



BUTYRIC ACID (D7, 98%)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 01/03/2011

Revision date: 25/05/2022

Supersedes: 24/02/2017

Version: 4.1

DLM-1508

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

1.1. Product identifier

Product form	: Substance
Substance name	: BUTYRIC ACID (D7, 98%)
EC Index-No.	: 607-135-00-X (Unlabeled)
EC-No.	: 203-532-3 (Unlabeled)
CAS-No.	: 73607-83-7
Product code	: DLM-1508
Formula	: CD3(CD2)2COOH
Other means of identification	: Also applicable to: DLM-1508-NAT (D7, 98%)

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

1.2.1. Relevant identified uses

Main use category	: Professional use
Industrial/Professional use spec	: For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.

50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000

cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)

International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute Tox. 4 (Oral) H302

Skin Corr. 1A H314

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

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

Xn; R22

C; R35

Full text of R-phrases: see section 16

GHS-US classification

Flam. Liq. 4 H227

Acute Tox. 4 (Oral) H302

Skin Corr. 1A H314

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Blood. Harmful if swallowed. Causes severe skin burns and eye damage.

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2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) :

: Danger

Hazard statements (CLP) :

: H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage

Precautionary statements (CLP) :

: 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.
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.

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, open flames, sparks. - No smoking.
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.
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

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
BUTYRIC ACID (D7, 98%)	(CAS-No.) 73607-83-7 (EC-No.) 203-532-3 (Unlabeled) (EC Index-No.) 607-135-00-X (Unlabeled)	100	Xn; R22 C; R35

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
BUTYRIC ACID (D7, 98%)	(CAS-No.) 73607-83-7 (EC-No.) 203-532-3 (Unlabeled) (EC Index-No.) 607-135-00-X (Unlabeled)	100	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314

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

Name	Product identifier	%	GHS-US classification
BUTYRIC ACID (D7, 98%) (Main constituent)	(CAS-No.) 73607-83-7	100	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314

Full text of H-phrases: 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.

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

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. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

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.

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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.

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.

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

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.

Personal protective equipment : Gloves. Safety glasses. Protective clothing. Respiratory protection of the dependent type.



Materials for protective clothing : Wear suitable protective clothing and gloves.

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.

Environmental exposure controls : Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Liquid

Molecular mass : 95.15 g/mol (Labeled)

Color : Clear. Colorless

Odor : Pungent

Odor threshold : No data available

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pH	: 3 at 10 g/l at 20 °C (68 °F)
Relative evaporation rate (butyl acetate=1)	: No data available
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
Auto-ignition temperature	: 435 °C (815 °F) at 1,008 hPa (756 mmHg)
Decomposition temperature	: 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
Specific gravity / density	: 0.958 g/ml at 20 °C (68 °F)
Solubility	: Water: 1000 g/l at 20 °C (68 °F) - OECD Test Guideline 105 - soluble
Log Pow	: 1.1 at 25 °C (77 °F)
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: 2 - 10 % (V)

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 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, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

BUTYRIC ACID (D7, 98%) (73607-83-7)	
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 CLP (oral)	1632.000 mg/kg body weight
ATE CLP (dermal)	6096.000 mg/kg body weight

Skin corrosion/irritation	: LD50 dermal rabbit. Causes burns. (OECD 404 method) pH: 3 at 10 g/l at 20 °C (68 °F)
Serious eye damage/irritation	: Eyes - Rabbit - Risk of serious damage to eyes pH: 3 at 10 g/l at 20 °C (68 °F)
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Reverse Mutation Assays. S. typhimurium result: negative
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified

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Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: 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. 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.
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.

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.

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

BUTYRIC ACID (D7, 98%) (73607-83-7)

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

BUTYRIC ACID (D7, 98%) (73607-83-7)

Log Pow	1.1 at 25 °C (77 °F)
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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

Other adverse effects : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment 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 ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No.(DOT)	: 2820
DOT NA no.	UN2820

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Butyric acid
Class (DOT)	: 8 - Class 8 - Corrosive material 49 CFR 173.136
Hazard labels (DOT)	: 8 - Corrosive



Packing group (DOT)	: III - Minor Danger
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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 RQ	: 5000 lbs
Marine pollutant	: No

14.3. Additional information

Other information : No supplementary information available.

Overland transport

Packing group (ADR)	: III
Class (ADR)	: 8 - Corrosive substances
Hazard identification number (Kemler No.)	: 80
Classification code (ADR)	: C3
Hazard labels (ADR)	: 8 - Corrosive substances



Orange plates	: 
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Tunnel restriction code (ADR)	: E
Limited quantities (ADR)	: 5l
Excepted quantities (ADR)	: E1

Transport by sea

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
MFAG-No	: 153

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
Civil Aeronautics Law	: Corrosive substances

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

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

Not applicable

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SECTION 15: Regulatory information

15.1. US Federal regulations

BUTYRIC ACID (D7, 98%) (73607-83-7)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
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SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
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SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
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15.2. International regulations CANADA

No additional information available

15.2.1. National regulations

BUTYRIC ACID (D7, 98%) (73607-83-7)

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

15.3. US State regulations

BUTYRIC ACID (D7, 98%)(73607-83-7)

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

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.

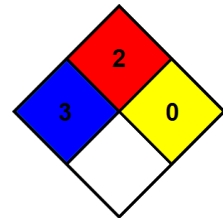
Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Skin Corr. 1A	Skin corrosion/irritation Category 1A
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
R22	Harmful if swallowed
R35	Causes severe burns
C	Corrosive
Xn	Harmful

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard : 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 2 Moderate Hazard

Physical : 0 Minimal Hazard

CIL Substance SDS

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