

# Material Safety Data Sheet

Version:01

Revision Date 7/5/2025

| Section 1. Product Information and Company Identification |   |         |         |
|---|---|---------|---------|
| Product name  | Iso Butanol   |         |         |
| Mol. formula  | C4H10O  | CAS No. | 78-83-1 |
| Mol.wt  | 74.12 g/mol   |         |         |
| Manufacturer name   | Pioneers for laboratory chemicals                                   |         |         |
| Brand name  | Piochem   |         |         |
| Address   | Area 540, Industrial Zone 6 <sup>th</sup> October city Giza, Egypt. |         |         |
| Website   | www.piochem.com   |         |         |
| E-mail  | info@piochem.com  |         |         |
| Phone number  | +201225728304 , +201023932115                                       |         |         |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 3), H226

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H226

H315

Flammable liquid and vapour.

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.  |
| P280                           | Wear eye protection/ face protection.   |
| P304 + P340 + P312             | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  |
| P305 + P351 + P338 + P310      | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. |
| P403 + P235                    | Store in a well-ventilated place. Keep cool.  |
| Supplemental Hazard Statements | none  |

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |   |                                  |
|------------------|---|----------------------------------|
| Synonyms         | : | Isobutanol<br>Isobutyl alcohol   |
| Formula          | : | C <sub>4</sub> H <sub>10</sub> O |
| Molecular weight | : | 74.12 g/mol                      |
| CAS-No.          | : | 78-83-1                          |
| EC-No.           | : | 201-148-0                        |
| Index-No.        | : | 603-108-00-1                     |

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

| Component          |              | Classification                   | Concentration |
|--------------------|--------------|----------------------------------|---------------|
| <b>iso-Butanol</b> |              |                                  |               |
| CAS-No.            | 78-83-1      | Flam. Liq. 3; Skin Irrit. 2; Eye | <= 100 %      |
| EC-No.             | 201-148-0    | Dam. 1; STOT SE 3; H226,         |               |
| Index-No.          | 603-108-00-1 | H315, H318, H336, H335           |               |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

Use water spray to cool unopened containers.

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

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

**6.4 Reference to other sections**

For disposal see section 13.

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

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): Flammable liquids

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****8.2 Exposure controls****Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## Personal protective equipment

### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|   |   |
|---|---|
| a) Appearance                                   | Form: liquid<br>Colour: colourless, clear                           |
| b) Odour  | alcohol-like  |
| c) Odour Threshold                              | No data available   |
| d) pH   | No data available   |
| e) Melting point/freezing point                 | Melting point/range: -108 °C - lit.                                 |
| f) Initial boiling point and boiling range      | 108 °C - lit.   |
| g) Flash point                                  | 28 °C - closed cup  |
| h) Evaporation rate                             | 0.6   |
| i) Flammability (solid, gas)                    | No data available   |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 10.6 %(V)<br>Lower explosion limit: 1.7 %(V) |
| k) Vapour pressure                              | 8 hPa at 20 °C  |
| l) Vapour density                               | 2.55  |
| m) Relative density                             | 0.803 g/mL at 25 °C   |
| n) Water solubility                             | 70 g/l at 20 °C - OECD Test Guideline 105 - completely miscible     |

- o) Partition coefficient: n-octanol/water      log Pow: 1 at 25 °C
- p) Auto-ignition temperature      427 °C
- q) Decomposition temperature      No data available
- r) Viscosity      4.00 mm<sup>2</sup>/s at 20 °C -
- s) Explosive properties      No data available
- t) Oxidizing properties      No data available

## 9.2 Other safety information

- Surface tension      69.7 mN/m at 20 °C
- Relative vapour density      2.55

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

Strong oxidizing agents, Acid chlorides, Acid anhydrides Strong oxidizing agents, Acid chlorides, Acid anhydrides

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides  
Other decomposition products - No data available  
In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - female - 3,350 mg/kg(iso-Butanol)  
(OECD Test Guideline 401)  
LC50 Inhalation - Rat - male and female - 4 h - 24.6 mg/l(iso-Butanol)  
LD50 Dermal - Rabbit - female - 2,460 mg/kg(iso-Butanol)  
(OECD Test Guideline 402)  
LD50 Intraperitoneal - Rat - 720 mg/kg(iso-Butanol)

#### Skin corrosion/irritation Skin

- Rabbit(iso-Butanol) Result:  
Irritating to skin. - 24 h

#### Serious eye damage/eye irritation

Eyes - Rabbit(iso-Butanol)  
Result: Risk of serious damage to eyes. - 24 h  
(OECD Test Guideline 405)

#### Respiratory or skin sensitisation

No data available(iso-Butanol)

#### **Germ cell mutagenicity**

Hamster(iso-Butanol)

fibroblast

Result: negative

OECD Test Guideline 474(iso-Butanol)

Mouse - male and female

Result: negative

#### **Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### **Reproductive toxicity**

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

May cause respiratory irritation. - Respiratory Tract(iso-Butanol)

May cause drowsiness or dizziness. - Central nervous system(iso-Butanol)

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

No data available

##### **Aspiration hazard**

No data available(iso-Butanol)

#### **Additional Information**

Repeated dose toxicity - Rat - male and female - inhalation (vapour)(iso-Butanol)

RTECS: NP9625000

Cough, Shortness of breath, Headache, Nausea, Vomiting, Central nervous system depression, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.(iso-Butanol)

### **SECTION 12: Ecological information**

#### **12.1 Toxicity**

Toxicity to fish flow-through test LC50 - Pimephales promelas (fathead minnow) - 1,430 mg/l - 96 h(iso-Butanol)

Toxicity to daphnia and other aquatic static test EC50 - Daphnia pulex (Water flea) - 1,100 mg/l - 48 h(iso-Butanol)

invertebrates

Toxicity to algae static test EC50 - Pseudokirchneriella subcapitata - 1,799 mg/l - 72 h(iso-Butanol)  
(OECD Test Guideline 201)

Toxicity to bacteria Growth inhibition IC50 - Sludge Treatment - > 1,000 mg/l - 16 h(iso-Butanol)

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

Biodegradability aerobic - Exposure time 28 d(iso-Butanol)  
Result: 70 - 80 % - Readily biodegradable  
(OECD Test Guideline 301D)

#### **12.3 Bioaccumulative potential**

No data available

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

No data available(iso-Butanol)

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

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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

No data available

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable.  
Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information****14.1 UN number**

ADR/RID: 1212

IMDG: 1212

IATA: 1212

**14.2 UN proper shipping name**

ADR/RID: ISOBUTANOL

IMDG: ISOBUTANOL

IATA: ISOBUTANOL

**14.3 Transport hazard class(es)**

ADR/RID: 3

IMDG: 3

IATA: 3

**14.4 Packaging group**

ADR/RID: III

IMDG: III

IATA: III

**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

**14.6 Special precautions for user**

No data available

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.2 Chemical safety assessment**

For this product a chemical safety assessment was not carried out

**SECTION 16: Other information****Full text of H-Statements referred to under sections 2 and 3.**

|      |                                    |
|------|------------------------------------|
| 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. |