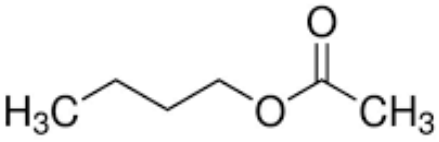
Butyl Acetate
Product Quality, Regulatory & Technical Information Package
June 2025

Product Name:	**Butyl Acetate**
Chemical Name:	Butyl Acetate
CAS number:	123-86-4
Celanese (bulk) Material number:	50000457



Disclaimer

Celanese is supplying Butyl Acetate as a technical grade product.

This document provides information about technical grade Butyl Acetate ("Product") produced by Celanese and its affiliates ("Celanese" or "we"). The information presented in this document is based on our present state of knowledge and is intended to provide general notes on the Product and its intended uses. It does not constitute a guarantee of any specific properties of the Products described herein or its suitability for a particular application. The customer must make the sole determination whether the Product is suitable for the desired use. Celanese undertakes no obligation to update the information in this document.

The practice of providing this information to customers is for their convenience and is not legally binding. It does not alter the terms and conditions of sale, including without limitation, any limits of liability, applicable to the underlying commercial transaction involving the Product(s) to which this information applies. The Information is intended for use by persons having skill with respect to the subject matter involved.

Celanese makes no warranties, express or implied, and assumes no liability for the accuracy or completeness or in connection with any use of this information. Nothing herein is intended as a license to operate under or a recommendation to infringe any patents.

General

Further literature to the Product, such as Safety Data Sheet, Brochures and Specifications can be retrieved from Celanese website www.celanese.com.

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Product Description

Butyl Acetate is a neutral, colorless liquid with a characteristic odor. It is miscible with organic solvents in all proportions.

Dissolving power:
Butyl Acetate is an excellent solvent for nitrocellulose, cellulose ethers, celluloid, chlorinated rubber, polyvinyl acetates, polyvinyl chloride, vinyl acetate/vinyl chloride/dicarboxylic acid copolymers, polystyrene (coatings), polyacrylates, most natural resins, plasticizers, oils and fats.

Partially soluble substances:
Urea-formaldehyde resins and asphalt.

Insoluble substances:
Cellulose acetate, congo copal, shellac, polyvinyl butyrals and polyvinyl carbazole.

Substances that swell in Butyl Acetate:
Cellulose acetate butyrate, polyisobutylene, rubber and polyvinyl formal.

The excellent dissolving power of Butyl Acetate, its good volatility, high solubility (especially in a mixture with alcohols) and resistance to blushing of drying paint films make it one of the most important medium-volatility solvents for paints, coatings, printing inks and aerosol sprays.

Butyl Acetate may also be used in combination with lacquers. It can be employed for example for the isocyanate component in catalyzed lacquers.

Because of its pleasant odor, Butyl Acetate may be used in the manufacture of essences, perfumes, stain removers and glazed paper.
It is also used as process solvent or as an extraction solvent in the chemical and pharmaceutical industries and as solvent for adhesives.

Physical properties

Data are intended for the purpose of product description and are not the subject of continuous monitoring. Further physical properties and characteristic data as well as information on safety and handling are listed in the safety data sheet and the sales specifications. Please consult www.celanese.com.

Property		Metric Units	English Units
Boiling Point @ 101.3 kPa (14.69 psi)		126.1 °C	259.0 °F
Dielectric Constant @20 °C (68 °F) (DIN 53 483)		5	
Evaporation number (diethyl ether = 1) (DIN 53 170)		11	
Heat of Vaporization	@20 °C (68 °F)	380.8 kJ/kg	163.7 Btu/lb_m
	@30 °C (86 °F)	375.4 kJ/kg	161.4 Btu/lb_m
	@50 °C (122 °F)	364.5 kJ/kg	156.7 Btu/lb_m
Liquid Heat Capacity	@20 °C (68 °F)	1.934 kJ/(kg·K)	0.462 Btu/(lb_m·°F)
	@30 °C (86 °F)	1.968 kJ/(kg·K)	0.470 Btu/(lb_m·°F)
	@50 °C (122 °F)	2.035 kJ/(kg·K)	0.486 Btu/(lb_m·°F)
Liquid Thermal Conductivity	@20 °C (68 °F)	0.1395 W/(m·K)	0.0806 Btu/(hr·ft·F)
	@30 °C (86 °F)	0.1371 W/(m·K)	0.0792 Btu/(hr·ft·°F)
	@50 °C (122 °F)	0.1315 W/(m·K)	0.0760 Btu/(hr·ft·°F)
Melting Point		- 78 °C	-108.4 °F
Molar Mass		116.16 g/mole	
Refractive Index n_D^{20} (68 °F)		1.393 – 1.395	
Solubility @20 °C (68 °F) wt%, Butyl Acetate in Water		0.53	
Solubility @20 °C (68 °F) wt%, Water in Butyl Acetate		1.4	
Vapor Density (Air = 1)		4.0	
Viscosity	@20 °C (68 °F)	0.73 mPa · s	
	@30 °C (86 °F)	0.63 mPa · s	
	@50 °C (122 °F)	0.50 mPa · s	

