

1. PRODUCT NAME: N-Butyl Acetate
2. CHEMICAL NAME:
3. SYNONYMS:
4. CAS NUMBER: 123-86-4
5. COMPOSITION: n-Butyl Acetate (123-86-4) - 100%

**IN CASE OF
TRANSPORT EMERGENCY
CONTACT CHEMTREC
USA: 1-800-424-9300
INTERNATIONAL: 1-703-527-3887**

6. PROPERTIES: ODOR & APPEARANCE: clear, colorless liquid with strong over-ripe banana odor
ODOR THRESHOLD: 0.1 - 7ppm – reliably detectable below TWAEV
VAPOUR PRESSURE: 10mmHg/1.33kPa (20 c)
EVAPORATION RATE (butyl Acetate=1): 1
VAPOR DENSITY (air=1): 4
BOILING RANGE: 126 c
FREEZING POINT: -74 c
SPECIFIC GRAVITY: 0.883 (20/20 c)
WATER SOLUBILITY: 7 grams per litre (20 c)
IN OTHER SOLVENTS: soluble in most organic solvents
VISCOSITY: 0.73 centipoise (20 c)
FLASH POINT: above 23 c (closed cup) – Eastman 27 c, Dow 29 c
AUTOIGNITION TEMPERATRE: 425 c
FLAMMABLE LIMITS: 1.7% - 7.6% not known
COMBUSTION PRODUCTS: carbon monoxide, nitrogen oxides, smoke, part oxidized hydrocarbon fragments
FIREFIGHTING PRECAUTIONS: foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water - water jet may spread flames; firefighters must wear SCBA
STATIC DISCHARGE: will not accumulate a static charge
MECHANICAL IMPACT: not sensitive
CHEMICAL STABILITY: stable; will not polymerize
REACTIVE WITH: strong oxidizing agents, strong mineral acids, strong alkalies
DECOMPOSITION PRODUCTS: acetic acid and butyl alcohol

7. HAZARDS: HMIS (U.S.A.): Health – 1, Fire – 1, Reactivity - 0

8. FIRE FIGHTING INFORMATION: Foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water - water jet may spread flames; firefighters must wear SCBA.

9. PERSONAL PROTECTION MEASURES: HANDS: polyvinyl alcohol or “4H” gloves best – check with supplier for their recommendation
EYES: safety glasses with side shields or chemical goggles
VENTILATION: not required if ventilation is adequate (see TWAEV, (2) above), or use organic vapor cartridge
CLOTHING: impermeable (hands, above) apron, boots, long sleeves if splashing is anticipated

10. FIRST AID PROCEDURES: SKIN: Wash with soap and plenty of water. Remove contaminated clothing and do not reuse until thoroughly cleaned or laundered.
EYES: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.
INHALATION: Remove from contaminated area promptly. CAUTION: Rescuer must not endanger himself! If breathing stops, administer artificial respiration and seek medical aid promptly.



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INGESTION: Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.

NOTE: Inadvertent inhalation of vomited material may seriously damage the lungs. The risk and danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity product. The stomach should only be emptied under medical supervision, after the installation of an airway to protect the lungs.

11. EXPOSURE IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH)

LIMITS: 1700 PPM [IDLH based on 10% of the lower explosive limit for safety considerations even though the relevant toxicological data indicated that irreversible health effects or impairment for escape existed only at higher concentrations.]

OSHA STANDARDS

Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 150ppm (710mg/cu m). Vacated 1989 OSHA PEL TWA 150 ppm (710 mg/cu m); STEL 200 ppm (950 mg/cu m) is still enforced in some states.

NIOSH RECOMMENDATIONS

Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 150ppm (710mg/cu m). Recommended Exposure Limit: 15 Min Short-Term Exposure Limit: 200 ppm (950 mg/cu m).

THRESHOLD LIMIT VALUES

8 hr Time Weighted Avg (TWA): 150ppm; 15 min Short Term Exposure Limit (STEL): 200ppm.

OTHER OCCUPATIONAL PERMISSIBLE LEVELS

Japan (1975): 200ppm; West Germany (1976): 200ppm; Sweden (1974): 150ppm; USSR (1973): 40ppm.

TWAEV ppm: 150

LD50 ORAL: 3200

SKIN (mg/kg): 4200

LC50ppm INHALATION: 390*

Note: LC50 varies very markedly between species (5 below).

