



ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name Isobutanol
 Synonyms 2-Methyl-1-propanol
 CAS No. 78-83-1
 EC No. 201-148-0
 REACH Registration No.

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

Identified Use(s) PC21 Laboratory chemicals.
 Uses Advised Against Not known.

1.3 Details of the supplier of the safety data sheet

Manufacturer
 Company Identification Rathburn Chemicals Ltd
 Address of Manufacturer 6 Caberston Road
 Walkerburn
 Peeblesshire
 Scotland
 Postal code EH43 6AU
 Telephone: 00 (44) (0) 1 896 870 651
 E-mail sales@rathburn.co.uk
 Office hours 09:00 - 17:00
 Supplier

Company Identification Rathburn Chemicals Ltd
 Address of Supplier 6 Caberston Road
 Walkerburn
 Peeblesshire
 Scotland
 Postal code EH43 6AU
 Telephone: 00 (44) (0) 1 896 870 651
 E-mail sales@rathburn.co.uk
 Office hours 09:00 - 17:00

1.4 Emergency telephone number

Emergency Phone No. 00 (44) (0) 1 896 870 651 or 00 (44) (0) 7807 520501
 Contact Roddy Stoddart.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008 (CLP) Flam. Liq. 3 :Flammable liquid and vapour.
 Skin Irrit. 2 :Causes skin irritation.
 Eye Dam. 1 :Causes serious eye damage.
 STOT SE 3 :May cause respiratory irritation. May cause drowsiness and dizziness.

2.2 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)

Product Name Isobutanol

Hazard Pictogram(s)



GHS02



GHS05



GHS07

Signal Word(s) Danger

Hazard Statement(s)
 H226: Flammable liquid and vapour.
 H315: Causes skin irritation.
 H318: Causes serious eye damage.
 H335: May cause respiratory irritation.



H336: May cause drowsiness or dizziness.
100 percent of the mixture consists of ingredient(s) of unknown acute toxicity

Precautionary Statement(s) 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.
P302+P352: IF ON SKIN: Wash with plenty of water.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER/doctor.

2.3 Other hazards

None known.

2.4 Additional Information

For full text of H/P Statements see section 16.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

HAZARDOUS INGREDIENT(S)	CAS No.	EC No. / REACH Registration No.	%W/W	Hazard Statement(s)	Hazard Pictogram(s)
2-methylpropan-1-ol iso-butanol	78-83-1	201-148-0	100.00	Not classified.	None

3.2 Mixtures

Not applicable.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
Skin Contact Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see Medical Advice on this label). Take off immediately all contaminated clothing. Rinse skin with water.
Eye Contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
Ingestion Treat symptomatically.

4.2 Most important symptoms and effects, both acute and delayed

Causes burns.

4.3 Indication of any immediate medical attention and special treatment needed

Specific treatment (see Medical Advice on this label). Immediately call a POISON CENTER/doctor. Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media Use water spray, dry powder or carbon dioxide to extinguish.
Unsuitable extinguishing media Water jet spray

5.2 Special hazards arising from the substance or mixture

Flammable liquid and vapour. Combustion or thermal decomposition will evolve toxic and irritant vapours.

5.3 Advice for firefighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. If it is safe to do so, containers should be removed from fire area because they are likely to rupture under fire conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures



Provide adequate ventilation. Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. Wear suitable protective clothing, gloves and eye/face protection.

6.2 Environmental precautions

This material and its container must be disposed of in a safe way.

6.3 Methods and material for containment and cleaning up

Absorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Containers must not be punctured or destroyed by burning, even when empty.

6.4 Reference to other sections

See Also Section 8, 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting/equipment. Use non-sparking tools. Take action to prevent static discharges. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands and exposed skin thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Storage temperature

Ambient.

Storage life

Stable under normal conditions.

Incompatible materials

None known.

7.3 Specific end use(s)

Not known.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

Occupational Exposure Limits						
SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
2-Methylpropan-1-ol	78-83-1	50	154	75	231	

Region
EU
United Kingdom

Source
EU Occupational Exposure Limits
UK Workplace Exposure Limits EH40/2005 (Fourth edition, published 2020)

Remark

Notes

8.2 Exposure controls

8.2.1. Appropriate engineering controls Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. Ensure adequate ventilation. A washing facility/water for eye and skin cleaning purposes should be present.