T (°F)	T (°C)	Density in Air (g/cm³)
33.8	1	0.8994
41	5	0.8954
50	10	0.8904
59	15	0.8853
68	20	0.8803
77	25	0.8752
86	30	0.8702
95	35	0.8651
104	40	0.8601

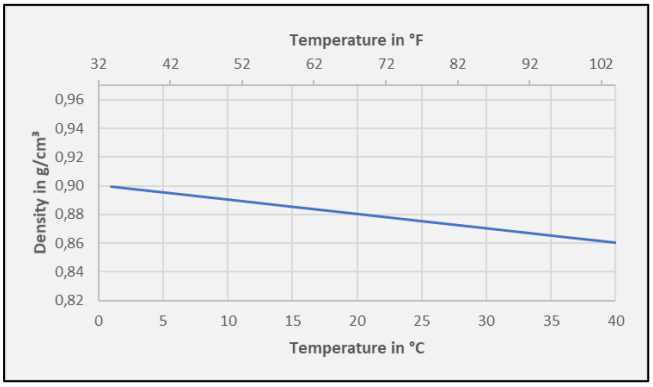

Figure 1: Density in Air as a function of Temperature

T (°F)	T (°C)	Vapor Pressure (hPa)
32	0	2.8
41	5	4.0
50	10	5.7
59	15	8.0
68	20	11.0
77	25	14.9
86	30	20.0
95	35	26.6
104	40	34.8
113	45	45.1
122	50	58.0

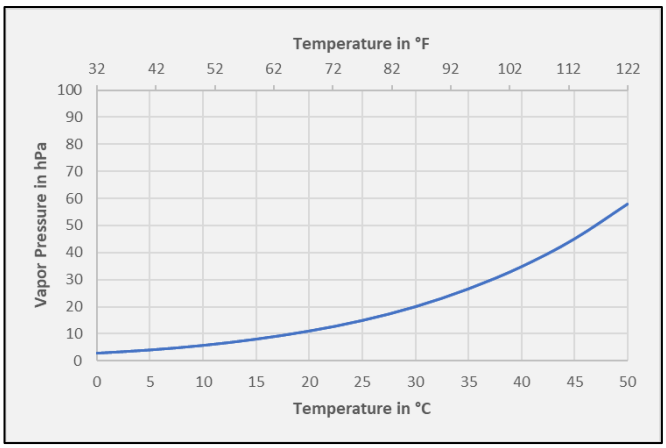

Figure 2: Vapor Pressure as a function of Temperature

Storage and Handling Recommendations

Storage

Recommended Blanketing	Air[a,b] or Dry Nitrogen[a,b,c]
Recommended Temperature	Ambient
Recommended pressure	Atmospheric
Bulk Quantities	Outside, detached tanks
Small Containers	Cool, dry, well ventilated area

a. Refer to National Fire Protection Agency (NFPA) #77 "Static Electricity" or the respective national technical code for proper electrical grounding procedures.
b. See the National Fire Protection Agency (NFPA) #30 "Flammable and Combustible Liquids Code" or the respective national technical code and consult with qualified fire protection specialists to determine specific storage tank design requirements.
c. Blanketing may be used to retain quality in long-term storage conditions.

