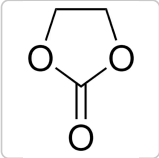


All Photos (2)

Documents

SDS

COO/COA

Specification Sheet

More Documents

809950 Sigma-Aldrich.

Share

Ethylene carbonate

(0) Write a review Ask a question

battery grade, ≥99%, acid <10 ppm, H2O <10 ppm

Synonym(s): EC, 1,3-Dioxolan-2-one

Sign In to View Organizational & Contract Pricing

Select a Size

Change View

25 G	500 G
$281.00	$1,070.00

809950-25G

$281.00

Availability

In Stock Details

1

Add to Cart

Request a Bulk Order

About This Item

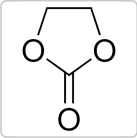
Empirical Formula (Hill Notation): $C_3H_4O_3$

CAS Number:	96-49-1
Molecular Weight:	88.06
Beilstein/REAXYS Number:	106249
EC Number:	202-510-0
MDL number:	MFCD00005382
UNSPSC Code:	12352108
PubChem Substance ID:	329769201
NACRES:	NA.23

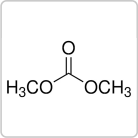
Feedback

Ask a Scientist

RECOMMENDED PRODUCTS



Sigma-Aldrich
E26258
Ethylene carbonate



Sigma-Aldrich
517127
Dimethyl carbonate

View Price and Availability

View Price and Availability

PROPERTIES

grade	battery grade
Quality Level	100
vapor density	3.04 (vs air)
vapor pressure	0.02 mmHg (36.4 °C)
assay	≥99%
form	solid
impurities	≤10 ppm H_2O ≤10 ppm acid
bp	243-244 °C/740 mmHg (lit.)
mp	35-38 °C (lit.) 36 °C (exp.)
density	1.321 g/mL at 25 °C (lit.)
application(s)	battery manufacturing
SMILES string	O=C1OCCO1

Feedback

Ask a Scientist

InChI	1S/C3H4O3/c4-3-5-1-2-6-3/h1-2H2
InChI key	KMTRUDSVKNLOMY-UHFFFAOYSA-N

Looking for similar products? Visit **Product Comparison Guide**

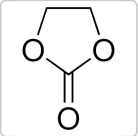
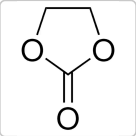
Related Categories

Battery Materials

Solvents

COMPARE SIMILAR ITEMS

Show Differences

This Item	
 **809950** Ethylene carbonate	 **01380** Ethylene carbonate
View Price and Availability	View Price and Availability
grade battery grade	**grade** Standard for quantitative NMR, *Trace*CERT®
form solid	**form** -
application(s) battery manufacturing	**application(s)** cleaning products cosmetics flavors and fragrances food and beverages personal care pharmaceutical
assay ≥99%	**assay** -

Feedback

Ask a Scientist

This Item	
impurities ≤10 ppm H_2O, ≤10 ppm acid	**impurities** -

DESCRIPTION

General description

Anhydrous ethylene carbonate is a cyclic ester and chemically related to ethylene glycol and dimethyl carbonate. It is a highly polar solvent and is a good solvent for many organic and inorganic compounds; however, at room temperature (25 °C) ethylene carbonate is a transparent crystalline solid, practically odorless and colorless, and somewhat soluble in water. In the liquid state (m.p. 35-37 °C) ethylene carbonate is a colorless, odorless liquid with a high boiling point (243 °C). Anhydrous ethylene carbonate is a solvent that is commonly used in the production of batteries, particularly lithium-ion batteries, and as a solvent in the pharmaceutical and chemical industries, in part because of its very high dielectric constant. Because of its high melting point and moderate viscosity, ethylene carbonate is often blended with other carbonates to yield a solution at room temperature with lower viscosity.

Feedback

Application

Alkyl carbonates find applications as solvents for lithium ion battery electrolytes and the use of high quality battery grade electrolytes having extremely low water (<10 ppm) and acid (<10 ppm) contents are critical for achieving high electrochemical performance.

Caution

These additives have low water content (less than 100 ppm). Please handle under inert and moisture free environment (glove box). Keep containers tightly closed. Keep away from heat and ignition sources. Store in a cool and dry place. Avoid storing together with oxidizers.

Legal Information

Product of MU Ionic Solutions Corp

RELATED PRODUCTS

Ask a Scientist

Related Product

450227

Lithium hexafluorophosphate, battery grade, ≥99.99% trace metals basis

View Pricing

757136

Lithium bis(oxalato)borate

View Pricing

774138

Lithium difluoro(oxalato)borate

View Pricing

809942

Dimethyl carbonate, battery grade, ≥99.9%, acid <10 ppm, H_2O <10 ppm

View Pricing

809969

Propylene carbonate, battery grade, ≥99%, acid <10 ppm, H_2O <10 ppm

View Pricing

809977

Vinylene carbonate, battery grade, 99.5%, acid <200 ppm, H_2O <100 ppm

View Pricing

809934

Ethyl methyl carbonate, battery grade, 99.9%, acid <10 ppm, H_2O <10ppm

View Pricing

900018

Feedback

Ask a Scientist

Diethyl carbonate, battery grade, ≥99%, acid <10 ppm, H2O <10 ppm

View Pricing

901593

Ethylene carbonate solution, 1 M in THF

View Pricing

901612

Ethylene carbonate solution, 1 M in DMF

View Pricing

901686

Fluoroethylene carbonate, battery grade, ≥99%, acid <200 ppm, anhydrous

View Pricing

Feedback

919977

Lithium bis(trifluoromethanesulfonyl)imide, anhydrous, 99.99% trace metals basis

View Pricing

SAFETY INFORMATION

pictograms	signalword	hcodes	pcodes
GHS08,GHS07	Warning	H302,H319,H373	P260 - P264 - P280 - P301 + P312 - P305 + P351 + P338 - P314

Hazard Classifications	target_organs	wgk_germany	flash_point_f
Acute Tox. 4 Oral - Eye Irrit. 2 - STOT RE 2 Oral	Kidney	WGK 1	289.4 °F

Ask a Scientist

flash_point_c
143 °C

DOCUMENTATION

SDS Specification Sheet

Certificate Of Analysis Certificate Of Origin More Documents

Certificates of Analysis (COA)

Search for Certificates of Analysis (COA) by entering the products Lot/Batch Number. Lot and Batch Numbers can be found on a product's label following the words 'Lot' or 'Batch'.

