

IN CASE OF TRANSPORTATION EMERGENCY CONTACT:

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## 1. IDENTIFICATION

PRODUCT: NORMAL BUTYL ACETATE

CAS NO: 123-86-4

PRODUCT TYPE: CHEMICAL SOLVENT

## 2. HAZARDS IDENTIFICATION

Danger! Extremely flammable liquid and vapor! Vapors may cause flash fire or explosion. Harmful if inhaled. Vapor concentrations may cause drowsiness. Causes skin and eye irritation. Harmful if swallowed. May cause system damage of the eyes.

Human Health Hazards:

Inhalation:

Inhalation can cause severe irritation of mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. High concentrations may cause lung damage. An irritant to the nose, throat, and upper respiratory tract. Exposure to high concentrations has a narcotic effect and may cause liver and kidney damage.

Ingestion:

Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain. Repeated or prolonged contact with the skin has a defatting effect and may cause dryness, cracking and possibly dermatitis.

Eye Contact:

Produces severe irritation, characterized by a burning sensation, redness, tearing, inflammation and possible corneal injury.

Chronic Exposure:

Repeated or prolonged skin contact may defat the skin and produce irritation and dermatitis. Kidney and liver damage are reported in animals.

Aggravation of Pre-existing Conditions:

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: Skin, lung (for example, asthma-like conditions)

## 3. COMPOSITION

NAME	CAS NO	% BY WEIGHT
(n)-butyl acetate	123-86-4	100

Toxicological Data on Ingredients: n-Butyl acetate: ORAL (LD50): Acute: 10768 mg/kg [Rat]. DERMAL (LD50): Acute: 17601 mg/kg [Rabbit].

## 4. FIRST AID MEASURES

### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention immediately.

WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive.

### Ingestion

Obtain medical attention immediately. Do not induce vomiting unless directed to do so by a medical personnel. Never give anything by mouth to an unconscious person.

### Skin Contact

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If persistent irritation occurs, obtain medical attention. Wash clothing before reuse.

### Eye Contact

Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. If persistent irritation occurs, obtain medical attention.

## 5. FIRE FIGHTING MEASURES

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 421°C (789.8°F)

Flash Points: CLOSED CUP: 23.9°C (75°F). (TAG) OPEN CUP: 37°C (98.6°F) (Cleveland).

Flammable Limits: LOWER: 1.7% UPPER: 7.6%

Products of Combustion: These products are carbon oxides (CO, CO2).

### Fire Hazards in Presence of Various Substances:

Flammable in presence of open flames and sparks. Slightly flammable to flammable in presence of oxidizing materials, of acids, of alkalis.

### Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of oxidizing materials, of acids, of alkalis.

### Fire Fighting Media and Instructions:

Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions:

Avoid contact with skin, and eyes. Ventilate area of leak or spill thoroughly. Do not breathe vapor. Stay upwind and keep out of low areas. Remove all heat or ignition sources. Evacuate the area of all non-essential personnel. Shut off leaks, if possible without personal risk.

### Personal protection:

Wear appropriate personal protective equipment (PPE) as specified in Section 8.

#### Environmental precautions:

Contain and recover liquid when possible with 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. Use non-sparking tools and equipment. Prevent from spreading or entering into drains, ditches, rivers or any waterways by using sand, earth, or other appropriate barriers. Prevent contamination of soil and water.

#### Clean-up methods - small spillage:

Remove all ignition sources and ventilate area. Evacuate all non-essential personnel. Stop leak if without risk. Dilute with water and mop up, or absorb with an inert dry material and place in a sealable container. Label and seal waste containers for product recovery or appropriate disposal (see Section 13).

#### Clean-up methods – large spillage:

For large liquid spills (say more than a drum), remove all ignition sources. Evacuate all non-essential personnel. Stop leak if possible and without risk. Do not flush away residues with water. Blanket spill with alcohol resistant foam to limit evaporation or dike area to contain spill and absorb with earth, sand or other non-combustible material. Transfer to a labeled, sealable container for product recovery or proper disposal. Wear appropriate protective clothing to minimize contact with skin. Allow residues to evaporate or soak up with a suitable absorbent material and dispose safely and appropriately (see Section 13).

## 7. HANDLING AND STORAGE

#### Handling:

Avoid inhaling vapor and/or mists. Avoid contact with skin, eyes and clothing. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding all equipment. Avoid splash filling. Do not use compressed air for filling, discharging or handling operations.

#### Storage:

Must be stored in a well-ventilated area and keep away from ignition and heat sources. Keep away from aerosols, oxidizing agents and corrosives. The vapor is heavier than air. Beware of accumulation in pits and confined spaces. Breathing losses during storage should be controlled by a suitable vapor treatment system. Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use.

#### Product transfer:

Electrostatic charges may be generated during pumping and these discharges may cause fire. Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling. Containers should be bonded and grounded for transfers to avoid static sparks.

#### Recommended materials:

For containers or container linings, use mild steel or stainless steel. For gasket and seals use compress asbestos, butyl rubber or Teflon.

