

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

### 1.1. Product identifier

Product name **ISOPROPYL ALCOHOL (ISOPROPANOL)**

**Synonyms; trade names** PROPAN-2-OL, SECONDARY PROPANOL, SECONDARY PROPYL ALCOHOL, DIMETHYL CARBINOL, IPA

**REACH registration number** 01-2119457558-25-XXXX

**CAS number** 67-63-0

**EU index number** 603-117-00-0

**EC number** 200-661-7

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification

##### Physical hazards

Flam. Liq. 2 - H225

##### Health hazards

Eye Irrit. 2 - H319 STOT SE 3 - H336

##### Environmental hazards

Not Classified

#### Classification (67/548/EEC or 1999/45/EC)

##### Human health

Irritating to eyes. May cause serious eye damage. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. May cause sensitisation or allergic reactions in sensitive individuals. In high concentrations, vapours may be irritating to the respiratory system. In high concentrations, vapours and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. In case of overexposure, organic solvents may depress the central nervous system causing dizziness and intoxication, and at very high concentrations unconsciousness and death. See Section 11 for additional information on health hazards.

##### Environmental

Not considered as an environmental hazard according to CLP criteria

##### Physicochemical

The product is highly flammable. Vapours may form explosive mixtures with air. Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers. Vapours may be ignited by a spark, a hot surface or an ember.

### 2.2. Label elements

**EC number** 200-661-7



**Signal word** Danger

#### 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.

P233 Keep container tightly closed.

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

P313 Get medical advice/attention.

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

#### Supplementary precautionary statements

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

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P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash ... 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.  
P312 Call a POISON CENTER/doctor if you feel unwell.  
P337 If eye irritation persists:  
P370+P378 In case of fire: Use ... for extinction.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

## 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

**REACH registration number** 01-2119457558-25-XXXX

**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

Keep affected person under observation. Effects may be delayed. If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.

#### Inhalation

Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.

Keep affected person under observation. Get medical attention if symptoms are severe or persist. Show this Safety Data Sheet to the medical personnel.

#### Ingestion

Get medical attention immediately. Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Keep affected person under observation. Show this Safety Data Sheet to the medical personnel.

#### Skin contact

Remove affected person from source of contamination. Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur 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.

#### Protection of first aiders

First aid personnel should wear appropriate protective equipment during any rescue.

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

#### General information

Get medical attention immediately. The casualty should be transferred to hospital as soon as possible.

#### Inhalation

Vapours/aerosol spray may irritate the respiratory system. In high concentrations, vapours are anaesthetic and may cause headache, fatigue, dizziness and central nervous system effects. Overexposure to organic solvents may depress the central nervous system, causing dizziness and intoxication and, at very high concentrations, unconsciousness and death.

#### Ingestion

Gastrointestinal symptoms, including upset stomach. Diarrhoea. Nausea, vomiting.

#### Skin contact

Prolonged contact may cause redness, irritation and dry skin. Product has a defatting effect on skin.

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## Eye contact

Causes serious eye irritation. Immediate first aid is imperative. Vapour or spray in the eyes may cause irritation and smarting.

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

### Notes for the doctor

No specific recommendations.

No specific chemical antidote is known to be required after exposure to this product.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

#### Unsuitable extinguishing media

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

### 5.2. Special hazards arising from the substance or mixture

#### Specific hazards

Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers. Solvent vapours may form explosive mixtures with air. May ignite at high temperature. Highly flammable liquid and vapour. Vapours may accumulate on the floor and in low-lying areas. Vapours are heavier than air and may travel along the floor and accumulate in the bottom of

containers. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition

and flash back. Vapours may be ignited by a spark, a hot surface or an ember.

#### Hazardous combustion products

Oxides of carbon. Acrid smoke or fumes.

### 5.3. Advice for firefighters

#### Protective actions during firefighting

Move containers from fire area if it can be done without risk. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible.

If not, withdraw and let fire burn out. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

#### Special protective equipment for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents. Use protective equipment appropriate for surrounding materials.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### Personal precautions

Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation. If ventilation is inadequate, suitable respiratory protection must be worn. Take precautionary measures against static discharges. Take care as floors and other surfaces may become slippery. Follow precautions for safe handling described in this safety data sheet. For personal protection, see Section 8.

### 6.2. Environmental precautions

#### Environmental precautions

Environmental Manager must be informed of all major spillages. Do not discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

### 6.3. Methods and material for containment and cleaning up

#### Methods for cleaning up

Stop leak if possible without risk. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Avoid the spillage or runoff entering drains, sewers or watercourses. Take care as floors and other surfaces may become slippery.

Contain spillage with sand, earth or other suitable non-combustible material. Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor. Containers with

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collected spillage must be properly labelled with correct contents and hazard symbol. Dispose of contents/container in accordance with international regulations. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents.

## 6.4. Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet. See Section 11 for additional information on health hazards. Collect and dispose of spillage as indicated in Section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Usage precautions

Keep away from heat, sparks and open flame. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours and spray/mists. Avoid spilling. Avoid release to the environment. Use explosion-proof electrical, ventilating and lighting equipment.

