SAFETY DATA SHEET
Butyl Acetate, n-
This MSDS is valid for all grades that start with catalog number 301

1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

Product Identifier: High Purity Chemicals
Synonyms: 1-Butyl Acetate; Butyl Ethanoate; Acetic Acid, n-Butyl Ester
Other means of identification: CAS No. 123-86-4
EINECS No. 204-658-1

Recommended use of the chemical and restrictions on use:
Used in the production of lacquers.

Supplier Details:
Pharmco Products, Inc.
58 Vale Road, Brookfield, CT 06804, USA.
Tel: 203.740.3471
Fax: 203.740.3481
CCN17213

Pharmco Products, Inc.
1101 Isaac Shelby Drive, Shelbyville, KY 40065, USA.
Tel: 502.232.7600
Fax: 502.633.6100
CCN17213

Emergency Contact: CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)

2. HAZARDS IDENTIFICATION

OSHA Hazards:
Flammable liquid, Target Organ Effect, Irritant

Target Organs:
Central nervous system
NFPA

GHS label elements, including precautionary statements

Signal Word: WARNING!

Hazard statement(s)
H226 Flammable liquid and vapor
H336 May cause drowsiness or dizziness.

Precautionary statement(s)
P261 Avoid breathing dust/fumes/gas/mist/vapors.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
P210 Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
P233 Keep container tightly closed.
P235 Keep cool.
P280 Wear protective gloves and eye and face protection.

GHS Classification(s)
Flammable Liquids (Category 3)
Specific target organ toxicity - single exposure (Category 3)

Other hazards which do not result in classification:

MSDS: 865 Revision Date: 11.26.13 Revision Number: 3.0 Initials: MW
Potential Health Effects:

<table>
<thead>
<tr>
<th>Organ</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Causes eye irritation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>May be harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness and</td>
</tr>
<tr>
<td></td>
<td>dizziness.</td>
</tr>
<tr>
<td>Skin</td>
<td>Harmful if absorbed through skin. Causes skin irritation.</td>
</tr>
</tbody>
</table>

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical identity: Butyl Acetate
Common name / Synonym: Acetic acid, n-butyl ester Butyl ethanoate
CAS number: 123-86-4
EINECS number: 204-658-1
ICSC number: 0399
RTECS #: AF7350000
UN #: 1123
EC #: 607-025-00-1

<table>
<thead>
<tr>
<th>% Weight</th>
<th>Material</th>
<th>CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>n-Butyl Acetate</td>
<td>123-86-4</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General advice
Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Skin
Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing/shoes.

Inhalation
Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

Eyes
Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

Ingestion
DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with
water. Seek medical attention. Never give anything by mouth to an unconscious individual.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):
Carbon oxides expected to be the primary hazardous combustion product.

Special protective equipment and precautions for firefighters:
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

Unusual Fire and Explosion Hazards:
- Vapors may travel to source of ignition and flash back.
- Vapors may settle in low or confined spaces.

Vapors may form explosive mixture with air.

Flammable Properties

Classification
OSHA/NFPA Class IB Flammable Liquid.

Flash point
22 °C (72 °F) - closed cup

Autoignition temperature
425 °C (797 °F)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Wear respiratory protection. Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions:
Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

Methods and materials for containment and cleaning up:
Contain spill, then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into a convenient waste disposal container. Keep container closed.
7. HANDLING AND STORAGE

Precautions for safe handling:
Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. Open and handle container with care. Metal containers involved in the transfer of this material should be grounded and bonded.

Conditions for safe storage, including any incompatibilities:
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters, e.g., occupational exposure limit values or biological limit values:

<table>
<thead>
<tr>
<th>Component</th>
<th>Source</th>
<th>Type</th>
<th>Value</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butyl Acetate</td>
<td>US (ACGIH)</td>
<td>STEL</td>
<td>200 ppm</td>
<td></td>
</tr>
<tr>
<td>Butyl Acetate</td>
<td>US (ACGIH)</td>
<td>TWA</td>
<td>150 ppm</td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls:
Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment:

Respiratory protection:
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection:
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection:
Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hygiene measures:
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance (physical state, color, etc.)</td>
<td>Liquid. Colorless, clear.</td>
</tr>
<tr>
<td>Odor</td>
<td>Fruity</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Specific data not available</td>
</tr>
<tr>
<td>pH</td>
<td>Specific data not available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>-78 °C (-108 °F)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>126 °C (259°F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>22°C (72°F) - closed cup</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Specific data not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Flammable</td>
</tr>
<tr>
<td>Upper / Lower flammability or explosive limits</td>
<td>7.6% (V) / 1.3% (V)</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>20 hPa (15 mmHg) at 25 °C (77 °F)</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>4.01</td>
</tr>
<tr>
<td>Relative Density</td>
<td>0.88 g/cm³ at 25 °C (77 °F)</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Slightly soluble</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water(ies)</td>
<td>Specific data not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>425 °C (797 °F) - closed cup</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Specific data not available</td>
</tr>
<tr>
<td>Formula (BUTYL ACETATE)</td>
<td>C6H12O2</td>
</tr>
<tr>
<td>Molecular Weight (BUTYL ACETATE)</td>
<td>116.16 g/mol</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Stability</td>
<td>Stable under recommended storage conditions.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Vapors may form explosive mixture with air.</td>
</tr>
<tr>
<td>Conditions to avoid (e.g., static discharge,</td>
<td>Heat, flames, and sparks.</td>
</tr>
<tr>
<td>shock or vibration)</td>
<td></td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Strong oxidizing agents, Strong reducing agents, Strong bases</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Carbon oxides are expected to be, under fire conditions, the primary hazardous decomposition products.</td>
</tr>
</tbody>
</table>