#### Unsuitable materials:

Do not store in certain plastic. May react with aluminum if temperature is more than 50°C.

#### Other Information:

NBAC is available from PPCI in bulk or drums. Details are available upon request.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

#### Engineering Control Measure / Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

#### Occupational Exposure Limit Standard:

American Conference of Governmental Industrial Hygienist (ACGIH)

#### Limit type:

Threshold Limit Value (TLV) - the level of exposure that the typical worker can experience without an unreasonable risk of disease or injury.

Unit:  
Parts per million (ppm)

Value:  
150

**Respiratory protection:**

Where local exhaust ventilation is not practicable, wear a full face-piece or a double cartridge respirator with organic vapor canister NPF 400. It may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face-piece the exposure levels are not known, use a full-face-piece positive-pressure, air-supplied respirator. **WARNING:** Air purifying respirators do not protect workers in oxygen- deficient atmospheres.

**Hand protection:**

PVC gloves, chemical resistant gloves or nitrile gloves.

**Eye protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick- drench facilities in work area.

**Body Protection:**

Wear impervious protective clothing such as one-piece overall, including safety shoes or boots, gloves, laboratory coat, apron and any appropriate cotton-made clothing to prevent skin contact.

**Specific Hygiene Measures:**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Always maintain and practice good housekeeping.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Clear, colorless and volatile liquid

Odor: Mild fruity odor

Taste: Not available

Molecular Weight: 116.16 g/mole

Color: Not available.

pH (1% soln/water): Not available.

Boiling Point: 126.5°C (259.7°F)

Melting Point: -77.9 (-108.2°F)

Auto-ignition temperature: 425° C

Specific Gravity: 0.9 (Water = 1)

Vapor Pressure: 1.3 kPa (@ 20°C)

Vapor Density: 4.01 (Air = 1)

Volatility: Not available.

Odor Threshold: 0.31 ppm

Water/Oil Dist. Coeff.: The product is equally soluble in oil and water; log(oil/water) = 0

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Partially soluble in cold water. (0.7 g/100mL @ 20° C)

## 10. STABILITY AND REACTIVITY

Stability:

Stable under normal temperature and pressure for use and storage.

Conditions to avoid:

Heat, flames, ignition sources and confined spaces. Slowly decomposed by moisture.

Materials to avoid:

Reacts with strong oxidizing agents, strong acids, amines, nitric acid, and alkalis. Will attack some forms of plastic, rubber, and coatings. Testing of storage material before use is recommended.

Hazardous decomposition products:

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

## 11. TOXICOLOGICAL INFORMATION

Routes of Entry: Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 10768 mg/kg [Rat]. Acute dermal toxicity (LD50): 17601 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 2000 4 hours [Rat].

Chronic Effects on Humans: Causes damage to the following organs: lungs, the nervous system, mucous membranes.

Other Toxic Effects on Humans:

Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

## 12. ECOLOGICAL INFORMATION

Basis for assessment:

Information given is based on product data.

Environmental Fate:

Expected to have high mobility in soil. Volatilization of NBAC from moist soil surfaces is expected to be important. It is not expected to adsorb to suspended solids and sediment in water. Expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase NBAC is degraded in the atmosphere by reaction with photochemical produced hydroxyl radicals. The half-life for its reaction in air is estimated to be 10 days.

Bioaccumulation:

The bioconcentration factor (BCF) for NBAC can be estimated to be 1.81. This material is not expected to significantly bioaccumulate.

## 13. DISPOSAL CONSIDERATIONS

Precautions:

Refer to Sections 7 before handling the product or containers storage.

#### Waste disposal:

Whatever NBAC cannot be saved for recovery or treating, it should be managed in an appropriate and approved waste disposal facility. Care should in any case be taken to ensure disposal is compliant with statutory and regulatory requirements or local environmental laws.

#### Product disposal:

This product is not suitable for disposal by either landfill or via local sewers, drainage, natural streams or rivers. The following advice only applies to the product as supplied. Processing, use or contamination of this product may change the waste management options.

#### Container disposal:

Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not pressure cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. Send to drum handlers that clean, recondition or metal reclaimer. Disposal of container and unused contents must be in accordance to local regulatory requirements and environmental laws.

## 14. TRANSPORT INFORMATION

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Butyl acetate UNNA: UN1123 PG: III

Special Provisions for Transport: Not available.

## 15. REGULATORY INFORMATION

#### Federal and State Regulations:

Pennsylvania RTK: n-Butyl acetate Massachusetts RTK: n-Butyl acetate TSCA 8(b) inventory: n-Butyl acetate CERCLA: Hazardous substances.: n-Butyl acetate

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

#### Other Classifications:

##### WHMIS (Canada):

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2B: Material causing other toxic effects (TOXIC).

#### DSCL (EEC):

R10- Flammable. R20- Harmful by inhalation. R36/38- Irritating to eyes and skin.

#### HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

#### National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

## 16. OTHER INFORMATION

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