Lot/Batch Number

e.g. 023J5431

Search

Feedback

Need A Sample COA?

This is a sample Certificate of Analysis (COA) and may not represent a recently manufactured lot of this specific product.

View Sample COA

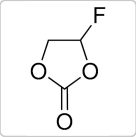
Ask a Scientist

Already Own This Product?

Find documentation for the products that you have recently purchased in the Document Library.

Visit the Document Library

CUSTOMERS ALSO VIEWED



Sigma-Aldrich
901686
Fluoroethylene carbonate

View Price and Availability

Sigma-Aldrich
450227
Lithium hexafluorophosphate

View Price and Availability

Feedback

PROTOCOLS AND ARTICLES

Articles

High-Energy Lithium-Ion Batteries

Experts discuss challenges and production processes of nickel-rich layered oxide cathode materials in energy storage systems.

Nanostructured Olivine-based Cathode Materials for Lithium-ion Batteries

Due to the adverse impact of the continued use of fossil fuels on the earth's environment and climate, researchers have been asked to develop new approaches for producing power using renewable sources like...

Ionic Liquids for Rechargeable Batteries

Ionic liquid electrolytes explored for rechargeable batteries' advancement; future IL development discussed.

Questions

Ask a Scientist

Be the first to ask a question

Reviews

★★★★★

Be the first to write a review

TECHNICAL SERVICE

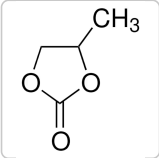
Our team of scientists has experience in all areas of research including Life Science, Material Science, Chemical Synthesis, Chromatography, Analytical and many others.

Contact Technical Service

Feedback

© 2024 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.
Reproduction of any materials from the site is strictly forbidden without permission.

Ask a Scientist



All Photos (2)

Documents

SDS

COO/COA

Specification Sheet

More Documents

809969 Sigma-Aldrich. Share

Propylene carbonate

(0) Write a review Ask a question

battery grade, ≥99%, acid <10 ppm, H2O <10 ppm

Synonym(s): PC, 1,2-Propanediol cyclic carbonate, 4-Methyl-1,3-dioxolan-2-one

Sign In to View Organizational & Contract Pricing

Select a Size

Change View

25 G	500 G
$252.90	$1,070.00

About This Item

Empirical Formula (Hill Notation):	$C_4H_6O_3$
CAS Number:	108-32-7
Molecular Weight:	102.09
Beilstein/REAXYS Number:	107913
EC Number:	203-572-1
MDL number:	MFCD00005385
UNSPSC Code:	12352005
PubChem Substance ID:	329769202
NACRES:	NA.23

809969-25G

$252.90

List Price $281.00 Save 10%

Availability

In Stock Details

1

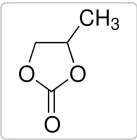
Add to Cart

Request a Bulk Order

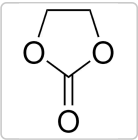
Feedback

Ask a Scientist

RECOMMENDED PRODUCTS



Sigma-Aldrich
310328
Propylene carbonate



Sigma-Aldrich
809950
Ethylene carbonate

View Price and Availability

View Price and Availability

PROPERTIES

grade	battery grade
Quality Level	100
vapor pressure	0.13 mmHg (20 °C) 0.98 mmHg (50 °C)
assay	≥99%
form	liquid
autoignition temp.	851 °F
expl. lim.	14.3 %
impurities	≤10 ppm H_2O ≤10 ppm acid
refractive index	*n*20/D 1.421 (lit.)
pH	7 (20 °C, 200 g/L)
bp	240 °C (lit.)
mp	−55 °C (lit.)

Feedback
Ask a Scientist

density	1.204 g/mL at 25 °C (lit.) 1.2 g/cm^3
application(s)	battery manufacturing
SMILES string	CC1COC(=O)O1
InChI	1S/C4H6O3/c1-3-2-6-4(5)7-3/h3H,2H2,1H3
InChI key	RUOJZAUFBMNUDX-UHFFFAOYSA-N

Looking for similar products? Visit **Product Comparison Guide**

Related Categories

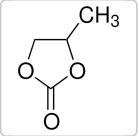
Battery Materials

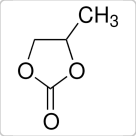
Solvents

Feedback

COMPARE SIMILAR ITEMS

Show Differences

This Item	
	**809969** **Propylene carbonate**
View Price and Availability	
grade battery grade	
application(s) battery manufacturing	
form liquid	
impurities ≤10 ppm H_2O, ≤10 ppm acid	

	**P52652** **Propylene carbonate**
View Price and Availability	
grade -	
application(s) -	
form liquid	
impurities -	

Ask a Scientist

This Item	
assay	assay
≥99%	99%

DESCRIPTION

Application

Alkyl carbonates find applications as solvents for lithium ion battery electrolytes and the use of high quality battery grade electrolytes having extremely low water (<10 ppm) and acid (<10 ppm) contents are critical for achieving high electrochemical performance.

Preparation Note

These additives have low water content (less than 100 ppm). Please handle under inert and moisture free enviornment (glove box). Keep containers tightly closed. Keep away from heat and ignition sources. Store in a cool and dry place. Avoid storing together with oxidizers.

