Safety Data Sheet

n-Butyl acetate

Section 1: Chemical Product and Company Identification

Product Name: n-Butyl acetate

Catalog Codes: 261

CAS#: 123-86-4

RTECS: No data available

Synonym: Acetic acid n-butyl ester, Butyl ethanoate

Chemical Name: n-Butyl acetate

Chemical Formula: $C_6H_{12}O_2$

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
n-Butyl acetate	123-86-4	100

Toxicological Data on Ingredients: LD50 Oral - Rat - female - 10.760 mg/kg.

Section 3: Hazards Identification

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 3), H226
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
For the full text of the H-Statements mentioned in this Section, see Section 16.

Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal	word Warning
Hazard statement(s)	
H226	Flammable liquid and vapor.
H336	May cause drowsiness or dizziness.
Precautionary statement(s)	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges
Supplemental Hazard information (EU)	
EUH066	Repeated exposure may cause skin dryness or cracking.

Reduced Labeling (<= 125 ml)

Pictogram

Signal word	Warning
Hazard statement(s)	none
Precautionary statement(s)	none

Supplemental Hazard information (EU)

EUH066	Repeated exposure may cause skin dryness or cracking.

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.

Section 4: First Aid Measures

Description of first-aid measures
General advice

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.

In case of eye contact
After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed
After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 3 and/or in section 11

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

Section 5: Firefighting measures

Extinguishing media
Suitable extinguishing media

Carbon dioxide (CO2) Foam Dry powder

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

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 at elevated temperatures.
Development of hazardous combustion gases or vapours possible in the event of fire.

Advice for firefighters
In the event of fire, wear self-contained breathing apparatus.

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

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.

Environmental precautions
Do not let product enter drains. Risk of explosion.

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 material (e.g. Chemizorb ®).
Dispose of properly. Clean up affected area.

Reference to other sections
For disposal see section 13.

Section 7: Handling and Storage

Precautions for safe handling
Advice on safe handling
Avoid generation of vapours/aerosols.

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
Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.
For precautions see section 3.

Conditions for safe storage, including any incompatibilities
Storage conditions
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.
Recommended storage temperature see product label.

Storage class
Storage class (TRGS 510): 3: Flammable liquids

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

Control parameters

Ingredients with workplace control parameters

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, acute	inhalation	Local effects	600 mg/m3
Worker DNEL, acute	inhalation	Systemic effects	600 mg/m3
Worker DNEL, longterm	inhalation	Local effects	300 mg/m3
Worker DNEL, longterm	inhalation	Systemic effects	300 mg/m3
Consumer DNEL, acute	inhalation	Local effects	300 mg/m3
Consumer DNEL, acute	inhalation	Systemic effects	300 mg/m3
Consumer DNEL, acute	inhalation	Local effects	35,7 mg/m3
Consumer DNEL, acute	inhalation	Systemic effects	35,7 mg/m3

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0,18 mg/l
Fresh water sediment	0,981 mg/kg
Sea water	0,018 mg/l
Sea sediment	0,0981 mg/kg
Aquatic intermittent release	0,36 mg/l
Sewage treatment plant	35,6 mg/l
Soil	0,0903 mg/kg

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). Safety glasses

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 EN374 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: 0,4 mm
Break through time: 30 min
Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)

Body Protection
Flame retardant antistatic protective clothing.

Respiratory protection
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds
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. Risk of explosion.

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties

a) Appearance	Form: liquid Color: colorless
b) Odor	fruity
c) Odor Threshold	7 ppm
d) pH	6,2 at 5,3 g/l at 20 °C
e) Melting point/freezing point	Melting point/range: -78 °C
f) Initial boiling point and boiling range	126,2 °C at 1.013 hPa - OECD Test Guideline 103
g) Flash point	27 °C - closed cup - Regulation (EC) No. 440/2008, Annex, A.9

