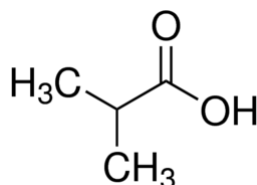


### MATERIAL SAFETY DATA SHEET (MSDS)

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

##### 1.1. Product identifier

Product form : Substance  
:  
EC Index-No. : 607-063-00-9  
EC-No. : 201-195-7  
CAS-No. : 79-31-2  
Product code : 2388D  
Chemical structure :



Synonyms : 2-Methylpropionic acid

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

###### 1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

###### 1.2.2. Uses advised against

No additional information available

##### 1.3. Details of the supplier of the safety data sheet

SPAN LAB  
UNIT NO. 14, SKY INDUSTRIAL ESTATE, WALIV, VASAI (E)  
401208 Mumbai - INDIA  
PH: +91 9820509929  
[info@spanlab.in](mailto:info@spanlab.in) [www.spanlab.in](http://www.spanlab.in)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, H226  
Category 3  
Acute toxicity (oral), H302  
Category 4  
Acute toxicity (dermal), H311  
Category 3  
Skin corrosion/irritation, H314  
Category 1A

# iso-BUTYRIC ACID For Synthesis

## Safety Data Sheet

Full text of H statements : see section 16

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xn; R21/22

Full text of R-phrases: see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS05

GHS06

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H226 - Flammable liquid and vapour.  
H302 - Harmful if swallowed.  
H311 - Toxic in contact with skin.  
H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) :

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.  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
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 doctor.

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : iso-BUTYRIC ACID For Synthesis  
CAS-No. : 79-31-2  
EC-No. : 201-195-7  
EC Index-No. : 607-063-00-9

Full text of R- and H-statements: see section 16

# iso-BUTYRIC ACID For Synthesis

## Safety Data Sheet

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures after inhalation : Assure fresh air breathing. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Immediately call a POISON CENTER/doctor. Wash with plenty of water/... Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
- First-aid measures after ingestion : Rinse mouth. Call a POISON CENTER/doctor if you feel unwell.

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

- Symptoms/effects : Causes severe skin burns and eye damage.
- Symptoms/effects after skin contact : Toxic in contact with skin.
- Symptoms/effects after ingestion : Harmful if swallowed.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Water spray.
- Unsuitable extinguishing media : Do not use a heavy water stream.

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

- Fire hazard : Flammable liquid and vapour.
- Explosion hazard : May form flammable/explosive vapour-air mixture.

### 5.3. Advice for firefighters

- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

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

- General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Use personal protective equipment as required.
- Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment.

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

- Methods for cleaning up : Collect spillage. On land, sweep or shovel into suitable containers.

### 6.4. Reference to other sections

No additional information available

# iso-BUTYRIC ACID For Synthesis

## Safety Data Sheet

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling	: Avoid contact with skin and eyes. Do not breathe vapours.
Hygiene measures	: Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

Technical measures	: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment.
Storage conditions	: Keep container tightly closed. Keep in fireproof place.
Incompatible materials	: Heat sources.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

Hand protection	: Protective gloves
Eye protection	: Chemical goggles or safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: [In case of inadequate ventilation] wear respiratory protection.

### SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Colour	: Clear Colorless.
Odour	: stench.
Odour threshold	: No data available
pH	: 2.5 at 100 g/l at 20 °C
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -47 °C
Freezing point	: No data available
Boiling point	: 153 - 154 °C
Flash point	: 55 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available

# iso-BUTYRIC ACID For Synthesis

## Safety Data Sheet

Flammability (solid, gas)	: No data available
Vapour pressure	: 2 hPa at 20 °C
Relative vapour density at 20 °C	: 3.04
Relative density	: No data available
Density	: 0.95 g/cm <sup>3</sup>
Solubility	: Water: Soluble in water
Log Pow	: 0.604
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.02 - 0.1 vol %

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Open flame. Heat. Sparks.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Toxic in contact with skin.

Skin corrosion/irritation : Causes severe skin burns and eye damage.  
pH: 2.5 at 100 g/l at 20 °C

Serious eye damage/irritation : Serious eye damage, category 1, implicit  
pH: 2.5 at 100 g/l at 20 °C

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

# iso-BUTYRIC ACID For Synthesis

## Safety Data Sheet

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Harmful if swallowed. Harmful in contact with skin.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