Feedback

Legal Information

Product of MU Ionic Solutions Corp

RELATED PRODUCTS

Related Product

450227

Lithium hexafluorophosphate, battery grade, ≥99.99% trace metals basis

View Pricing

757136

Lithium bis(oxalato)borate

View Pricing

Ask a Scientist

774138

Lithium difluoro(oxalato)borate

View Pricing

809942

Dimethyl carbonate, battery grade, ≥99.9%, acid <10 ppm, H2O <10 ppm

View Pricing

809950

Ethylene carbonate, battery grade, ≥99%, acid <10 ppm, H2O <10 ppm

View Pricing

809977

Vinylene carbonate, battery grade, 99.5%, acid <200 ppm, H2O <100 ppm

View Pricing

Feedback

809934

Ethyl methyl carbonate, battery grade, 99.9%, acid <10 ppm, H2O <10ppm

View Pricing

900018

Diethyl carbonate, battery grade, ≥99%, acid <10 ppm, H2O <10 ppm

View Pricing

901686

Fluoroethylene carbonate, battery grade, ≥99%, acid <200 ppm, anhydrous

View Pricing

919977

Lithium bis(trifluoromethanesulfonyl)imide, anhydrous, 99.99% trace metals basis

Ask a Scientist

View Pricing

SAFETY INFORMATION

pictograms	signalword	hcodes	pcodes
GHS07	Warning	H319	P264 - P280 - P305 + P351 + P338 - P337 + P313

Hazard Classifications	wgk_germany	flash_point_f	flash_point_c
Eye Irrit. 2	WGK 1	275.0 °F	135 °C

DOCUMENTATION

Feedback

SDS Specification Sheet

Certificate Of Analysis Certificate Of Origin More Documents

Certificates of Analysis (COA)

Search for Certificates of Analysis (COA) by entering the products Lot/Batch Number. Lot and Batch Numbers can be found on a product's label following the words 'Lot' or 'Batch'.

Lot/Batch Number

e.g. 023J5431

Search

Need A Sample COA?

This is a sample Certificate of Analysis (COA) and may not represent a recently manufactured lot of this specific product.

Ask a Scientist

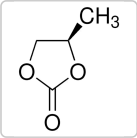
View Sample COA

Already Own This Product?

Find documentation for the products that you have recently purchased in the Document Library.

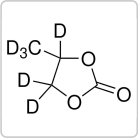
Visit the Document Library

CUSTOMERS ALSO VIEWED



Sigma-Aldrich
540013
(*R*)-(+)-Propylene carbonate

View Price and Availability



Sigma-Aldrich
703230
1,2-Propylene-d_6 carbonate

View Price and Availability

Feedback

PEER REVIEWED PAPERS

Shi C, et al.
Electrochimica Acta, 174 (2015)

Gor YG, et al.
Journal of Power Sources, 294 (2015)

PROTOCOLS AND ARTICLES

Articles

Ask a Scientist

High-Energy Lithium-Ion Batteries

Experts discuss challenges and production processes of nickel-rich layered oxide cathode materials in energy storage systems.

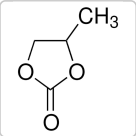
Nanostructured Olivine-based Cathode Materials for Lithium-ion Batteries

Due to the adverse impact of the continued use of fossil fuels on the earth's environment and climate, researchers have been asked to develop new approaches for producing power using renewable sources like...

Ionic Liquids for Rechargeable Batteries

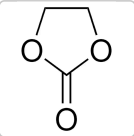
Ionic liquid electrolytes explored for rechargeable batteries' advancement; future IL development discussed.

RECENTLY VIEWED PRODUCTS



Sigma-Aldrich
P52652
Propylene carbonate

View Price and Availability



Sigma-Aldrich
809950
Ethylene carbonate

View Price and Availability

Feedback

Questions

Be the first to ask a question

Reviews

★★★★★

Be the first to write a review

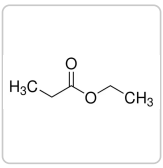
Ask a Scientist

TECHNICAL SERVICE

Our team of scientists has experience in all areas of research including Life Science, Material Science, Chemical Synthesis, Chromatography, Analytical and many others.

Contact Technical Service

© 2024 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.
Reproduction of any materials from the site is strictly forbidden without permission.



All Photos (3)

Documents

SDS

COO/COA

Specification Sheet

More Documents

112305 Sigma-Aldrich.

Share

Ethyl propionate

5.0 (1)

Write a review Ask a question

99%

Synonym(s): Ethyl propanoate, Propionic acid ethyl ester

Sign In to View Organizational & Contract Pricing

Select a Size

Change View

25 ML	500 ML	1 L
$19.90	$51.60	$83.50

112305-25ML

$19.90

Availability

In Stock Details

1

Add to Cart

Request a Bulk Order

Feedback

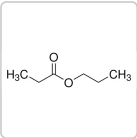
About This Item

Linear Formula:	$CH_3CH_2COOC_2H_5$
CAS Number:	105-37-3
Molecular Weight:	102.13
Beilstein/REAXYS Number:	506287
EC Number:	203-291-4
MDL number:	MFCD00009308
UNSPSC Code:	12352100
eCl@ss:	39022258
PubChem Substance ID:	24847086

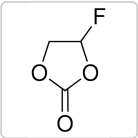
Ask a Scientist

NACRES: NA.22

RECOMMENDED PRODUCTS



Sigma-Aldrich
112267
Propyl propionate



Sigma-Aldrich
757349
Fluoroethylene carbonate

View Price and Availability

View Price and Availability

PROPERTIES

vapor density	3.52 (vs air)
Quality Level	**100**
vapor pressure	40 mmHg (27.2 °C)
assay	99%
form	liquid
autoignition temp.	887 °F
expl. lim.	11 %
refractive index	*n*20/D 1.384 (lit.)
bp	99 °C (lit.)
mp	−73 °C (lit.)
density	0.888 g/mL at 25 °C (lit.)
SMILES string	CCOC(=O)CC

