



# BUTYRIC ACID (1-13C, 99%)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue date: 3/26/2015 Revision date: 5/26/2023 Supersedes: 2/24/2017 Version: 4.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Substance  
Substance name : BUTYRIC ACID (1-13C, 99%)  
CAS-No. : 107-92-6  
Product code : CLM-9666  
Formula : CH<sub>3</sub>(CH<sub>2</sub>)<sub>2</sub>\*COOH

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Cambridge Isotope Laboratories, Inc.  
50 Frontage Rd  
01810  
ANDOVER, MA, 01810  
USA  
T 1-800-322-1174  
[cilsales@isotope.com](mailto:cilsales@isotope.com) - [www.isotope.com](http://www.isotope.com)

#### 1.4. Emergency telephone number

Emergency number : 1-703-741-5970  
Chemtrec 1-800-424-9300 24 hours

### SECTION 2: Hazard(s) identification

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

##### GHS US classification

Flammable liquids Category 4	H227	Combustible liquid
Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Skin corrosion/irritation Category 1A	H314	Causes severe skin burns and eye damage

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H227 - Combustible liquid  
H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS US) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. heat, hot surfaces, open flames, sparks  
P260 - Do not breathe mist, spray.  
P264 - Wash Both hands thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P280 - Wear eye protection, face protection, protective clothing, protective gloves.

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P301+P312 - If swallowed: Call a doctor, a POISON CENTER if you feel unwell.  
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
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 doctor, a POISON CENTER.  
P321 - Specific treatment (see Hazard pictograms (CLP) on this label).  
P330 - Rinse mouth.  
P363 - Wash contaminated clothing before reuse.  
P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide, Dry chemical, Water spray to extinguish.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P405 - Store locked up.  
P501 - Dispose of contents/container to Comply with applicable regulations.

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%	GHS US classification
BUTYRIC ACID (1-13C, 99%) (Main constituent)	CAS-No.: 107-92-6	100	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area. Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. When symptoms occur: go into open air and ventilate suspected area. If not breathing, give artificial respiration. Get medical advice/attention.
First-aid measures after skin contact	: Wash with plenty of soap and water. Get immediate medical advice/attention. Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention. Do not induce vomiting. Call a physician immediately.

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### 4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	: 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. Causes irritation of mucous membranes and depression of the respiratory and nervous systems. Irritation: severely irritant to eyes. Coughing. Shortness of breath. Headache. Nausea. stomach.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes severe skin burns and eye damage.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Harmful if swallowed.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Alcohol resistant foam. Dry chemical. Carbon dioxide.

### 5.2. Specific hazards arising from the chemical

Fire hazard	: Combustible liquid.
Hazardous decomposition products in case of fire	: Carbon oxides (CO, CO <sub>2</sub> ).

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Other information	: Use water spray to cool exposed surfaces.

## SECTION 6: Accidental release measures

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

General measures : No flames, no sparks. Eliminate all sources of ignition.

#### 6.1.1. For non-emergency personnel

Emergency procedures : Wear personal protective equipment. Do not breathe dust, fume, gas, mist, spray, vapors. Ventilate spillage area. Avoid contact with skin and eyes. Remove all sources of ignition. Evacuate danger area. Evacuate unnecessary personnel. Special attention should be given to low areas/pits where flammable vapors can accumulate.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Prevent liquid from entering sewers, watercourses, underground or low areas. Avoid release to the environment.

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

- For containment : For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.
- Methods for cleaning up : Clean up immediately by sweeping or vacuum. Vacuum with an equipment that avoids ignition risk. Take up liquid spill into absorbent material. This material and its container must be disposed of in a safe way, and as per local legislation.
- Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust, fume, gas, mist, spray, vapors. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

- Technical measures : Store in a well-ventilated place. Keep container tightly closed. Keep dry. Containers which are opened should be properly resealed and kept upright to prevent leakage.
- Storage conditions : Store at room temperature away from light and moisture.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### BUTYRIC ACID (1-13C, 99%) (107-92-6)

#### USA - ACGIH - Occupational Exposure Limits

ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
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### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Ensure good ventilation of the work station.
- Environmental exposure controls : Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Gloves. Safety glasses. Protective clothing. Respiratory protection of the dependent type. Self-contained breathing apparatus.

#### Materials for protective clothing:

Wear suitable protective clothing and gloves

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### Hand protection:

Wear suitable protective clothing and gloves

### Eye protection:

Wear safety glasses with side shields (or goggles) and a face shield. Safety glasses

### Skin and body protection:

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

### Respiratory protection:

When appropriate, use NIOSH/CEN approved respirator.

### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Liquid.
Color	: clear Colorless
Odor	: Pungent
Odor threshold	: No data available
pH	: 3 at 10 g/l at 20 °C (68 °F)
Melting point	: -7 – -5 °C (19 - 23 °F)
Freezing point	: No data available
Boiling point	: 164 °C (327 °F) at 1,013 hPa (760 mmHg)
Flash point	: 72 °C (162 °F) - closed cup
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: 0.57 hPa (0.43 mmHg) at 20 °C (68 °F)
Relative vapor density at 20°C	: 3.04 - (Air = 1.0)
Relative density	: No data available
Density	: 0.958 g/ml at 20 °C (68 °F)
Molecular mass	: 89.1 g/mol (Labeled)
Solubility	: Water: 1000 g/l
Partition coefficient n-octanol/water (Log Pow)	: 1.1 at 25 °C (77 °F)
Auto-ignition temperature	: 435 °C (815 °F) at 1,008 hPa (756 mmHg)
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: 2 – 10 % (V)
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No additional information available

#### 10.2. Chemical stability

Stable if stored under recommended conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

#### 10.5. Incompatible materials

Strong oxidizing agents.

#### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO<sub>2</sub>).

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

BUTYRIC ACID (1-13C, 99%) (107-92-6)	
LD50 oral rat	1632 mg/kg male and female (OECD Test Guideline 401)
LD50 dermal rabbit	6096 mg/kg male (OECD Test Guideline 402)
ATE US (oral)	1632 mg/kg body weight
ATE US (dermal)	6096 mg/kg body weight

Skin corrosion/irritation : Causes severe skin burns.  
pH: 3 at 10 g/l at 20 °C (68 °F)

Serious eye damage/irritation : Assumed to cause serious eye damage  
pH: 3 at 10 g/l at 20 °C (68 °F)

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Potential Adverse human health effects and symptoms : 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. Causes irritation of mucous membranes and depression of the respiratory and nervous systems. Irritation: severely irritant to eyes. Coughing. Shortness of breath. Headache. Nausea. stomach.

Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory irritation.

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Symptoms/effects after skin contact : Causes severe skin burns and eye damage.  
Symptoms/effects after eye contact : Causes serious eye damage.  
Symptoms/effects after ingestion : Harmful if swallowed.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

#### BUTYRIC ACID (1-13C, 99%) (107-92-6)

EC50 - Crustacea [1]	61.7 mg/l Daphnia magna (Water flea) - 24 h
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### 12.2. Persistence and degradability

#### BUTYRIC ACID (1-13C, 99%) (107-92-6)

Persistence and degradability	Biotic degradation. Abiotic degradation in air.
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### 12.3. Bioaccumulative potential

#### BUTYRIC ACID (1-13C, 99%) (107-92-6)

Partition coefficient n-octanol/water (Log Pow)	1.1 at 25 °C (77 °F)
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### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other adverse effects : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.  
Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.  
Ecology - waste materials : Dispose of as unused product.

## SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

### 14.1. UN number

DOT NA No	: UN2820
UN-No. (TDG)	: UN2820
UN-No. (IMDG)	: 2820
UN-No. (IATA)	: 2820

### 14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Butyric acid
Proper Shipping Name (TDG)	: BUTYRIC ACID

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Proper Shipping Name (IMDG) : BUTYRIC ACID  
Proper Shipping Name (IATA) : Butyric acid

### 14.3. Transport hazard class(es)

#### DOT

Transport hazard class(es) (DOT) : 8  
Hazard labels (DOT) : 8



#### TDG

Transport hazard class(es) (TDG) : 8  
Hazard labels (TDG) : 8



#### IMDG

Transport hazard class(es) (IMDG) : 8  
Hazard labels (IMDG) : 8



#### IATA

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



### 14.4. Packing group

Packing group (DOT) : III  
Packing group (TDG) : III  
Packing group (IMDG) : III  
Packing group (IATA) : III

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

DOT  
UN-No.(DOT) : UN2820

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DOT Special Provisions (49 CFR 172.102)	: IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 154
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	: 12 - Keep as cool as reasonably practicable, 25 - Shade from radiant heat, 53 - Stow "separated from" alkaline compounds, 58 - Stow "separated from" cyanides

### TDG

UN-No. (TDG)	: UN2820
Explosive Limit and Limited Quantity Index	: 5 L
Excepted quantities (TDG)	: E1
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 5 L
Emergency Response Guide (ERG) Number	: 153

### IMDG

Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW1, H2
Segregation (IMDG)	: SGG1, SG36, SG49
Flash point (IMDG)	: '
Properties and observations (IMDG)	: Colourless liquid with a penetrating and unpleasant odour. Freezing point: -5°C to -8°C. Miscible with water. Corrosive to most metals. Harmful if swallowed or by inhalation. Corrosive to skin, eyes and mucous membranes.
MFAG-No	: 153

### IATA

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y841
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 852
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 856
CAO max net quantity (IATA)	: 60L
Special provision (IATA)	: A803
ERG code (IATA)	: 8L

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### 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. US Federal regulations

#### BUTYRIC ACID (1-13C, 99%) (107-92-6)

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
BUTYRIC ACID (1-13C, 99%)	107-92-6	Not present	-	

### 15.2. International regulations

#### CANADA

#### BUTYRIC ACID (1-13C, 99%) (107-92-6)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

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CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

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Revision date

: 05/26/2023

Other information

: This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

#### Full text of H-phrases

H227	Combustible liquid
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage

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Safety Data Sheet (SDS), USA

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