



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

- **Product identifier**
- **Trade name:** Iso-butanol
- **CAS Number:**
78-83-1
- **EC number:**
201-148-0
- **Index number:**
603-108-00-1
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** Petrochem Middle East FZE – Dubai
- **Further information obtainable from:**

HEALTH	3
FIRE	3
REACTIVITY	0

Product safety department.
sales@petrocheme.com

2 Hazards identification

- **Classification of the substance or mixture**



Flam. Liq. 3 H226 Flammable liquid and vapour.



Eye Dam. 1 H318 Causes serious eye damage.



Skin Irrit. 2 H315 Causes skin irritation.
STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Acute Tox. 5 H303 May be harmful if swallowed.
Acute Tox. 5 H313 May be harmful in contact with skin.

- **Label elements**
- **GHS label elements**
The substance is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS02 GHS05 GHS07

- **Signal word** *Danger*

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· Hazard statements

- Flammable liquid and vapour.*
- May be harmful if swallowed.*
- May be harmful in contact with skin.*
- Causes skin irritation.*
- Causes serious eye damage.*
- May cause respiratory irritation. May cause drowsiness or dizziness.*

· Precautionary statements

- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*
- 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.*
- Specific treatment (see on this label).*
- Take off contaminated clothing and wash it before reuse.*
- Store locked up.*
- Dispose of contents/container in accordance with local/regional/national/international regulations.*

· Other hazards**· Results of PBT and vPvB assessment**

- PBT:** Not applicable.
- vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterisation: Substances**· CAS No. Description***78-83-1 butanol***· Identification number(s)****· EC number:** 201-148-0**· Index number:** 603-108-00-1

4 First aid measures

· Description of first aid measures

- After inhalation:** *In case of unconsciousness place patient stably in side position for transportation.*
- After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*
- After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*
- After swallowing:** *If symptoms persist consult doctor.*
- Information for doctor:**
- Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
- Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

· Extinguishing media**· Suitable extinguishing agents:***CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***· For safety reasons unsuitable extinguishing agents:** *Water with full jet***· Special hazards arising from the substance or mixture** *No further relevant information available.*

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- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

iso-butanol

PEL (USA)	300 mg/m ³ , 100 ppm
REL (USA)	150 mg/m ³ , 50 ppm
TLV (USA)	152 mg/m ³ , 50 ppm
WEL (Great Britain)	Short-term value: 231 mg/m ³ , 75 ppm Long-term value: 154 mg/m ³ , 50 ppm

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.

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*Avoid contact with the skin.**Avoid contact with the eyes and skin.***· Respiratory protection:***In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.***· Protection of hands:**

Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.**Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.**Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation***· Material of gloves***The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.***· Penetration time of glove material***The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.***· Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties**· General Information****· Appearance:**

Form:	Fluid
Colour:	Colourless
Odour:	Sweetish
Odour threshold:	Not determined.

· pH-value (80 g/l) at 20 °C: 7**· Change in condition**

Melting point/freezing point:	-108 °C
Initial boiling point and boiling range:	108 °C

· Flash point: 24 °C**· Flammability (solid, gas):** Not applicable.**· Ignition temperature:** 390 °C**· Decomposition temperature:** Not determined.**· Auto-ignition temperature:** Not determined.**· Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

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· Explosion limits:	
Lower:	1.7 Vol %
Upper:	12 Vol %
· Vapour pressure at 20 °C:	12 hPa
· Density at 20 °C:	0.8016 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water at 20 °C:	100 g/l
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic at 20 °C:	3.95 mPas
Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**

· LD/LC50 values relevant for classification:

Oral	LD50	2460 mg/kg (rat)
Dermal	LD50	3400 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Strong irritant with the danger of severe eye injury.
- **Respiratory or skin sensitisation** No sensitising effects known.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

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- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

<ul style="list-style-type: none"> · UN-Number · ADR, IMDG, IATA 	1212
<ul style="list-style-type: none"> · UN proper shipping name · ADR · IMDG, IATA 	1212 ISOBUTANOL (ISOBUTYL ALCOHOL) ISOBUTANOL (ISOBUTYL ALCOHOL)
<ul style="list-style-type: none"> · Transport hazard class(es) · ADR, IMDG, IATA 	
	
<ul style="list-style-type: none"> · Class · Label 	3 Flammable liquids. 3
<ul style="list-style-type: none"> · Packing group · ADR, IMDG, IATA 	III
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	No
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: 	Warning: Flammable liquids. 30 F-E,S-D
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of Marpol and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · ADR · Limited quantities (LQ) · Transport category 	LQ7 3

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· Tunnel restriction code	D/E
· UN "Model Regulation":	UN 1212 ISOBUTANOL (ISOBUTYL ALCOHOL), 3, III

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **GHS label elements**
The substance is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS02 GHS05 GHS07

- **Signal word** *Danger*
- **Hazard statements**
Flammable liquid and vapour.
May be harmful if swallowed.
May be harmful in contact with skin.
Causes skin irritation.
Causes serious eye damage.
May cause respiratory irritation. May cause drowsiness or dizziness.
- **Precautionary statements**
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** *Product safety department.*
- **Contact:** *PME*
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 5: Acute toxicity - oral – Category 5

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Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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