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## **SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Version 8.3 Revision Date 13.11.2024 Print Date 08.03.2025 GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

: Butyric acid

#### 1.1 **Product identifiers** Product name

		Ducyric acia
Product Number Brand Index-No. REACH No. CAS-No.	:	B103500 Aldrich 607-135-00-X 01-2119488986-11-XXXX 107-92-6

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet :

Company

## 1.4 Emergency telephone

Emergency Phone #	: +(44)-870-8200418 (CHEMTREC (GB))
	+(353)-19014670 (CHEMTREC Ireland)
	001-803-017-9114 (CHEMTREC India)

## **SECTION 2: Hazards identification**

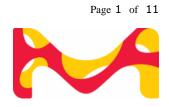
2.1	Classification of the substance or mixtureAcute toxicity, (Category 4)H302: Harmful if swallowed.		
	Skin corrosion, (Sub-category 1B)	H314: Causes severe skin burns and eye damage.	
	Serious eye damage, (Category 1)	H318: Causes serious eye damage.	
	Specific target organ toxicity - single exposure, (Category 3), Respiratory system	H335: May cause respiratory irritation.	

## 2.2 Label elements

## Labelling according Regulation (EC) No 1272/2008

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Pictogram	
Signal Word	Danger
Hazard Statements H302 H314 H335	Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation.
Precautionary Statements P261	Avoid breathing mist or vapors.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

## Reduced Labeling (<= 125 ml)

Pictogram



	• •
Signal Word	Danger
Hazard Statements H314	Causes severe skin burns and eye damage.
Precautionary Statements	
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.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Toxicological information:

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The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## **SECTION 3: Composition/information on ingredients**

#### 3.1 Substances

Formula	: C4H	H <sub>8</sub> O <sub>2</sub>
Molecular weight	: 88	.11 g/mol
CAS-No.	: 10	7-92-6
EC-No.	: 20	3-532-3
Index-No.	: 60	7-135-00-X

Component		Classification	Concentration
butyric acid			
CAS-No. EC-No. Index-No.	107-92-6 203-532-3 607-135-00-X	Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; STOT SE 3; H302, H314, H318, H335	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

## **SECTION 4: First aid measures**

#### 4.1 Description of first-aid measures

#### **General advice**

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### **4.3 Indication of any immediate medical attention and special treatment needed** No data available

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## SECTION 5: Firefighting measures

## 5.1 Extinguishing media

## Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

## 5.2 Special hazards arising from the substance or mixture

Carbon oxides Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire.

## 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

## 5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## **SECTION 6:** Accidental release measures

## 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

# **6.2 Environmental precautions** Do not let product enter drains.

## 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® H<sup>+</sup>, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

**6.4** Reference to other sections For disposal see section 13.

## SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

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Tightly closed.

## Storage class Storage class (TRGS 510): 8A: Combustible, corrosive hazardous materials

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

#### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Ingredients with workplace control parameters

#### 8.2 Exposure controls

#### **Personal protective equipment**

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

#### **Skin protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact Material: Latex gloves Minimum layer thickness: 0.6 mm Break through time: 480 min Material tested:Lapren® (KCL 706 / Aldrich Z677558, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 30 min Material tested:KCL 741 Dermatril® L

#### **Body Protection**

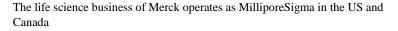
Acid-resistant protective clothing

#### **Respiratory protection**

required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type ABEK

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The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Control of environmental exposure** 

Do not let product enter drains.

#### **SECTION 9: Physical and chemical properties 9.1 Information on basic physical and chemical properties**

A		nysical and chemical properties
a)	Physical state	clear, liquid
b)	Color	colorless
c)	Odor	Stench.
d)	Melting point/freezing point	Melting point/ range: -75 °C
e)	Initial boiling point and boiling range	164 °C at 1,013.25 hPa - OECD Test Guideline 103
f)	Flammability (solid, gas)	No data available
g)	Upper/lower flammability or explosive limits	Upper explosion limit: 10 %(V) Lower explosion limit: 2 %(V)
h)	Flash point	72 °C - closed cup
i)	Autoignition temperature	435 °C at 1,008 hPa
j)	Decomposition temperature	No data available
k)	рН	2.0 at 25 °C - DIN 19268(50% solution)
I)	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 1.66 mPa.s at 20 °C - ASTM D 445
m)	Water solubility	10 g/l at 20 °C - OECD Test Guideline 105- completely soluble
n)	Partition coefficient: n-octanol/water	log Pow: 1.1 at 25 °C - Bioaccumulation is not expected.
o)	Vapor pressure	0.57 hPa at 20 °C
p)	Density	0.9574 g/cm3 at 20 °C - DIN 51757
	Relative density	No data available
q)	Relative vapor density	No data available
r)	Particle characteristics	No data available
s)	Explosive properties	Not classified as explosive.