Feedback

Ask a Scientist

InChI	1S/C5H10O2/c1-3-5(6)7-4-2/h3-4H2,1-2H3
InChI key	FKRCODPIKNYEAC-UHFFFAOYSA-N

Looking for similar products? Visit **Product Comparison Guide**

Related Categories

Organic Building Blocks

COMPARE SIMILAR ITEMS

Show Differences

This Item		
	112305 Ethyl propionate	**75563** Ethyl butyrate
	View Price and Availability	View Price and Availability
Quality Level	100	200
density	0.888 g/mL at 25 °C (lit.)	0.875 g/mL at 25 °C (lit.)
bp	99 °C (lit.)	120 °C (lit.)
refractive index	*n*20/D 1.384 (lit.)	*n*20/D 1.392 (lit.), *n*20/D 1.393
form	liquid	-

Feedback

DESCRIPTION

Ask a Scientist

General description

Ethyl propionate is a model for studying the fatty acid ethyl esters which are used as first-generation biodiesel[1].

Application

Ethyl propionate was used to study the effect of its gavage administration on gastric toxicity in male F344 rats[2].

Ethyl propionate, when used for contact dissolution of cholesterol gallstones, shows reduced side effects (attributable to increased blood levels) in piglets when compared to methyl tert-butyl ether[3].

SAFETY INFORMATION

pictograms

GHS02,GHS07

signalword
Danger

hcodes
H225,H315,H319,H335

pcodes
P210 - P233 - P240 - P241 - P303 + P361 + P353 - P305 + P351 + P338

Hazard Classifications
Eye Irrit. 2 - Flam. Liq. 2 - Skin Irrit. 2 - STOT SE 3

target_organs
Respiratory system

wgk_germany
WGK 1

flash_point_f
53.6 °F

flash_point_c
12 °C

ppe
Eyeshields, Faceshields, Gloves, type ABEK (EN14387) respirator filter

DOCUMENTATION

SDS Specification Sheet

Ask a Scientist

Feedback

Certificate Of Analysis Certificate Of Origin More Documents

Certificates of Analysis (COA)

Search for Certificates of Analysis (COA) by entering the products Lot/Batch Number. Lot and Batch Numbers can be found on a product's label following the words 'Lot' or 'Batch'.

Lot/Batch Number

e.g. 023J5431

Search

Need A Sample COA?

This is a sample Certificate of Analysis (COA) and may not represent a recently manufactured lot of this specific product.

View Sample COA

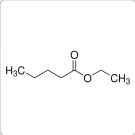
Feedback

Already Own This Product?

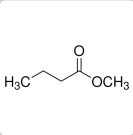
Find documentation for the products that you have recently purchased in the Document Library.

Visit the Document Library

CUSTOMERS ALSO VIEWED



Sigma-Aldrich
290866
Ethyl valerate



Sigma-Aldrich
W269301
Methyl butyrate

Ask a Scientist

View Price and Availability

View Price and Availability

PEER REVIEWED PAPERS

Ethyl acrylate-induced gastric toxicity. II. Structure-toxicity relationships and mechanism.

B I Ghanayem et al.
Toxicology and applied pharmacology, 80(2), 336-344 (1985-09-15)

Earlier studies conducted in this laboratory demonstrated that gavage administration of ethyl acrylate caused pronounced gastric toxicity in rats given single or repeated doses. The current studies were undertaken to investigate the structural, metabolic, and physical basis of this chemically

Atmospheric chemistry of ethyl propionate.

Vibeke F Andersen et al.
The journal of physical chemistry. A, 116(21), 5164-5179 (2012-04-25)

Ethyl propionate is a model for fatty acid ethyl esters used as first-generation biodiesel. The atmospheric chemistry of ethyl propionate was investigated at 980 mbar total pressure. Relative rate measurements in 980 mbar N(2) at 293 ± 0.5 K were

Increased blood levels of methyl tert-butyl ether but not of ethyl propionate during instillation with contact gallstone dissolution agents in the pig.

O Esch et al.
Hepatology (Baltimore, Md.), 18(2), 373-379 (1993-08-01)

We performed experiments in anesthetized piglets with two cholesterol gallstone solvents, methyl tert-butyl ether and ethyl propionate, to determine whether blood levels of either solvent would increase during gallbladder instillation of these solvents under conditions simulating gallstone dissolution. The solvent

Toxic effects of cholelitholytic solvents on gallbladder and liver. A piglet model study.

C Y Chen et al.
Digestive diseases and sciences, 40(2), 419-426 (1995-02-01)

We evaluated the toxic effects of four currently used chemolytic solvents--dimethyl sulfoxide (DMSO, 99%), ethyl propionate (EP, 99%), tetrasodium ethyl-dimethyl tetraacetate (4Na-EDTA, 2%, pH 11), and methyl tert-butyl ether (MTBE, purity = 99.5%) in an animal model. Each solvent was

Acute effects of topical methyl tert-butyl ether or ethyl propionate on gallbladder histology in animals: a comparison of two solvents for contact dissolution of cholesterol gallstones.

O Esch et al.

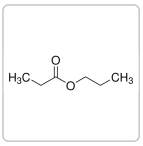
Feedback
Ask a Scientist

Hepatology (Baltimore, Md.), 16(4), 984-991 (1992-10-01)

Experiments were performed in anesthetized rabbits and piglets to assess gallbladder mucosal injury during irrigation with methyl tert-butyl ether, a C5 ether, or ethyl propionate, a C5 ester--two organic solvents used in the contact dissolution of cholesterol gallstones. In 44

View All Related Papers

RECENTLY VIEWED PRODUCTS



Sigma-Aldrich
112267
Propyl propionate

Sigma-Aldrich
160962
Succinonitrile

View Price and Availability

View Price and Availability

Feedback

★★★★★ 5.0 | 1 Review

Search questions and answers

1	0	0
Review	Questions	Answers

Questions

Be the first to ask a question

Reviews

Write a review

Rating Snapshot

Select a row below to filter reviews.