8.2.2. Personal protection equipment



Eye Protection

Wear eye protection with side protection (EN166).



Skin protection

Wear protective clothing and gloves: Impervious gloves (EN 374).



Respiratory protection Normally no personal respiratory protection is necessary. Handling of larger amounts A suitable mask with filter type A (EN14387 or EN405) may be appropriate.

Thermal hazards None known.

8.2.3. Environmental Exposure Controls Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid. Colour : colourless.
Odour	Not known.
Odour threshold	Not known.
pH	Not known.
Melting point/freezing point	Not known.
Initial boiling point and boiling range	108C lit.
Flash Point	28C - closed cup.
Evaporation rate	Not known.
Flammability (solid, gas)	Not known.
Upper/lower flammability or explosive limits	Upper 10.6% (V), Lower 1.7% (V).
Vapour pressure	Not known.
Vapour density	Not known.
Density (g/ml)	Not known.
Relative density	Not known.
Solubility(ies)	Solubility (Water) : Not known. Solubility (Other) : Not known.
Partition coefficient: n-octanol/water	Not known.
Auto-ignition temperature	427C.
Decomposition Temperature (°C)	Not known.
Viscosity	Not known.
Explosive properties	Not known.
Oxidising properties	Not known.

9.2 Other information

None.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

None anticipated.

10.2 Chemical Stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known if used for its intended purpose.

10.4 Conditions to avoid

Avoid friction, sparks, or other means of ignition.

10.5 Incompatible materials

Not known.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - Ingestion	Low acute toxicity
Acute toxicity - Skin Contact	Low acute toxicity
Acute toxicity - Inhalation	Low acute toxicity
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye damage.



Skin sensitization data	Not classified
Respiratory sensitization data	Not classified
Germ cell mutagenicity	There is no evidence of mutagenic potential.
Carcinogenicity	No evidence of carcinogenicity.
Reproductive toxicity	Not classified
Lactation	Not classified
STOT - single exposure	May cause respiratory irritation. May cause drowsiness or dizziness.
STOT - repeated exposure	Not classified
Aspiration hazard	Not classified
11.2 Other information	Not known.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity - Aquatic invertebrates	Low toxicity to invertebrates.
Toxicity - Fish	Low toxicity to fish.
Toxicity - Algae	Low toxicity to algae.
Toxicity - Sediment Compartment	Not classified.
Toxicity - Terrestrial Compartment	Not classified.

12.2 Persistence and Degradation

Not known.

12.3 Bioaccumulative potential

Not known.

12.4 Mobility in soil

Not known.

12.5 Results of PBT and vPvB assessment

Not known.

12.6 Other adverse effects

Not known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose of contents in accordance with local, state or national legislation. Recycle only completely emptied packaging. Containers must not be punctured or destroyed by burning, even when empty. Do not allow to enter drains, sewers or watercourses. Do NOT landfill. Normal disposal is via incineration operated by an accredited disposal contractor. Send to a licensed recycler, reclaimer or incinerator. Dispose at suitable refuse site.

13.2 Additional Information

Disposal should be in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

UN No. 1212

14.2 UN proper shipping name

UN proper shipping name ISOBUTANOL (ISOBUTYL ALCOHOL)

