshold Limit Values and Biological Exposure Indices for 1985-86. Chemical Safety Data Guide. Bureau of National Affairs, 1985. NFPA49. Hazardous Chemical Data, 1975. The Merck Index, 11. edition, 1989.

Revision date 06/07/2017

Revision 5

SAFETY DATA SHEET

Product Name: Isopropanol

Hazard statements in full

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

This Safety Data Sheet is compiled in accordance with the legal requirements set by EC 1907/2006 based on information available on 1st June 2007 (date of entry in force). Information not yet completed in this SDS depends on information yet to be received from suppliers following time-scales allowed for in the regulations and for further guidance that will be made available after the onset of the REACH regulations. The Data contained in this data sheet has been supplied as required by Chemicals (Hazard Identification and Packaging) Regulations 1994, for the purpose of protecting the health and safety of industrial and commercial users who are deemed capable of acting on the information. No representation, guarantee or warranty, expressed or implied, is made as to the accuracy or reliability of this information. Nor can it be assumed that all necessary warnings or precautionary measures are given and the information may not be valid for this material when used in conjunction with any other material or any other process.

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Product Specification

Product Name: Isopropyl Alcohol

Synonyms: Isopropanol alcohol, IPA, sec-propyl alcohol, 2-propanol, propan-2-ol, dimethylcarbinol.

Formula: C₃H₈O

Test	Specification	Test Methods
Appearance	Clear & Bright	Visual
Colour (Pt-Co)	5 Max	ASTM D1209
Density @ 20°C (g/cm ³)	0.784 - 0.787	ASTM D4052
Water (%wt)	0.1 max	ASTM E203
Refractive Index @ 20°C	1.376 - 1.378	ASTM D1218
Assay (%wt)	99.8 min	GC

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