t) Oxidizing properties none

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## 9.2 Other safety information

Surface tension	68.5 mN/m at 1g/l at 20 °C - OECD Test Guideline 115
Dissociation constant	4.9 at 20.7 °C - OECD Test Guideline 112
Relative vapor density	3.04 - (Air = 1.0)

### **SECTION 10: Stability and reactivity**

#### **10.1 Reactivity**

Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical.

#### **10.2 Chemical stability**

The product is chemically stable under standard ambient conditions (room temperature) .

## **10.3** Possibility of hazardous reactions

Violent reactions possible with: Strong oxidizing agents chromium(VI) oxide Vapors may form explosive mixture with air.

## **10.4** Conditions to avoid

Strong heating.

- **10.5 Incompatible materials** No data available
- **10.6 Hazardous decomposition products** In the event of fire: see section 5

### **SECTION 11: Toxicological information**

## **11.1** Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female - 1,632 mg/kg (OECD Test Guideline 401) Acute toxicity estimate Oral - 1,632 mg/kg (ATE value derived from LD50/LC50 value) Inhalation: No data available LD50 Dermal - Rabbit - male - 6,096 mg/kg (OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - Rabbit Result: Causes burns. - 1 h (OECD Test Guideline 404) Remarks: (Regulation (EC) No 1272/2008, Annex VI)

#### Serious eye damage/eye irritation

Eyes - Rabbit Result: Irreversible effects on the eye - 8 Days Remarks: (IUCLID)

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Remarks: Causes serious eye damage.

#### **Respiratory or skin sensitization** No data available

## Germ cell mutagenicity

Test Type: Ames test Test system: S. typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: Chromosome aberration test in vitro Test system: Chinese hamster lung cells Metabolic activation: without metabolic activation Method: OECD Test Guideline 473 Result: negative

### Carcinogenicity

No data available

#### **Reproductive toxicity** No data available

#### Specific target organ toxicity - single exposure May cause respiratory irritation. - Respiratory Tract

#### Specific target organ toxicity - repeated exposure No data available

Aspiration hazard

No data available

## **11.2 Additional Information**

## Endocrine disrupting properties

#### **Product:**

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

RTECS: ES5425000

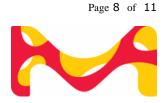
## **SECTION 12: Ecological information**

## 12.1 Toxicity

Toxicity to fish	static test LC50 - Pimephales promelas (fathead minnow) - 77 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic	static test EC50 - Daphnia magna (Water flea) - 51.25 mg/l - 48 h (DIN 38412)

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invertebrates

- Toxicity to algae IC50 Desmodesmus subspicatus (green algae) 46.7 mg/l 72 h Remarks: (IUCLID)
- Toxicity to bacteria static test EC10 Pseudomonas putida 51 mg/l 18 h (DIN 38 412 Part 8) static test EC50 - Pseudomonas putida - 78 mg/l - 18 h (DIN 38 412 Part 8)

## 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 14 d Result: 100 % - Readily biodegradable. Remarks: (ECHA)

#### 12.3 Bioaccumulative potential

No data available

## 12.4 Mobility in soil

No data available

#### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 12.6 Endocrine disrupting properties

## Product:

Assessment

: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 12.7 Other adverse effects

Avoid release to the environment.

#### **SECTION 13: Disposal considerations**

**13.1 Waste treatment methods** No data available

#### **SECTION 14: Transport information**

14.1 UN number ADR/RID: 2820

IMDG: 2820

IATA: 2820

#### **14.2 UN proper shipping name** ADR/RID: BUTYRIC ACID

IMDG: BUTYRIC ACID

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14.3	Transport hazard class(es) ADR/RID: 8	IMDG: 8	IATA: 8	
14.4	Packaging group ADR/RID: III	IMDG: III	IATA: III	
14.5	Environmental hazards ADR/RID: no	IMDG Marine pollutant: no	IATA: no	
14.6 Special precautions for user				
	Further information :	No data available		

## **SECTION 15: Regulatory information**

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

#### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

#### **SECTION 16: Other information**

#### Full text of H-Statements

- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H318 Causes serious eye damage.
- H335 May cause respiratory irritation.

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## Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM -American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS -Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIOC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS -Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

## **Further information**

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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