Use only in well-ventilated areas. Use suitable respiratory protection if ventilation is inadequate. Take precautionary measures against static discharge. Earth container and transfer equipment to eliminate sparks from static electricity. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge AVOID splash filling DO NOT use compressed air for filling, discharging or handling operations

#### Advice on general occupational hygiene

Eye wash facilities and emergency shower must be available when handling this product. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Clean equipment and the work area every day. Contaminated clothing should be placed in a closed container for disposal or decontamination.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage precautions

Keep away from oxidising materials, heat and flames. Store in tightly-closed, original container in a well-ventilated place. Bund storage facilities to prevent soil and water pollution in the event of spillage. Earth container and transfer equipment to eliminate sparks from static electricity. Storage tanks and other containers must be earthed. Keep away from food, drink and animal feeding stuffs. Only store in correctly labelled containers. Suitable container materials: Carbon steel. Mild steel. Stainless steel.

Unsuitable containers: aluminium. May attack some plastics, rubber and coatings.

#### 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/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m<sup>3</sup>

WEL = Workplace Exposure Limit

#### Ingredient comments

WEL = Workplace Exposure Limits

DNEL Industry - Dermal; Long term systemic effects: 888 mg/kg/day

Industry - Inhalation; Long term systemic effects: 500 mg/m<sup>3</sup>

Consumer - Dermal; Long term systemic effects: 319 mg/kg/day

Consumer - Inhalation; Long term systemic effects: 89 mg/m<sup>3</sup>

Consumer - Oral; Long term systemic effects: 26 mg/kg/day

PNEC Industry - Fresh water; Long term 140.9 mg/l

Industry - Marine water; Long term 140.9 mg/l

Industry - Sediment (Freshwater); Long term 552 mg/kg

Industry - Sediment (Marinewater); Long term 552 mg/kg

Industry - Soil; Long term 28 mg/l

### 8.2. Exposure controls

#### Protective equipment

#### Appropriate engineering controls



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As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Ensure the ventilation system is regularly maintained and tested. Use explosion-proof electrical, ventilating and

lighting equipment. This product must not be handled in a confined space without adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

## Eye/face protection

Wear eye protection. If risk of splashing, wear safety goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.

## Hand protection

Wear protective gloves. The selected gloves should have a breakthrough time of at least 8 hours. It is recommended that gloves are made of the following material: Butyl rubber. Polyethylene. Viton rubber (fluoro rubber). For short-term / splash protection the following are recommended Neoprene. To protect hands from chemicals, gloves should comply with European Standard EN374. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

## Other skin and body protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Provide eyewash station and safety shower.

## Hygiene measures

Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas..

## Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Organic vapour filter. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Gas and combination filter cartridges should comply with European Standard EN14387. Change filter cartridge on respirator daily. Check that the respirator fits tightly and the filter is changed regularly. Respirator selection must be based on exposure levels, the hazards of the product and the safe working limits of the selected respirator. When spraying, wear a suitable supplied-air respirator.

## Environmental exposure controls

Keep container tightly sealed when not in use.

## SECTION 9: Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

Liquid.

#### Colour

Colourless.

#### Odour

Alcoholic

#### Melting point

-89°C

#### Initial boiling point and range

82 °C @ 1013 hPa

12°C CC (Closed cup).

#### Evaporation rate

1.5 BuAc=1

#### Upper/lower flammability or explosive limits

Lower flammable/explosive limit: 2 % V Upper flammable/explosive limit: 12 % V

#### Vapour pressure

42 hPa @ 20°C 62 hPa @ 25°C

#### Vapour density

2

#### Bulk density

785 kg/m<sup>3</sup> @ 20°C

#### Solubility(ies)

Soluble in water. Miscible with the following materials: Organic solvents.



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**Partition coefficient**

log Pow: 0.05

**Auto-ignition temperature**

425°C

**Viscosity**

2.5 mPa s @ 20°C 2.1 mPa s @ 25°C

**9.2. Other information****Refractive index**

1.377

**Molecular weight**

60.09

**Volatility**

100 %

**Saturation concentration**

105

**SECTION 10: Stability and reactivity****10.1. Reactivity**

The following materials may react with the product: Strong oxidising agents. Acids.

**10.2. Chemical stability****Stability**

Stable at normal ambient temperatures and when used as recommended.

**10.3. Possibility of hazardous reactions**

Reacts with strong oxidising agents Reacts with strong acids

**10.4. Conditions to avoid**

Avoid heat, flames and other sources of ignition. Avoid heat. Avoid contact with the following materials: Strong oxidising agents. Avoid contact with acids.

**10.5. Incompatible materials****Materials to avoid**

Strong oxidising agents. Strong acids. Alkali metals. Aluminium Amines.

**10.6. Hazardous decomposition products**

Oxides of carbon. Acrid smoke or fumes.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Genotoxicity - in vitro**

Does not contain any substances known to be mutagenic.

