

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 17.03.2023

Revision: 17.03.2023

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

- **Product identifier**
- **Trade name:** Iso-butanol
- **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:**  
Rama Chem Trading FZE  
WS23, A1008, Tower A, Jafza one building, Jebel ali,  
Dubai, UAE
- **Further information obtainable from:**  
Product safety department.  
info@ramagroup.ae
- **Emergency telephone number:** +971 50 406 1790

### 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.

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

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· **Hazard pictograms**



· **Signal word** *Danger*

· **Hazard statements**

*Flammable liquid and vapour.*

*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 2-methylpropan-1-ol*

· **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:** *Supply fresh air; consult doctor in case of complaints.*

· **After skin contact:** *Generally the product does not irritate the skin.*

· **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.*

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### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
*CO<sub>2</sub>, 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.*
- **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).  
 Use neutralising agent.  
 Dispose contaminated material as waste according to item 13.  
 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:**

<b>iso-butanol</b>	
PEL (USA)	Long-term value: 300 mg/m <sup>3</sup> , 100 ppm
REL (USA)	Long-term value: 150 mg/m <sup>3</sup> , 50 ppm

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TLV (USA)	Long-term value: 50 ppm
WEL (Great Britain)	Short-term value: 231 mg/m <sup>3</sup> , 75 ppm
	Long-term value: 154 mg/m <sup>3</sup> , 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.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:** Not required.

· **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:** Liquid. [Oily liquid.]

**Colour:** Colourless

· **Odour:** Characteristic.

· **Odour threshold:** Not determined.

· **pH-value:** Not available.

· **Change in condition**

**Melting point/freezing point:** <-90°C (<-130°F)

**Initial boiling point and boiling range:** 108°C (226.4°F)

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· <b>Flash point:</b>	Closed cup: 27.8°C (82°F)
· <b>Flammability (solid, gas):</b>	at Temperature > 27 °C: Air/vapor mixtures may be explosive.
· <b>Auto Ignition temperature:</b>	390°C (734°F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Molecular weight:</b>	Not determined.
· <b>Explosive properties:</b>	Not determined.
· <b>Explosion limits:</b>	
Lower:	1.2 Vol %
Upper:	12 Vol %
· <b>Vapour pressure :</b>	0.96 kPa (7.2 mm Hg) [room temperature]
· <b>Density at 20 °C:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	2.55 [Air = 1]
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water :</b>	Partially soluble in the following materials: cold water. 8.7 g/l
· <b>n-octanol/water partition coefficient (log Pow):</b>	0.8
· <b>Viscosity</b>	
Dynamic at 20 °C:	Not determined.
Kinematic:	Not determined.
· <b>Other information</b>	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	2,460 mg/kg (rat)
Dermal	LD50	3,400 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** Strong irritant with the danger of severe eye injury.

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 · **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.
- **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.*  
*Must not reach sewage water or drainage ditch undiluted or unneutralised.*
- **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

- |                                     |   |
|-------------------------------------|---|
| · <b>UN-Number</b>                  |   |
| · <b>ADR, IMDG, IATA</b>            | UN1212  |
| · <b>UN proper shipping name</b>    |   |
| · <b>ADR</b>                        | 1212 ISOBUTANOL (ISOBUTYL ALCOHOL)  |
| · <b>IMDG, IATA</b>                 | ISOBUTANOL (ISOBUTYL ALCOHOL)   |
| · <b>Transport hazard class(es)</b> |   |
| · <b>ADR, IMDG, IATA</b>            |   |
|                                     |  |
| · <b>Class</b>                      | 3 Flammable liquids.  |
| · <b>Label</b>                      | 3   |
| · <b>Packing group</b>              |   |
| · <b>ADR, IMDG, IATA</b>            | III   |

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· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Warning: Flammable liquids.
· <b>Hazard identification number (Kemler code):</b>	30
· <b>EMS Number:</b>	3-06
· <b>Stowage Category</b>	A
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>Transport category</b>	3
· <b>Tunnel restriction code</b>	D/E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	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.*  
*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.*

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Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category P5c FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **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 relatif au transport international 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

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

AE