h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 7,6 %(V) Lower explosion limit: 1,7 %(V)
k) Vapor pressure	11,2 hPa at 20 °C - Regulation (EC) No. 440/2008, Annex, A.4
l) Vapor density	4,01 - (Air = 1.0)
m) Density	0,88 g/cm3 at 20 °C - DIN 51757
Relative density	No data available
n) Water solubility	5,3 g/l at 20 °C - OECD Test Guideline 105- soluble
o) Partition coefficient: n-octanol/ water	log Pow: 2,3 at 25 °C - OECD Test Guideline 117 - Bioaccumulation is not expected.
p) Autoignition temperature	415 °C at 1.010 hPa - DIN 51794
q) Decomposition temperature No data available	
r) Viscosity	Viscosity, kinematic: 0,83 mm2/s at 20 °C - ASTM D 4450,66 mm2/s at 40 °C - ASTM D 445 Viscosity, dynamic: 0,73 mPa.s at 20 °C - ASTM D 4450,563 mPa.s at 40 °C
s) Explosive properties	No data available
t) Oxidizing properties	none
Other safety information	
Conductivity	< 0,2 µS/cm
Surface tension	61,3 mN/m at 1g/l at 20 °C - OECD Test Guideline 115
Relative vapor density	4,01 - (Air = 1.0)

Section 10: Stability and Reactivity Data

Reactivity
Vapor/air-mixtures are explosive at intense warming.

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

Possibility of hazardous reactions
No data available

Conditions to avoid
Heating.

Incompatible materials
Strong oxidizing agents, Strong reducing agents, Strong bases

Hazardous decomposition products
In the event of fire: see section 5

Section 11: Toxicological Information

Information on toxicological effects
Acute toxicity

LD50 Oral - Rat - female - 10.760 mg/kg
(OECD Test Guideline 423)
Symptoms: Risk of aspiration upon vomiting; Aspiration may cause pulmonary edema and pneumonitis.
Inhalation: No data available
LD50 Dermal - Rabbit - male and female - 14.112 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)
Drying-out effect resulting in rough and chapped skin.

Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Test Type: Micronucleus test
Species: Mouse
Cell type: Red blood cells (erythrocytes)
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause drowsiness or dizziness. - Central nervous system

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks - NOAEL (No observed adverse effect level) - 125 mg/kg - LOAEL (Lowest observed adverse effect level) - 500 mg/kg
Drowsiness
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
After absorption of large quantities:
somnolence
Drowsiness
narcosis
Handle in accordance with good industrial hygiene and safety practice.

Section 12: Ecological Information

Toxicity

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 18 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 44 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 397 mg/l - 72 h (OECD Test Guideline 201) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Isobutyl acetate
Toxicity to bacteria	static test IC50 - Tetrahymena pyriformis - 356 mg/l - 40 h Remarks: (ECHA)

Persistence and degradability

Biodegradability	aerobic - Exposure time 28 d Result: 83 % - Readily biodegradable. (OECD Test Guideline 301D)
Theoretical oxygen demand	2.207 mg/g Remarks: (Lit.)
Ratio BOD/ThBOD	7 - 46 % Remarks: (Lit.)

Bioaccumulative potential
No data available

Mobility in soil
No data available

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) atlevels of 0.1% or higher.

Other adverse effects
Discharge into the environment must be avoided.

Section 13: Disposal Considerations

Waste treatment methods
Product
Waste material must be disposed of in accordance with the national and local regulations.
Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Section 14: Transport Information

UN number
ADR/RID: 1123 IMDG: 1123 IATA: 1123

UN proper shipping name
ADR/RID: BUTYL ACETATES
IMDG: BUTYL ACETATES
IATA: Butyl acetates

Transport hazard class(es)
ADR/RID: 3 IMDG: 3 IATA: 3

Packaging group
ADR/RID: III IMDG: III IATA: III

Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no

Special precautions for user
No data available

Section 15: Regulatory information

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.

National legislation
Seveso III: Directive 2012/18/EU of the European: FLAMMABLE LIQUIDS
Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

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

Chemical Safety Assessment
A Chemical Safety Assessment has been carried out for this substance.

Section 16: Other Information

References: Not available

Other Special Considerations: Not available

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