5 ★ 1

Ask a Scientist

4★ 0
3★ 0
2★ 0
1★ 0

Average Customer Ratings

Overall ★★★★★ 5.0

1 Ratings-Only Review

TECHNICAL SERVICE

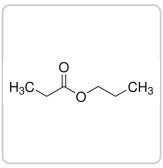
Our team of scientists has experience in all areas of research including Life Science, Material Science, Chemical Synthesis, Chromatography, Analytical and many others.

Contact Technical Service

Feedback

© 2024 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.
Reproduction of any materials from the site is strictly forbidden without permission.

Ask a Scientist



All Photos (3)

Documents

SDS

COO/COA

Specification Sheet

More Documents

112267 Sigma-Aldrich. Share

Propyl propionate

(0) Write a review Ask a question

99%

Synonym(s): Propyl propanoate

Sign In to View Organizational & Contract Pricing

Select a Size

Change View

100 ML	1 L
$83.70	$182.00

112267-100ML

$83.70

Availability

Estimated December to ship on 12, 2024

1

Add to Cart

Request a Bulk Order

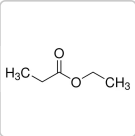
About This Item

Linear Formula:	$CH_3CH_2COOCH_2CH_2CH_3$
CAS Number:	106-36-5
Molecular Weight:	116.16
Beilstein/REAXYS Number:	1699993
EC Number:	203-389-7
MDL number:	MFCD00009373
UNSPSC Code:	12352100
eCl@ss:	39022259
PubChem Substance ID:	24847079
NACRES:	NA.22

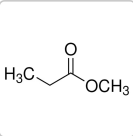
Feedback

Ask a Scientist

RECOMMENDED PRODUCTS



Sigma-Aldrich
112305
Ethyl propionate



Sigma-Aldrich
109258
Methyl propionate

View Price and Availability

View Price and Availability

PROPERTIES

Feedback

Ask a Scientist

vapor density	4 (vs air)
Quality Level	100
assay	99%
refractive index	*n*20/D 1.393 (lit.)
bp	122-124 °C (lit.)
mp	−76 °C (lit.)
density	0.881 g/mL at 25 °C (lit.)
SMILES string	CCCOC(=O)CC
InChI	1S/C6H12O2/c1-3-5-8-6(7)4-2/h3-5H2,1-2H3
InChI key	MCSINKKTEDDPNK-UHFFFAOYSA-N

Feedback

Looking for similar products? Visit **Product Comparison Guide**

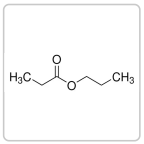
Related Categories

Organic Building Blocks

COMPARE SIMILAR ITEMS

Show Differences

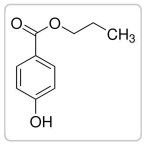
This Item



112267
Propyl propionate

View Price and Availability

Quality Level
100



P53357
Propyl 4-hydroxybenzoate

View Price and Availability

Quality Level
200

Ask a Scientist

This Item	
density 0.881 g/mL at 25 °C (lit.)	**density** -
refractive index *n*20/D 1.393 (lit.)	**refractive index** -
mp −76 °C (lit.)	**mp** 95-98 °C (lit.)
bp 122-124 °C (lit.)	**bp** -

DESCRIPTION

General description

Propyl propionate and water mixtures can be separated by pervaporation using PEBA membranes. The diffusivity of pure propyl propionate in the PEBA membrane is about 28 times higher than pure water diffusivity[1].

Application

Propyl propionate is a general reagent which can be used in various transesterification reactions.[2][3]

SAFETY INFORMATION

pictograms	signalword	hcodes	pcodes
 GHS02,GHS07	Warning	H226,H332	P210 - P233 - P240 - P241 - P242 - P304 + P340 + P312

Hazard Classifications	wgk_germany	flash_point_f	flash_point_c
Acute Tox. 4 Inhalation - Flam. Liq. 3	WGK 1	75.2 °F	24 °C

Feedback

Ask a Scientist

ppe
Eyeshields,
Faceshields, Gloves,
type ABEK
(EN14387)
respirator filter

DOCUMENTATION

SDS Specification Sheet

Certificate Of Analysis Certificate Of Origin More Documents

Certificates of Analysis (COA)

Search for Certificates of Analysis (COA) by entering the products Lot/Batch Number. Lot and Batch Numbers can be found on a product's label following the words 'Lot' or 'Batch'.

Feedback

Lot/Batch Number

e.g. 023J5431

Search

Need A Sample COA?

This is a sample Certificate of Analysis (COA) and may not represent a recently manufactured lot of this specific product.

View Sample COA

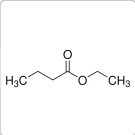
Already Own This Product?

Ask a Scientist

Find documentation for the products that you have recently purchased in the Document Library.