Handling

- Thoroughly review Safety Data Sheet before handling product.
- Protect small containers from physical damage. Keep containers closed when not in use. Open containers slowly to allow any excess pressure to vent.
- Keep away from heat, sparks, flame or other sources of ignition. Use spark-resistant tools.
- See the National Fire Protection Agency (NFPA) #30 "Flammable and Combustible Liquids Code" or the respective national technical code and consult with qualified fire protection specialists to determine specific storage tank design requirements.
- Use proper electrical grounding and bonding procedures when loading, unloading and transferring. Refer to the National Fire Protection Agency (NFPA) #77 "Recommended Practice for Static Electricity" or the respective national technical code for proper electrical grounding procedures.
- Electrical equipment and circuits in all storage and handling areas must conform to requirements of national electrical code (Articles 500 and 501) or the respective national technical code for hazardous location.
- Refer to the Safety Data Sheet for more information on materials to avoid.
- For further information on safety and handling, please use the following link: https://www.celanese.com/sds-search

Packaging

The following containers are suitable for handling and transportation of the Product:

- DOT 111A100W1 Tank Cars
- DOT MC 307 or DOT 407 Tank Trucks
- UN 1A1/X1.2/300 55-Gallon Carbon Steel Drums
- Ship Tank and Barge

The Product is available from Celanese as bulk material.

Materials of Construction

Unit / element	Acceptable Material	Alternate Material
Tank	Stainless Steel [a]	Aluminum [b] Lined Carbon Steel [c] Carbon Steel [d]
Piping	Carbon Steel	Stainless Steel [a] Aluminum [b]
Valves	Carbon Steel	Stainless Steel [a] Aluminum [b]
Pumps	Cast Iron, Carbon Steel	Stainless Steel [a]
Relief Valves	Carbon Steel	Stainless Steel [a]
Gaskets	Glass filled PTFE [e]	PTFE [e]
Pump Seals	Single Mechanical Seal: # 5 Carbon to Silicon carbide faces	–
Valve Packing	PTFE [e]	Braided PTFE [e]
Pipe End Connections	Welded and flanged system	Threaded with PTFE [e] tape thread lubricant
Heat Exchanger	Product side: Carbon Steel	Product side: Stainless Steel [a]
Hoses	Stainless Steel [a]	Aluminum [b]
Tank Truck	Stainless Steel [a]	Aluminum [b]
Tank Car	Stainless Steel [a]	Aluminum [b] Carbon Steel [d]
ISO Tank	Stainless Steel [a]	Aluminum [b] Carbon Steel [d]
Barge	Stainless Steel [a]	Carbon Steel [d] Lined Carbon Steel [c] Zinc Lined Carbon Steel [f]
Ship Tank	Stainless Steel [a]	Lined Carbon Steel [c] Zinc Lined Carbon Steel [f]

a. Type 304 or 316 Stainless Steel
b. Use 3000, 5000, 6000 series Aluminum when temperature does not exceed 120 °F (49 °C)
c. Lining refers to high baked phenolic resin
d. Rust free
e. Polytetrafluoroethylene
f. Zinc lining refers to Zinc Silicate, Inorganic Zinc or Zinc Rich Inorganic

Product Quality Statements

Manufacturing Locations

The Product is produced at manufacturing location in Singapore.

- Singapore Plant
  21 Sakra Avenue
  Singapore 627883

ISO Certification

The Product is a technical grade material produced under ISO 9001 rules. Certificates are available at Celanese web page (Select Filter "Intermediate Chemistry" and additional filters to retrieve the Certificate from the respective Manufacturing site):
https://www.celanese.com/certificate-search

Specification

The Product is supplied according to Celanese Sales Specification. A copy of the Sales Specification is attached to this dossier.

1. Celanese has a product traceability and withdrawal/recall program in place which we believe is appropriate for technical grade products.
2. The Product is not manufactured under GMP rules.
3. Celanese makes no nutrition statement.
4. There is no food or pharmaceutical grade hazard assessment program available for the Product.

Manufacturing Process & Raw Materials

The production of the Product relies on chemical synthesis, namely esterification. Butan-1-ol and Acetic Acid are being used as feedstock for the synthesis according to the chemical equation:

Acetic Acid + Butan-1-ol → Butyl Acetate + Water

The crude Butyl Acetate is purified via distillation.

Celanese supplies basic chemicals. Our production technology relies on a continuous production process, and the raw materials are mainly from fossil origin from national wide pipeline networks that might contain trace amounts of bio-content, independent of any Celanese activity. Because of the multiple reaction and purification steps along the value chain to produce Butyl Acetate, we believe that the quality properties of our products are not influenced by the bio-content feedstock. All catalysts and processing aids are of synthetic origin. During the manufacturing process, the material does not come into contact with materials of animal origin.

Shelf Life

The shelf life of the Product is one year.

The shelf life dates from the date of packaging, and for bulk deliveries this is the date of loading. This period is in general applicable to material

- packaged in discrete containers such as drums or bulk containers and
- stored under conditions recommended by Celanese.

