

## 1. Material Identification

**Product Name** : 1-Methylbutyl acetate

**Catalog Number** : io-1732

**CAS Number** : 626-38-0

**Identified uses** : Laboratory chemicals, manufacture of chemical compounds

**Company** : IonZ

>> R&D Use only

## 2. Hazards Identification

### GHS Classification:

Flammable liquid ( category 2 )

Acute toxicity, oral (Category 3)

Acute toxicity, dermal (Category 3)

Acute toxicity, inhalation (Category 3)

Specific target organ toxicity, single exposure (Category 1)

### Pictogram(s)



>> Warning

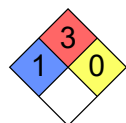
### GHS Hazard Statements

>> H226 (100%): Flammable liquid and vapor [Warning Flammable liquids]

### Precautionary Statement Codes

>> P210, P233, P240, P241, P242, P243, P280, P303+P361+P353, P370+P378, P403+P235, and P501

### NFPA 704 Diamond



### NFPA Health Rating

>> 1 - Materials that, under emergency conditions, can cause significant irritation.

### NFPA Fire Rating

>> 3 - Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions.

### NFPA Instability Rating

>> 0 - Materials that in themselves are normally stable, even under fire conditions.

### Health Hazards:

- >> INHALATION AND INGESTION: Irritates the mucous membrane, depresses the central nervous system, and is a narcotic. Damage to kidney, liver, and lung can occur. Ingestion may irritate gastro-intestinal tract. EYES: Irritation. Skin: Irritation. (USCG, 1999)
- >> Special Hazards of Combustion Products: When heated emits acrid fumes.
- >> Behavior in Fire: When exposed to flames can react vigorously with oxidizing material. (USCG, 1999)
- >> Flammable. Above 32 °C explosive vapour/air mixtures may be formed.

### 3. Composition/Information On Ingredients

**Chemical name** : 1-Methylbutyl acetate  
**CAS Number** : 626-38-0  
**Molecular Formula** : C7H14O2  
**Molecular Weight** : 130.1800 g/mol

### 4. First Aid Measures

#### First Aid:

- >> Excerpt from NIOSH Pocket Guide for sec-Amyl acetate:
- >> Eye: IRRIGATE IMMEDIATELY – If this chemical contacts the eyes, immediately wash (irrigate) the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately.
- >> Skin: WATER FLUSH PROMPTLY – If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention.
- >> Breathing: RESPIRATORY SUPPORT – If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.
- >> Swallow: MEDICAL ATTENTION IMMEDIATELY – If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2024)

#### First Aid Measures

##### Inhalation First Aid

- >> Fresh air, rest.

##### Skin First Aid

- >> Remove contaminated clothes. Rinse skin with plenty of water or shower.

##### Eye First Aid

- >> First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

##### Ingestion First Aid

- >> Rinse mouth. Give one or two glasses of water to drink.

### 5. Fire Fighting Measures

- >> Fire Extinguishing Agents Not to Be Used: Water may be ineffective.
- >> Fire Extinguishing Agents: Water fog in conjunction with alcohol foam, dry chemical or carbon dioxide. (USCG, 1999)
- >> Use alcohol-resistant foam, powder, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

### 6. Accidental Release Measures

### Isolation and Evacuation:

Isolation and evacuation measures to take when a large amount of this chemical is accidentally released in an emergency.

- >> Excerpt from ERG Guide 129 [Flammable Liquids (Water-Miscible / Noxious)]:
- >> IMMEDIATE PRECAUTIONARY MEASURE: Isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- >> LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet).
- >> FIRE: If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2024)

### Spillage Disposal:

Methods for containment and safety measures to protect workers dealing with a spillage of this chemical.

- >> Remove all ignition sources. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

## 7. Handling And Storage

### Safe Storage:

- >> Fireproof. Separated from strong oxidants.