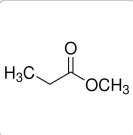
Visit the Document Library

CUSTOMERS ALSO VIEWED



Sigma-Aldrich
E15701
Ethyl butyrate

View Price and Availability



Sigma-Aldrich
109258
Methyl propionate

View Price and Availability

PEER REVIEWED PAPERS

Feedback

Permselectivity, solubility and diffusivity of propyl propionate/water mixtures in poly (ether block amide) membranes.
Mujiburohman M and Feng X.
Journal of Membrane Science , 300(1), 95-103 (2007)

Propyl Propionate Methanolysis Kinetics: Experiment and Modeling.
Povarov V G and Keresten A A
The Journal of Physical Chemistry, 117(38), 9115-9119 (2013)

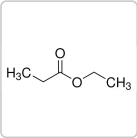
Lipase-catalyzed synthesis of aliphatic poly (carbonate-co-esters).
Jiang Z, et al.
Macromolecules, 41(13), 4671-4680 (2008)

Evaluation of the non-aldehyde volatile compounds formed during deep-fat frying process.
Qing Zhang et al.
Food chemistry, 243, 151-161 (2017-11-18)

Ask a Scientist

To investigate the non-aldehyde volatile profile resulting from deep-fat frying, volatile compounds formed during the processes of heating soybean oil (SO), frying wheat dough (WD), and frying chicken breast meat (CBM) were comparatively studied. By using gas chromatography-mass spectrometry and

RECENTLY VIEWED PRODUCTS



Sigma-Aldrich
112305
Ethyl propionate

View Price and Availability

Sigma-Aldrich
160962
Succinonitrile

View Price and Availability

Feedback

Questions

Be the first to ask a question

Reviews

★★★★★

Be the first to write a review

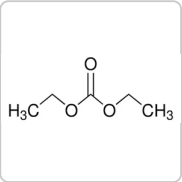
TECHNICAL SERVICE

Our team of scientists has experience in all areas of research including Life Science, Material Science, Chemical Synthesis, Chromatography, Analytical and many others.

Ask a Scientist

Contact Technical Service

© 2024 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.
Reproduction of any materials from the site is strictly forbidden without permission.



All Photos (5)

Key Documents

SDS

D/COA

Specification Sheet

View All Documentation

D91551 Sigma-Aldrich.

Share

Diethyl carbonate

(0) Write a review Ask a question

99%

Synonym(s): DEC

Sign In to View Organizational & Contract Pricing

Select a Size

Change View

250 ML	1 L	4 L	18 L
$43.90	$167.00	$361.00	$1,220.00

D91551-250ML

$43.90

In Stock Details

1

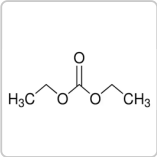
Add to Cart

Request a Bulk Order

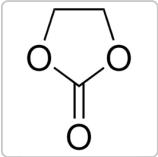
About This Item

Linear Formula:	$(C_2H_5O)_2CO$
CAS Number:	105-58-8
Molecular Weight:	118.13
Beilstein/REAXYS Number:	956591
EC Number:	203-311-1
MDL number:	MFCD00009107
UNSPSC Code:	12352108
PubChem Substance ID:	24894264
NACRES:	NA.22

RECOMMENDED PRODUCTS



Sigma-Aldrich
517135
Diethyl carbonate



Sigma-Aldrich
E26258
Ethylene carbonate

Quick View

Quick View

PROPERTIES

vapor density	4.1 (vs air)
Quality Level	**100**
vapor pressure	10 mmHg (23.8 °C) 59 mmHg (37.8 °C)
assay	99%
form	liquid
greener alternative product characteristics	Less Hazardous Chemical Syntheses Safer Solvents and Auxiliaries Design for Degradation Learn more about the **Principles of Green Chemistry**.
sustainability	Greener Alternative Product
refractive index	*n*20/D 1.384 (lit.)
bp	126-128 °C (lit.)
mp	−43 °C (lit.)
density	0.975 g/mL at 25 °C (lit.)
greener alternative category	**Aligned**,
SMILES string	O=C(OCC)OCC

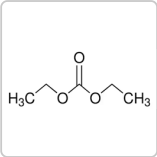
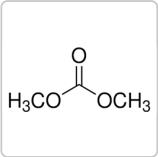
Feedback

InChI	1S/C5H10O3/c1-3-7-5(6)8-4-2/h3-4H2,1-2H3
InChI key	OIFBSDVPJOWBCH-UHFFFAOYSA-N

Looking for similar products? Visit **Product Comparison Guide**

COMPARE SIMILAR ITEMS

Show Differences

This Item	
	
D91551 Diethyl carbonate	**D152927** Dimethyl carbonate
Quick View	Quick View
Quality Level 100	**Quality Level** 200
density 0.975 g/mL at 25 °C (lit.)	**density** 1.069 g/mL at 25 °C (lit.)
bp 126-128 °C (lit.)	**bp** 90 °C (lit.)
form liquid	**form** liquid
mp −43 °C (lit.)	**mp** 2-4 °C (lit.)

Feedback

DESCRIPTION

General description

We are committed to bringing you Greener Alternative Products, which adhere to one or more of The 12 Principles of Greener Chemistry. This product is used as a greener reagent. **Click here** for more information.

Application

Diethyl carbonate (DEC) is generally used in the *C*-alkoxycarbonylation of enolate anions, aryl and alkyl cyanides.[1] It reacts with 1,2-amino alcohols to yield corresponding 2-oxazolidinones.[2] Additionally, DEC is also used as a component of electrolyte solution in lithium ion batteries.[3][4]

SAFETY INFORMATION

pictograms	signalword	hcodes	pcodes
GHS02	Warning	H226	P210 - P233 - P240 - P241 - P242 - P243

Hazard Classifications	Storage Class	wgk_germany	flash_point_f
Flam. Liq. 3	3 - Flammable liquids	WGK 1	77.0 °F - closed cup

flash_point_c	ppe
25 °C - closed cup	Eyeshields, Faceshields, Gloves, type ABEK (EN14387) respirator filter

Feedback

DOCUMENTATION

SDS Specification Sheet

Certificate Of Analysis Certificate Of Origin More Documents

Choose from one of the most recent versions:

Certificates of Analysis (COA)

Lot/Batch Number

MKCV6090

STBL3507

MKCW9207

MKCS9198

STBL1450

Don't see the Right Version?

If you require a particular version, you can look up a specific certificate by the Lot or Batch number.

Search for a COA

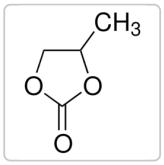
Already Own This Product?