For the Product this entails storage at ambient temperatures in tightly sealed, undamaged containers in a cool and well-ventilated place under dry air or dry nitrogen blanket. Blanketing may be used to retain quality in long term storage conditions, especially to prevent access of humidity.

Most products will have a longer useful life, but should be examined by the owner at its sole responsibility at the end of the recommended storage life to determine purity and condition of product. Bulk storage life, under recommended storage conditions, may be longer if the Product is routinely monitored for specific indications of the condition of the material, or if the Product in the tank is removed and replenished with fresh material on a routine basis. Any use of the Product after expiration of the shelf life is the sole responsibility of the buyer.

Kosher

The Product is not available as a certified Kosher grade.

Celanese supplies basic chemicals. Our production technology relies on a continuous production process, and the raw materials are mainly from fossil origin from national wide pipeline networks that might contain trace amounts of bio-content, independent of any Celanese activity. Because of the multiple reaction and purification steps along the value chain to produce Butyl Acetate, we believe that the quality properties of our products are not influenced by the bio-content feedstock. All catalysts and processing aids are of synthetic origin; we do not use any raw materials having an animal (diary) origin, nor is our process likely to be contaminated by such.

Halal

The Product is not available as a certified Halal grade.

Celanese supplies basic chemicals. Our production technology relies on a continuous production process, and the raw materials are mainly from fossil origin from national wide pipeline networks that might contain trace amounts of bio-content, independent of any Celanese activity. Because of the multiple reaction and purification steps along the value chain to produce Butyl Acetate, we believe that the quality properties of our products are not influenced by the bio-content feedstock. All catalysts and processing aids are of synthetic origin; we do not use any raw materials having an animal (diary) origin, nor is our process likely to be contaminated by such. Ethanol is not used as raw material or processing aid.

ICH Guidelines

The Product does not, based on Celanese's knowledge, contain solvents in the concentration limits specified by the ICH Guideline Q3C(R9) for residual solvents.

The Product itself is defined as a class 3 solvent by the ICH Guideline for residual solvents.
The major impurities classified as solvent according to the ICH Guideline Q3C(R9) for residual solvents contained in the Product are Acetic Acid, Butanol and Isobutyl Acetate. Acetic Acid, Butanol and Isobutyl Acetate are listed as class 3 solvents in the guideline.

The Product does not contain intentionally added sources of biological substances as described in ICH: Q5A (R2): Viral safety evaluation of biotechnology products derived from cell lines of human or animal origin.

Radiation

The Product is not subjected to any artificial radiation.

Regulatory Statements

BSE/TSE

Raw materials are mainly from fossil origin from national wide pipeline networks that might contain trace amounts of bio-content, independent of any Celanese activity. Because of the multiple reaction and purification steps along the value chain to produce Butyl Acetate, we believe that the quality properties in terms of BSE/TSE are not influenced by the bio-content feedstock.

Genetically Modified Organisms (GMO)

The chemistry to manufacture the Product does not use genetically modified or engineered organisms or biomaterials. No GMO/GME substances are added to the Product.
The product is not verified through the Non-GMO Project Verification Program.

Butyl Acetate is produced mainly from fossil origin raw materials from national wide industry pipeline networks that might contain trace amounts of bio-content, independent of any Celanese activity. This bio-content might come from GMO sources. Because of the multiple reaction and purification steps along the value chain to produce Celanese's products, we believe that the quality properties in terms of GMO are not influenced by the bio-content feedstock. However, we do not have a specification for them, and we do not analyze them.

Global Country Inventories

The substance is listed in the following country/region inventories:

Chemical Inventory Status	listed	comments
Australia (AIIC)	yes	
Canada (DSL)	yes	
China (IECSC)	yes	
Japan (ENCS)	yes	
New Zealand (NZIOC)	yes	
Philippines (PICCS)	yes	
USA (TSCA)*	yes	active

Chemical Inventory Status	listed	comments
Korea (KECI)	yes	
Taiwan (TCSI)	yes	
Mexico (INSQ)	yes	

* It is not subject to any action under TSCA Section 4, 5, 6, 8a, 8d, or 12b.

Allergens

The Product does not, based on Celanese's knowledge, contain the following substances and products thereof commonly associated with food allergens:

- Peanut
- Soya
- Bean
- Milk
- Egg
- Fish
- Peas
- Barley
- Lupine
- Mollusks
- Sulfur Dioxide
- Sulphites
- Tree nuts
- Wheat
- Crustaceans
- Gluten
- Glycerol
- Mustard

Excluded Substances

These substances are not, based on Celanese's knowledge, present in the Product. They are not known to be generated in the production process, nor are we aware of such substances appearing as impurities in the raw materials. However, we do not have a specification for those substances, nor do we analyze for them.
No metals are intentionally added to the Product or the production process. Normal trace levels of metals however may be found in the Product.

