

MATERIAL SAFETY DATA SHEET (MSDS)



BUTYL ACETATE

1. PRODUCT IDENTIFICATION:

Synonyms: 1-Butyl acetate; butyl ethanoate; acetic acid, n-butyl ester

CAS No.: 123-86-4

Molecular Weight: 116.16

Chemical Formula: C₆H₁₂O₂

COMPANY IDENTIFICATION:

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2. HAZARDS IDENTIFICATION:

OSHA/GHS:	Flammable liquids	Category 3
Hazards:	Specific target organ toxicity single exposure	Category 3 narcotic effects Category 3 (respiratory)

LABEL ELEMENTS

Hazard symbols:



Signal word: WARNING!

Hazard statements:

Flammable liquid and vapor.
May cause drowsiness or dizziness.
May cause respiratory irritation.

Precautionary statements:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/Bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing mist or vapors.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/eye protection/face protection.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

In case of fire: Use water fog, dry chemical, CO₂ or 'alcohol' foam for extinction.

Store locked up.

Store in a well-ventilated place. Keep cool.

Keep container tightly closed.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards May be sensitive to static discharge. Take measures to prevent the build up of electrostatic charge.

Other hazards which do not result in classification: Burning produces obnoxious and toxic fumes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal. May cause skin and eye irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTS:

Components	CAS-No.	Percent
n-Butyl Acetate	123-86-4	99-100%

4. FIRST AID MEASURES:

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
Skin contact	Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

5. FIRE FIGHTING MEASURES:

FLAMMABLE PROPERTIES:

Fire	Flash point: 26C (79F) CC Auto ignition temperature: 425C (797F) Flammable limits in air % by volume: LEL: 1.7; UEL: 7.6.
Explosion:	Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.
Fire Extinguishing Media:	Dry chemical, alcohol foam or carbon dioxide. Water may be ineffective. Water spray may be used to keep fire exposed containers cool.
Special Information:	In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES:

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures.

7. HANDLING AND STORAGE:

Handling	Use spark-proof tools and explosion proof equipment. Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes. Use only in a chemical fume hood.
Storage	Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION:

ENGINEERING CONTROLS:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Eyes	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin	Wear appropriate protective gloves to prevent skin exposure.
Clothing	Wear appropriate protective clothing to prevent skin exposure.
Respirators	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	Clear, colorless liquid
Color	APHA: 10 max
Form	liquid
Odor	banana-like
Odor Threshold	0.1-7 ppm
Flash point	29°C (84.2°F)
Flammability	Upper explosion limit: 7.6%(V) Lower explosion limit: 1.7%(V)
Boiling point/boiling range	126C (259F)
Melting point/range	-77C (-107F)
Auto-ignition temperature	370C (698.00F)
Decomposition temperature	Not available
Flammability (solid, gas)	Not applicable
Vapor pressure	15mmhg @ 25C (77F)
Vapor density	4.0
Density	0.882 g/cm ³ @ 20 °C, 68 °F
Relative density	0.883
Water solubility	0.7 G/100ML (20°C)
Viscosity	0.69 mPas 25C
pH	No information found
Partition coefficient: n-octanol/water	2.3

10. STABILITY AND REACTIVITY

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Carbon dioxide and carbon monoxide may form when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Dangerous when exposed to heat or flame; can react with oxidizing materials, strong alkalis, acids, nitrates and potassium-tert-butoxide.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. TOXICOLOGICAL INFORMATION:

Toxicological Data:

Oral rat LD50: 10.8 g/kg;

inhalation rat LC50: 390 ppm/4H

Skin rabbit LD50: >17,600 mg/kg;

Irritant, skin rabbit (Std. Draize): 500 mg/24H, moderate. Irritant, eye rabbit: 100 mg moderate.

Investigated as a reproductive effector.

Reproductive Toxicity:

Has shown teratogenic effects in laboratory animals.

12. ECOLOGICAL INFORMATION:

Environmental Fate:

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material may leach into groundwater. When released into the soil, this material is expected to have a half-life of less than 1 day. When released into water, this material is expected to readily biodegrade. When released into the water, this material is expected to have a half-life between 1 and 10 days. This material has an estimated bioconcentration factor (BCF) of less than 100. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals.

Environmental Toxicity:

96 Hr LC50 fathead minnow: 18 mg/L (flow-through);

96 Hr LC50 bluegill: 100 mg/L (Static);

96 Hr EC50 freshwater algae (*Scenedesmus subspicatus*): 320 mg/L;

48 Hr EC50 water flea: 44 mg/L.

13. DISPOSAL CONSIDERATIONS:

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION:

DOT	UN 1123, BUTYL ACETATES, 3, III May be shipped as a Limited Quantity when transported in containers no larger than 5 L (1.3 gallons); in packages not exceeding 30 kg (66 pounds) gross mass.
IATA	UN 1123, Butyl acetates, 3, III Refer to ICAO/IATA Packing Instruction
IMDG	UN 1123, Butyl acetates, 3, III May be shipped as a limited quantity. Consult the IMDG regulations for details.

15. OTERE INFORMATION:

NFPA Ratings: Health: 2 Flammability: 3 Reactivity: 0

Label Hazard Warning:

WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED OR INHALED. CAUSES SEVERE IRRITATION TO EYES. CAUSES IRRITATION TO SKIN AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

Label Precautions:

Keep away from heat, sparks and flame.

Keep container closed.

Use only with adequate ventilation.

Avoid contact with eyes, skin and clothing.

Wash thoroughly after handling.

Avoid breathing vapor.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In all cases, get medical attention.