##### iso-BUTYRIC ACID For Synthesis (79-31-2)

Log Pow	0.604
---------	-------

#### 12.4. Mobility in soil

No additional information available

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

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR) : 2529

UN-No. (IMDG) : 2529

UN-No. (IATA) : 2529

# iso-BUTYRIC ACID For Synthesis

## Safety Data Sheet

UN-No. (ADN) : 2529  
UN-No. (RID) : 2529

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : ISOBUTYRIC ACID  
Proper Shipping Name (IMDG) : ISOBUTYRIC ACID  
Proper Shipping Name (IATA) : Isobutyric acid  
Proper Shipping Name (ADN) : ISOBUTYRIC ACID  
Proper Shipping Name (RID) : ISOBUTYRIC ACID  
Transport document description (ADR) : UN 2529 ISOBUTYRIC ACID, 3 (8), III, (D/E)  
Transport document description (IMDG) : UN 2529 ISOBUTYRIC ACID, 3 (8), III (55°C c.c.)  
Transport document description (IATA) : UN 2529 Isobutyric acid, 3 (8), III  
Transport document description (ADN) : UN 2529 ISOBUTYRIC ACID, 3 (8), III  
Transport document description (RID) : UN 2529 ISOBUTYRIC ACID, 3 (8), III

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 3 (8)  
Danger labels (ADR) : 3, 8



#### IMDG

Transport hazard class(es) (IMDG) : 3 (8)  
Danger labels (IMDG) : 3, 8



#### IATA

Transport hazard class(es) (IATA) : 3 (8)  
Hazard labels (IATA) : 3, 8



#### ADN

Transport hazard class(es) (ADN) : 3 (8)  
Danger labels (ADN) : 3, 8



#### RID

# iso-BUTYRIC ACID For Synthesis

## Safety Data Sheet

Transport hazard class(es) (RID) : 3 (8)  
Danger labels (RID) : 3, 8



### 14.4. Packing group


Packing group (ADR) : III  
Packing group (IMDG) : III  
Packing group (IATA) : III  
Packing group (ADN) : III  
Packing group (RID) : III

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : FC  
Limited quantities (ADR) : 5I  
Excepted quantities (ADR) : E1  
Packing instructions (ADR) : P001, IBC03, R001  
Mixed packing provisions (ADR) : MP19  
Portable tank and bulk container instructions (ADR) : T4  
Portable tank and bulk container special provisions (ADR) : TP1  
Tank code (ADR) : L4BN  
Vehicle for tank carriage : FL  
Transport category (ADR) : 3  
Special provisions for carriage - Packages (ADR) : V12  
Special provisions for carriage - Operation (ADR) : S2  
Hazard identification number (Kemler No.) : 38  
Orange plates :   
Tunnel restriction code (ADR) : D/E  
EAC code : •2W  
APP code : A(fl)

#### - Transport by sea

Packing instructions (IMDG) : P001  
IBC packing instructions (IMDG) : IBC03  
Tank instructions (IMDG) : T4  
Tank special provisions (IMDG) : TP1  
EmS-No. (Fire) : F-E  
EmS-No. (Spillage) : S-C



# iso-BUTYRIC ACID For Synthesis

## Safety Data Sheet

Stowage category (IMDG)	: A
Flash point (IMDG)	: 55°C c.c.
Properties and observations (IMDG)	: Colourless liquid with a pungent odour. Flashpoint: 55°C c.c. Explosive limits: 2% to 9.2% Miscible with water. Causes burns to skin and eyes. Irritating to skin, eyes and mucous membranes.
MFAG-No	: 132

### - Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y342
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 354
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 365
CAO max net quantity (IATA)	: 60L
Special provisions (IATA)	: A803
ERG code (IATA)	: 3C

### - Inland waterway transport

Classification code (ADN)	: FC
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Equipment required (ADN)	: PP, EP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 0

### - Rail transport

Classification code (RID)	: FC
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T4
Portable tank and bulk container special provisions (RID)	: TP1
Tank codes for RID tanks (RID)	: L4BN
Transport category (RID)	: 3
Special provisions for carriage – Packages (RID)	: W12
Colis express (express parcels) (RID)	: CE4
Hazard identification number (RID)	: 38

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

iso-BUTYRIC ACID For Synthesis is not on the REACH Candidate List

iso-BUTYRIC ACID For Synthesis is not on the REACH Annex XIV List

# iso-BUTYRIC ACID For Synthesis

## Safety Data Sheet

### 15.1.2. National regulations

#### Germany

Reference to AwSV : Water hazard class (WGK) 1, low hazard to water (Classification according to AwSV; ID No. 1139)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

#### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

#### Denmark

Class for fire hazard : Class II-1

Store unit : 5 liter

Classification remarks : R10 <H226;H302;H311;H314>; Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Flam. Liq. 3	Flammable liquids, Category 3
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
R21/22	Harmful in contact with skin and if swallowed
Xn	Harmful

# iso-BUTYRIC ACID For Synthesis

## Safety Data Sheet

---

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*