- 2,4,6-Tris(tert-butyl)phenol (2,4,6-TTBP)
- Aflatoxins
- Algaecide / biocide
- Alkyl phenol ethoxylates (APEO)
- Anti-oxidants, such as BHT, BHA, TNPP
- Aromatic amines
- Aromatic hydrocarbons
- Asbestos
- Azo compounds
- BADGE (2,2-bis(4-hydroxyphenyl)propane bis(2,3-epoxypropyl) ether)
- BFDGE (bis(hydroxyphenyl)methane bis(2,3-epoxypropyl) ethers)
- Bisphenol A
- Bisphenol F
- Brominated flame retardants
- Coloring Agents / Dyes
- Nanoparticle-based protein Therapeutics
- Naphthalene
- Natural Latex
- Nitrates
- Nitrogen oxide
- Nitrosamines
- Nitrosating agents
- NOGE (novolac glycidyl ether)
- Organotin compounds
- Ortho phenyl phenol (OPP)
- Ozone depleting substances
- Palm Oils / Palm Kernel Oils
- Paradichlorobenzene (PDCB)
- Pentachlorothiophenol (PCTP)
- Per- and polyfluoroalkyl substances (PFAS)[1]
- Pesticides

[1] PFAS as defined by the OECD: PFAS definition published by Organization for Economic Co-operation and Development (OECD) provided at this LINK (last accessed on 25 July 2024) or via DOI 10.1787/e458e796-en

- Cytokines
- Decabromodiphenyl ether (DecaBDE)
- Dioxins
- Epoxy compounds
- Ethylene oxide
- Flame retardants
- Fluorochemicals
- Formaldehyde and Formaldehyde releasers
- Fragrances
- Glycol ethers
- Gold
- Halogens / Halogenated compounds
- Heavy metals
- Hexachlorobutadiene (HCBD)
- Hybridoma cells
- Hydrogen chloride
- Jatropha
- Melamine
- Microplastics
- Mineral Oil Aromatic Hydrocarbons (MOAH)
- Mineral Oil Saturated Hydrocarbons (MOSH)
- Monoclonal antibodies
- Nanomaterials per US EPA definition
- Phenol, isopropylated phosphate (PIP 3:1)
- Phosphates
- Phthalates
- Pigments
- Plasticizers
- Polybrominated substances
- Polychlorinated substances
- Polycyclic Aromatic Hydrocarbons (PAH)
- Polyvinyl chloride (PVC)
- Protein subunits
- Radioactive substances
- Sewer sludge
- Silicones
- Subunit vaccines from in-vitro cell culture
- Sulfites, Sulfur dioxide, sulfates
- Talc
- Tantalum
- Tin
- Tribromophenol
- Triclosan
- Tungsten
- Viral vectors and Viral vector derived products

Volatile Organic Compounds (VOC)

Status: 1st March 2025

The Product fulfills the criteria and is considered a VOC according to

- 2010/75/EU on industrial emissions (integrated pollution prevention and control) (Recast)
- 2004/42/CE on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products (Paints Directive)
- Swiss OVOC, Ordinance on the Incentive Tax on Volatile Organic Compounds 814.018

Butyl acetate is considered a volatile organic compound (VOC). While it has a low potential to bioaccumulate and is not highly toxic to aquatic life, it does contribute to the formation of ground-level ozone.

Attachment I: Sales Specifications

Celanese
The chemistry inside innovation™

n-Butyl Acetate

CAS-No. 123-86-4

Sales Specification

Specifications [1]		Limit	Unit
n-Butyl Acetate [2]	min.	99.5 [3]	wt. %
n-Butyl Alcohol	max.	0.50	wt. %
Water	max.	0.050	wt. %
Color	max.	10	Pt-Co
Acidity, as Acetic Acid	max.	0.01	wt. %
Odor [4]	-	Non-Residual	-

(1) Test methods available upon request.
(2) Product is Urethane grade.
(3) By Difference – 100.0 % minus (acid plus water plus impurities as determined by Gas Chromatography).
(4) Product conforms to limit, but test is not routinely performed on every shipment.

Product Numbers: 50000457

Additional Product numbers in use for other packaging. Please contact your Sales Support.

Spec. BUAC-001-Global-Jun25

Supersedes: Nov-2014

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