**Carcinogenicity**

Does not contain any substances known to be carcinogenic.

**Reproductive toxicity****Reproductive toxicity - fertility**

Based on available data the classification criteria are not met.

**Reproductive toxicity - development**

This substance has no evidence of toxicity to reproduction.

**Specific target organ toxicity - single exposure****STOT - single exposure**

May cause drowsiness or dizziness

**Target organs**

Brain Central nervous system

**Specific target organ toxicity - repeated exposure****STOT - repeated exposure**

Based on available data the classification criteria are not met.

**Aspiration hazard**

Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

**General information**

Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

**Inhalation**

Vapours/aerosol spray may irritate the respiratory system. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation of high concentrations may damage respiratory system. Overexposure may depress the central



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nervous system, causing dizziness and intoxication. Extensive use of the product in areas with inadequate ventilation may result in the accumulation of hazardous vapour concentrations.

## **Ingestion**

May cause discomfort if swallowed. Gastrointestinal symptoms, including upset stomach. May cause nausea, headache, dizziness and intoxication. Diarrhoea.

## **Skin contact**

Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Product has a defatting effect on skin. May cause skin sensitisation or allergic reactions in sensitive individuals.

## **Eye contact**

Causes serious eye irritation. Repeated exposure may cause chronic eye irritation. Risk of serious damage to eyes.

## **Acute and chronic health hazards**

Irritating to eyes.

## **Route of entry**

Inhalation Ingestion Skin and/or eye contact

## **Target organs**

Central nervous system Eyes Gastro-intestinal tract Skin

## **Medical symptoms**

Central nervous system depression. Confusion, agitation and/or excitation. Gastrointestinal symptoms, including upset stomach. Diarrhoea. Dizziness. Intoxication. Nausea, vomiting. Irritation of eyes and mucous membranes.

## **Medical considerations**

Central nervous system depression. Splash in eye requires examination by eye specialist. Persons with rash are directed to skin expert for examination of allergic eczema.

## **SECTION 12: Ecological Information**

### **Ecotoxicity**

The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

#### **12.1. Toxicity**

##### **Acute toxicity - fish**

LC<sub>50</sub>, 96 hours: 9640 mg/l, Pimephales promelas (Fat-head Minnow)

##### **Acute toxicity - aquatic invertebrates**

EC<sub>50</sub>, 24 hours: > 10000 mg/l, Daphnia magna

##### **Acute toxicity - aquatic plants**

EC<sub>50</sub>, 7 days: 1800 mg/l, Selenastrum capricornutum

#### **12.2. Persistence and degradability**

##### **Persistence and degradability**

Readily biodegradable Oxidises rapidly by photochemical reactions in air.

#### **12.3. Bioaccumulative potential**

Not expected to bioaccumulate significantly

##### **Partition coefficient**

log Pow: 0.05

#### **12.4. Mobility in soil**

##### **Mobility**

The product is water-soluble and may spread in water systems. Large volumes may penetrate soil and could contaminate groundwater. If product enters soil it will be mobile and may contaminate groundwater.

##### **Surface tension**

22.7 mN/m @ 20°C

#### **12.5. Results of PBT and vPvB assessment**

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

#### **12.6. Other adverse effects**

The product contains a substance or substances that will contribute to global warming (greenhouse effect). Not expected to have ozone depletion potential

## **SECTION 13: Disposal considerations**

### **13.1. Waste treatment methods**

#### **General information**

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority. Contaminated packages must be completely emptied



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before sending away for laundering and re-use. When handling waste, the safety precautions applying to handling of the product should be considered.

## Disposal methods

Collect and place in suitable waste disposal containers and seal securely. Empty containers or liners may retain some product residues and hence be potentially hazardous. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. Confirm disposal procedures with environmental engineer and local regulations. Avoid the spillage or runoff entering drains, sewers or watercourses.

## 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

ICAO packing group II

ADN packing group II

### 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 MARPOL73/78 and the IBC Code

Ship type:3 Cat Z Special precaution: Refer to chapter7, Handling and storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

## SECTION 15: Regulatory information

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





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## National regulations

Health and Safety at Work etc. Act 1974 (as amended). Control of Substances Hazardous to Health Regulations 2002 (as amended). Dangerous Substances and Explosive Atmospheres Regulations 2002. The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].

## EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Decision 2000/532/EC as amended by Decision 2001/118/EC establishing a list of wastes and hazardous waste pursuant to Council Directive 75/442/EEC on waste and Directive 91/689/EEC on hazardous waste with amendments.

## Guidance

Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37. Safety Data Sheets for Substances and Preparations.

## Authorisations (Title VII Regulation 1907/2006)

No specific authorisations are known for this product.

## Restrictions (Title VIII Regulation 1907/2006)

No specific restrictions on use are known for this product.

## SECTION 16: Other information

### Risk phrases in full

R11 Highly flammable.

R36 Irritating to eyes.

R67 Vapours may cause drowsiness and dizziness.

### Hazard statements in full

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

### Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.