12. TOXICOLOGICAL EFFECTS ACUTE EXPOSURE

INFORMATION: SKIN CONTACT: strongly drying, may irritate

SKIN ABSORPTION: yes; no toxic effects anticipated by this route

EYE CONTACT: liquid and vapor (300ppm) irritating; conjunctival redness and swelling

INHALATION: irritating at 200ppm, coughing, chest discomfort, nausea, vomiting headache, dizziness, drowsiness, intoxication, eventual loss of consciousness

INGESTION: irritating to mouth & digestive tract; headache, dizziness, drowsiness, and nausea

EFFECTS OF CHRONIC EXPOSURE

GENERAL: prolonged exposure may cause skin cracking and dermatitis (one case only); 25 hour application to rabbit skin caused severe local damage

SENSITISING: probably not a sensitizer

REPRODUCTIVE EFFECT: no known effect in humans or animals

SYNERGISTIC WITH: butyl alcohol

ESTIMATED LD50: 6000mg/kg (oral, mouse) 3200mg/kg (oral, rabbit), 4700mg/kg (oral, guinea pig); 10,750mg/kg (oral, rat), 17,600 (skin, rabbit)

ESTIMATED LC50: 390ppm* (inhalation, rat), 1265ppm (mouse), 14,300ppm (cat)

*So low (compared to inhalation data for other species) that is probably an aberrant & unreliable value.

Note also that oral toxicity varies by a factor of 3 between species.

13. ECOLOGICAL This product cannot accumulate in living tissue – hydrolyses to acetic & butyl alcohol, which is readily and rapidly biodegradable in the presence of oxygen; butyl acetate degrades in 20 days by 50% in clean water, and 83% in sewage water; estimated half-life in air of 4 days.



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14. **DISPOSAL CONSIDERATIONS:** DO NOT FLUSH TO SEWER; may be incinerated in approved facility.
15. **CARCINOGENIC PROPERTIES & NOTIFICATIONS:** Not a tumorigen; not a carcinogen; humans or animals.
16. **TRANSPORT INFORMATION:** USA 49 CFR
Product identification number: UN – 1123
Shipping name: butyl acetates
Classification: Class 3; packing group III
Label: 3 - flammable liquids
Class: B2, D 1B
17. **HANDLING & STORAGE:** Store in a cool dry environment, away from sources of ignition, heat and oxidizing agents. Use with adequate ventilation. Although this product is not a static accumulator, caution suggests grounding of the container before handling to prevent static discharge. Take care to avoid sparks – use non-sparking tools and explosion-proof electrical equipment nearby. Do not cut, drill, weld or grind on or near this container. Avoid prolonged contact with skin and wash work clothes frequently. An eye bath and safety shower should be available near the workplace.
18. **ACCIDENTAL RELEASE MEASURES:** LEAK PRECAUTION: dyke to control spillage and prevent environmental contamination.
HANDLING SPILL: ventilate contaminated area; recover free liquid with explosion-proof pumps; absorb residue on an inert sorbent, pick up using non-sparking plastic aluminium shovel, & store in closed containers for disposal.
19. **REGULATORY INFORMATION:** IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH)
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ATMOSPHERIC STANDARDS
This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to use the best demonstrated system of continuous emission reduction for equipment leaks of VOC, considering costs, non air quality health and environmental impact and energy requirements. n-Butyl acetate is produced, as an intermediate or final product, by process units covered under this subpart.
STATE DRINKING WATER GUIDELINES
Florida 2,500 ug/l
CLEAN WATER ACT REQUIREMENTS



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Designated as a hazardous substance under section 311 (b) (2) (A) of the Federal Water Pollution Control Act and further regulated by the Clean Water Act Amendments of 1977 and 1978. These regulations apply to discharges of this substance.

CERCLA REPORTABLE QUANTITIES

Persons in charge of vessels or facilities are required to notify the National Response Center (NRC) immediately, when there is a release of this designated hazardous substance, in an amount equal to or greater than its reportable quantity of 5000 lb or 2270 kg. The toll free number of the NRC is (800) 424-8802; In the Washington D.C. metropolitan area (202) 426-2675. The rule for determining when notification is required is stated in 40 CFR 302.4 (section IV. D.3b)

TSCA REQUIREMENTS

A testing consent order is in effect for n-butyl acetate for health effects testing. FR citation: 1/23/95.

FDA REQUIREMENTS

n-Butyl acetate is an indirect food additive for use only as a component of adhesives. N-Butyl acetate is a food additive permitted for direct addition to food for human consumption as a synthetic flavoring substance and adjuvant in accordance with the following conditions: a) they are used in the minimum quantity required to produce their intended effect, and otherwise in accordance with all the principles of good manufacturing practice, and 2) they consist of one or more of the following, used alone or in combination with flavoring substances and adjuvants generally recognized as safe in food, prior-sanctioned for such use, or regulated by an appropriate section in this part.