Find documentation for the products that you have recently purchased in the Document Library.

Visit the Document Library

CUSTOMERS ALSO VIEWED

Feedback



Sigma-Aldrich
310328
Propylene carbonate

Quick View

Sigma-Aldrich
450227
Lithium hexafluorophosphate

Quick View

PEER REVIEWED PAPERS

Diastereoselective Aldol Condensation Using a Chiral Oxazolidinone Auxiliary:(2S*, 3S*)-3-Hydroxy-3-phenyl-2-methylpropanoic Acid: Benzenepropanoic acid, β-hydroxy-α-methyl-, [S-(R*, R*)]-

Gage JR and Evans DA
Organic Syntheses, 68, 83-83 (2003)

The study of the anodic stability of alkyl carbonate solutions by in situ FTIR spectroscopy, EQCM, NMR and MS.

Moshkovich M, et al.

Journal of Electroanalytical Chemistry, 497(1-2), 84-96 (2001)

Thermal stability of alkyl carbonate mixed-solvent electrolytes for lithium ion cells.

Kawamura T, et al.
Journal of Power Sources, 104(2), 260-264 (2002)

Diethyl Carbonate.

Krapcho AP and Gorin DJ
Encyclopedia of Reagents for Organic Synthesis, Second Edition, 1-10 (2001)

Enzymatic synthesis and chemical recycling of poly(carbonate-urethane).

Yasuyuki Soeda et al.
Macromolecular bioscience, 4(8), 721-728 (2004-10-07)

Novel enzymatically recyclable poly(carbonate-urethane) consisting of a diurethane moiety as a hard segment and a carbonate linkage as an enzymatically cleavable unit was prepared by the polycondensation of biodegradable diurethanediol and diethyl carbonate using lipase. The produced poly(carbonate-urethane) was readily

View All Related Papers

Feedback

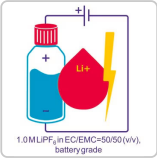
PROTOCOLS AND ARTICLES

Articles

Complex Hydrides: New Solid-state Conductors

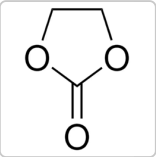
Solid-state lithium fast-ion conductors are crucial for safer, high-energy-density all-solid-state batteries, addressing conventional battery limitations.

RECENTLY VIEWED PRODUCTS



Sigma-Aldrich
746738
Lithium hexafluorophosphate...

Quick View



Sigma-Aldrich
809950
Ethylene carbonate

Quick View

★★★★★

Search questions and answers

0	2	2
Reviews	Questions	Answers

Questions

Ask a question

1–2 of 2 Questions

Sort by:

Anonymous · 3 months ago

1 answer

How is shipping temperature determined? And how is it related to the product storage temperature?

Technical Support · 3 months ago

Products may be shipped at a different temperature than the recommended long-term storage temperature. If the product quality is sensitive to short-term exposure to conditions other than the recommended long-term storage, it will be shipped on wet or dry-ice. If the product quality is NOT affected by short-term exposure to conditions other than the recommended long-term storage, it will be shipped at ambient temperature. As shipping routes are configured for minimum transit times, shipping at ambient temperature helps control shipping costs for our customers. For more information, please refer to the Storage and Transport Conditions document: https://www.sigmaaldrich.com/deepweb/assets/sigmaaldrich/marketing/global/documents/316/622/storage-transport-conditions-mk.pdf

Helpful? Yes · 0 No · 0 Report

Feedback

Anonymous · 3 months ago

1 answer

How can I determine the shelf life / expiration / retest date of this product?

Technical Support · 3 months ago

If this product has an expiration or retest date, it will be shown on the Certificate of Analysis (COA, CofA). If there is no retest or expiration date listed on the product's COA, we do not have suitable stability data to determine a shelf life. For these products, the only date on the COA will be the release date; a retest, expiration, or use-by-date will not be displayed.
For all products, we recommend handling per defined conditions as printed in our product literature and website product descriptions. We recommend that products should be routinely inspected by customers to ensure they perform as expected.
For products without retest or expiration dates, our standard warranty of 1 year from the date of shipment is applicable.
For more information, please refer to the Product Dating Information document:
https://www.sigmaaldrich.com/deepweb/assets/sigmaaldrich/marketing/global/documents/449/386/product-dating-information-mk.pdf

Feedback

Helpful? Yes · 0 No · 0 Report

Reviews

★★★★★

Be the first to write a review

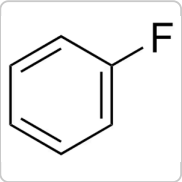
TECHNICAL SERVICE

Our team of scientists has experience in all areas of research including Life Science, Material Science, Chemical Synthesis, Chromatography, Analytical and many others.

Contact Technical Service

© 2025 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.
Reproduction of any materials from the site is strictly forbidden without permission.

Feedback



All Photos (1)

Key Documents

SDS

COO/COA

Specification Sheet

View All Documentation

Feedback

F6001 ▶ Sigma-Aldrich.