14.3 Transport hazard class(es)

ADR/RID

ADR/RID Class 3

ADR Classification Code F1

Special Provisions

Limited Quantities 5 L

Excepted Quantities E1

Emergency Action Code •3Y

Mixed Packing Instructions for Packages P001 IBC03 LP01 R001

Special Packing Provisions for Packages

Mixed Packing Instructions for Packages MP19

Packing Instructions for Portable Tanks T2

Special Provisions for Portable Tanks TP1

Tank Code for Tanks LGBF



Special Provisions for Tanks	
Vehicle for Tank Carriage	FL
ADR Transport Category	3
Tunnel Restriction Code	D/E
Special Provisions for Carriage - Packages	V12
Special Provisions for Carriage - Bulk	
Special Provisions for Carriage - Loading, Unloading and Handling	
Special Provisions for Carriage - Operation	S2
ADR HIN	30
IMDG	
IMDG Class	3
Special Provisions	
Limited Quantities	5 L
Excepted Quantities	E1
Mixed Packing Instructions for Packages	P001 IBC03 LP01 R001
Special Packing Provisions for Packages	
Packing Instructions for Portable Tanks	T2
Special Provisions for Portable Tanks	TP1
IMDG EMS	F-E, S-D
Stowage and Handling	Category A
Segregation	
Marine Pollutant	
ICAO/IATA	
IATA Proper Shipping Name	ISOBUTANOL (ISOBUTYL ALCOHOL)
Excepted Quantities	E1
Passenger and Cargo Aircraft Limited Quantities Packing Instructions	Y344
Passenger and Cargo Aircraft Limited Quantities Max net Qty	10L
Passenger and Cargo Aircraft Packing Instructions	355
Passenger and Cargo Aircraft Max net Qty	60L
Cargo Aircraft Packing Instructions	366
Cargo Aircraft Max net Qty	220L
Special Provisions	
Emergency Response Guidebook (ERG) Code	3L
Labels	
Labels	3

**14.4 Packing group**

Packing group III

14.5 Environmental hazards

Environmental hazards Not classified as a Marine Pollutant.

14.6 Special precautions for user

Special precautions for user Not known.

14.7 Transport in bulk according to Annex II of Marpol 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**

European Regulations - Authorisations and/or Restrictions On Use

Candidate List of Substances of Very High Concern for Authorisation Not listed

REACH: ANNEX XIV list of substances subject to authorisation Not listed



REACH: Annex XVII Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Not listed
 Community Rolling Action Plan (CoRAP) Not listed
 Regulation (EC) N° 850/2004 of the European Parliament and of the Council on persistent organic pollutants Not listed
 Regulation (EC) N° 1005/2009 on substances that deplete the ozone layer Not listed
 Regulation (EU) N° 649/2012 of the European Parliament and of the Council concerning the export and import of hazardous chemicals Not listed

National regulations

Other Not known.

15.2 Chemical Safety Assessment

A REACH chemical safety assessment has not been carried out.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements:

LEGEND

Hazard Pictogram(s)



GHS02



GHS05



GHS07

Hazard classification

Flam. Liq. 3 : Flammable liquid, Category 3
 Skin Irrit. 2 : Skin corrosion/irritation, Category 2
 Eye Dam. 1 : Serious eye damage/irritation, Category 1
 STOT SE 3_H335&H336 : Specific target organ toxicity — single exposure, Category 3

Hazard Statement(s)

H226: Flammable liquid and vapour.
 H315: Causes skin irritation.
 H318: Causes serious eye damage.
 H335: May cause respiratory irritation.
 H336: May cause drowsiness or dizziness.

Precautionary Statement(s)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P233: Keep container tightly closed.
 P240: Ground and bond container and receiving equipment.
 P241: Use explosion-proof electrical/ventilating/lighting/equipment.
 P242: Use non-sparking tools.
 P243: Take action to prevent static discharges.
 P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264: Wash hands and exposed skin thoroughly after handling.
 P271: Use only outdoors or in a well-ventilated area.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P302+P352: IF ON SKIN: Wash with plenty of water.
 P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
 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.

P310: Immediately call a POISON CENTER/doctor.

P312: Call a POISON CENTER/doctor if you feel unwell.

P321: Specific treatment (see Medical Advice on this label).

P332+P313: If skin irritation occurs: Get medical advice/attention.

P362+P364: Take off contaminated clothing and wash it before reuse.

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

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.

P501: Dispose of contents in accordance with local, state or national legislation.

Acronyms

ADN : European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS : Chemical Abstracts Service

CLP : Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

DNEL : Derived No Effect Level

EC : European Community

EINECS : European Inventory of Existing Commercial Chemical Substances

IATA : International Air Transport Association

IBC : Intermediate Bulk Container

ICAO : International Civil Aviation Organization

IMDG : International Maritime Dangerous Goods

LTEL : Long term exposure limit

PBT : Persistent, Bioaccumulative and Toxic

PNEC : Predicted No Effect Concentration

REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals

RID : Regulations concerning the International Carriage of Dangerous Goods by Rail

STEL : Short term exposure limit

STOT : Specific Target Organ Toxicity

UN : United Nations

vPvB : very Persistent and very Bioaccumulative

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