11. TOXICOLOGICAL INFORMATION

- Butyl Acetate 123-86-4

Product Summary:
Laboratory experiments have shown teratogenic effects in rats. No data available for the mutagenic or reproductive effects of the product. No data available to designate product as an aspiration hazard or to cause specific target...
organ toxicity through repeated exposure.

**Acute Toxicity:**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 (Inhalation)</td>
<td>Rat</td>
<td>9.6 - 29.2 mg/L</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>LD50 (Dermal)</td>
<td>Rabbit</td>
<td>17,600 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 (Oral)</td>
<td>Rat</td>
<td>10,700 - 14,130 mg/kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Irritation:**

**Eyes**
Rabbit - moderate eye irritation

**Respiratory or Skin Sensitization**
No data available

**Skin**
Rabbit - skin irritation - 24 hours

**Specific target organ toxicity - single exposure (Globally Harmonized System)**
Inhalation - May cause drowsiness or dizziness. - Central Nervous System

**Carcinogenicity**
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Other Hazards**

<table>
<thead>
<tr>
<th>Organ</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Irritating to the eyes.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May be harmful if ingested.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>May be harmful if inhaled. Irritating to the respiratory tract. Vapors may cause drowsiness and dizziness.</td>
</tr>
<tr>
<td>Skin</td>
<td>May be harmful if absorbed through skin. Irritating to the skin.</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

- Butyl Acetate 123-86-4
Ecotoxicity (aquatic and terrestrial, where available):
Acute Fish Toxicity (BUTYL ACETATE)
LC50 / 96 hours Bluegill - 100 mg/L

Persistence and degradability:
No data available

Bioaccumulative potential:
No data available

Other adverse effects:
No data available

13. DISPOSAL CONSIDERATIONS
Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

14. TRANSPORT INFORMATION
Description of waste residues and information on their safe handling and methods of disposal:

| UN number | 1123 |
| UN proper shipping name | Butyl acetates |
| Transport hazard class(es) | 3 |
| Packing group (if applicable) | III |

Reportable Quantity
5,000 lbs
IMDG
UN-Number: 1123 Class: 3 Packing Group: III
EMS-No: F-E, S-D
Proper shipping name: BUTYL ACETATES
Marine pollutant: No
IATA
UN-Number: 1123 Class: 3 Packing Group: III
Proper shipping name: Butyl acetates
15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question:

OSHA Hazards
Flammable liquid, Target Organ Effect, Irritant

All ingredients are on the following inventories or are exempted from listing

<table>
<thead>
<tr>
<th>Country</th>
<th>Notification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>AICS</td>
</tr>
<tr>
<td>Canada</td>
<td>DSL</td>
</tr>
<tr>
<td>China</td>
<td>IECS</td>
</tr>
<tr>
<td>European Union</td>
<td>EINECS</td>
</tr>
<tr>
<td>Japan</td>
<td>ENCS/ISHL</td>
</tr>
<tr>
<td>Korea</td>
<td>ECL</td>
</tr>
<tr>
<td>New Zealand</td>
<td>NZIoC</td>
</tr>
<tr>
<td>Philippines</td>
<td>PICCS</td>
</tr>
<tr>
<td>United States of America</td>
<td>TSCA</td>
</tr>
</tbody>
</table>

**SARA 302 Components**
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
Acute Health Hazard
Chronic Health Hazard
Fire Hazard

**CERCLA**
Butyl acetate CAS-No. 123-86-4

**Massachusetts Right To Know Components**
n-Butyl acetate CAS-No. 123-86-4 Revision Date 1993-04-24

**Pennsylvania Right To Know Components**
n-Butyl acetate CAS-No. 123-86-4 Revision Date 1993-04-24

**New Jersey Right To Know Components**
n-Butyl acetate CAS-No. 123-86-4 Revision Date 1993-04-24
California Prop 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION:
INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS

Disclaimer
PHARMCO-AAPER believes that the information on this MSDS was obtained from reliable sources. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, PHARMCO-AAPER does not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable. Information is correct to the best of our knowledge at the date of the MSDS publication.