Share

Fluorobenzene

(0) Write a review Ask a question

99%

Synonym(s): Monofluorobenzene, Phenyl fluoride

Sign In to View Organizational & Contract Pricing

Select a Size

Change View

5 G	100 G	500 G
$37.50	$51.40	$167.00

F6001-5G-A

$37.50

In Stock Details

1

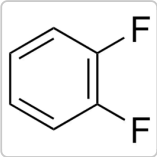
Add to Cart

Request a Bulk Order

About This Item

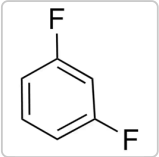
Empirical Formula (Hill Notation):	C_6H_5F
CAS Number:	462-06-6
Molecular Weight:	96.10
Beilstein/REAXYS Number:	1236623
EC Number:	207-321-7
MDL number:	MFCD00000280
UNSPSC Code:	12352100
PubChem Substance ID:	24894898
NACRES:	NA.22

RECOMMENDED PRODUCTS



Sigma-Aldrich
126152
1,2-Difluorobenzene

Quick View



Sigma-Aldrich
D102008
1,3-Difluorobenzene

Quick View

PROPERTIES

vapor density	3.31 (vs air)
Quality Level	200
assay	99%
refractive index	*n*20/D 1.465 (lit.)
bp	85 °C (lit.)
mp	−42 °C (lit.)
density	1.024 g/mL at 25 °C (lit.)
SMILES string	Fc1ccccc1
InChI	1S/C6H5F/c7-6-4-2-1-3-5-6/h1-5H
InChI key	PYLWMHQQBFSUBP-UHFFFAOYSA-N

Looking for similar products? Visit **Product Comparison Guide**

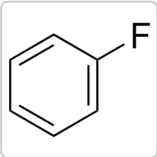
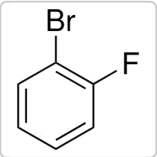
Related Categories

Chemical Building Blocks
Chemistry & Biochemicals
Fluorinated Building Blocks
Organic Building Blocks

Feedback

COMPARE SIMILAR ITEMS

Show Differences

This Item		
	**F6001** Fluorobenzene	 **B66809** 1-Bromo-2-fluorobenzene
	Quick View	Quick View
Quality Level	200	200
mp	−42 °C (lit.)	-
density	1.024 g/mL at 25 °C (lit.)	1.601 g/mL at 25 °C (lit.)
refractive index	*n*20/D 1.465 (lit.)	*n*20/D 1.534 (lit.)
bp	85 °C (lit.)	-

Feedback

DESCRIPTION

Application

Fluorobenzene is generally used as a solvent in synthetic chemistry.[1][2] It can also be used as an aryl fluoride precursor in the nickel-catalyzed cross-coupling reactions.[3][4]

SAFETY INFORMATION

pictograms	signalword	hcodes	pcodes
	Danger	H225,H318,H411	P210 - P233 - P240 - P273 - P280 - P305 + P351 + P338

GHS02,GHS05,GHS09

Hazard Classifications	Storage Class	wgk_germany	flash_point_f
Aquatic Chronic 2 - Eye Dam. 1 - Flam. Liq. 2	3 - Flammable liquids	WGK 2	5.0 °F - closed cup

flash_point_c	ppe
-15 °C - closed cup	Eyeshields, Faceshields, Gloves, type ABEK (EN14387) respirator filter

DOCUMENTATION

SDS Specification Sheet

Certificate Of Analysis Certificate Of Origin More Documents

Choose from one of the most recent versions:

Certificates of Analysis (COA)

Lot/Batch Number

BCCL4783

BCCJ5073

BCCF2162

BCCD0934

BCCC5904

Don't see the Right Version?

If you require a particular version, you can look up a specific certificate by the Lot or Batch number.

Search for a COA

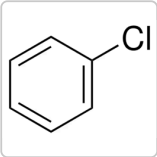
Feedback

Already Own This Product?

Find documentation for the products that you have recently purchased in the Document Library.

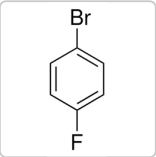
Visit the Document Library

CUSTOMERS ALSO VIEWED



Sigma-Aldrich
284513
Chlorobenzene

Quick View



Sigma-Aldrich
B67201
1-Bromo-4-fluorobenzene

Quick View

PEER REVIEWED PAPERS

Reactions of a cyclic rhodium carbenoid with aromatic compounds and vinyl ethers.
Pirrung, Michael C et al.
The Journal of Organic Chemistry, 60(7), 2112-2124 (1995)

Coordinatively unsaturated ruthenium phosphine half-sandwich complexes: Correlations to structure and reactivity.
Aneetha, Halikhedkar et al.
Organometallics, 21(24), 5334-5346 (2002)

Nickel-catalyzed Suzuki-Miyaura reaction of aryl fluorides.
Tobisu, Mamoru et al.
Journal of the American Chemical Society, 133(48), 19505-19511 (2011)

Homogeneity assessment of reference materials for sensory analysis of liquid foodstuffs. The virgin olive oil as case study.
Fidel Ortega-Gavilán et al.
Food chemistry, 322, 126743-126743 (2020-04-14)

Feedback

Sensory properties are critical characteristics that determine quality and can be evaluated by trained tasting panels. The panels function as multi-sensor measuring instrument and need the use of reference materials (RMs) for training. The homogeneity between units packaged from a

---

Multivariate approaches for stability control of the olive oil reference materials for sensory analysis - part II: applications.

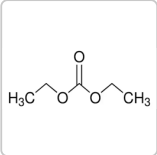
Lucia Valverde-Som et al.
Journal of the science of food and agriculture, 98(11), 4245-4252 (2018-02-10)

The organoleptic quality of virgin olive oil depends on positive and negative sensory attributes. These attributes are related to volatile organic compounds and phenolic compounds that represent the aroma and taste (flavour) of the virgin olive oil. The flavour is

---

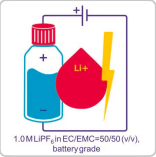
View All Related Papers

RECENTLY VIEWED PRODUCTS



Sigma-Aldrich
D91551
Diethyl carbonate

Quick View



Sigma-Aldrich
746738
Lithium hexafluorophosphate...

Quick View

Feedback

Questions

Be the first to ask a question

Reviews

★★★★★

Be the first to write a review

TECHNICAL SERVICE

Our team of scientists has experience in all areas of research including Life Science, Material Science, Chemical Synthesis, Chromatography, Analytical and many others.

Contact Technical Service

© 2025 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.
Reproduction of any materials from the site is strictly forbidden without permission.

Feedback