### Storage Conditions:

- >> Close tightly, and store in detached warehouse under full fire prevention control. /Isoamyl acetate/

## 8. Exposure Control/ Personal Protection

### REL-TWA (Time Weighted Average)

- >> 125 ppm (650 mg/m<sup>3</sup>)
- >> TWA 125 ppm (650 mg/m<sup>3</sup>)

- >> 125.0 [ppm]

### PEL-TWA (8-Hour Time Weighted Average)

- >> 125 ppm (650 mg/m<sup>3</sup>)

- >> 50.0 [ppm]

### TLV-STEL

- >> 100.0 [ppm]
- >> 50 ppm as TWA; 100 ppm as STEL.

### TLV-TWA (Time Weighted Average)

- >> 50 ppm [1997]

### TLV-STEL (Short Term Exposure Limit)

- >> 100 ppm [1997]

### EU-OEL

- >> 270 mg/m

### MAK (Maximale Arbeitsplatz Konzentration)

- >> 270 mg/m

### Inhalation Risk:

>> A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20 °C.

### Effects of Short Term Exposure:

>> The substance is irritating to the eyes, skin and respiratory tract. Exposure at high levels could cause lowering of consciousness.

### Effects of Long Term Exposure:

>> The substance defats the skin, which may cause dryness or cracking.

### Fire Prevention

>> NO open flames, NO sparks and NO smoking. Above 32 °C use a closed system, ventilation and explosion-proof electrical equipment.

### Inhalation Prevention

>> Use ventilation, local exhaust or breathing protection.

### Skin Prevention

>> Protective gloves.

### Eye Prevention

>> Wear face shield or eye protection in combination with breathing protection.

### Ingestion Prevention

>> Do not eat, drink, or smoke during work.

### Exposure Control and Personal Protection

#### Maximum Allowable Concentration (MAK)

>> 50.0 [ppm]

## 9. Physical And Chemical Properties

### Molecular Weight:

>> 130.18

### Exact Mass:

>> 130.099379685

### Physical Description:

>> Sec-amy acetate is a colorless to yellow watery liquid with a weak odor of bananas. Floats on water. Produces irritating vapor. (USCG, 1999)

>> COLOURLESS LIQUID WITH CHARACTERISTIC ODOUR.

### Color/Form:

>> Colorless liquid

### Odor:

>> Mild, nonresidual

### Boiling Point:

>> 271.4 °F at 760 mmHg (USCG, 1999)

>> 121 °C

### Melting Point:

>> -95.44 °F (USCG, 1999)

>> -148 °C

### Flash Point:

>> 89 °F (USCG, 1999)

>> 32 °C c.c.

**Solubility:**

- >> Slight (NIOSH, 2024)
- >> Solubility in water: poor

**Density:**

- >> 0.861 to 0.866 at 68 °F (USCG, 1999)
- >> Relative density (water = 1): 0.86

**Vapor Density:**

- >> 4.5 (Air= 1)
- >> Relative vapor density (air = 1): 4.5

**Vapor Pressure:**

- >> 7 mmHg (NIOSH, 2024)
- >> Vapor pressure, kPa at 20 °C: 0.93

**LogP:**

- >> 2.26

**Stability/Shelf Life:**

- >> ... /Heat contributes/ to instability. ...

**Autoignition Temperature:**

- >> 380 °C

**Decomposition:**

- >> When heated to decomposition it emits acrid smoke and irritating fumes.

**Viscosity:**

- >> 75 CENTIPOISE

**Heat of Combustion:**

- >> -14.402 Btu/lb = -8000 cal/g

**Odor Threshold:**

- >> Odor Threshold Low: 0.002 [mmHg]
- >> Odor Threshold High: 0.08 [mmHg]
- >> Odor threshold from CHEMINFO

**Refractive Index:**

- >> 1.369–1.400

**Relative Evaporation Rate:**

The rate at which a material will vaporize (evaporate, change from liquid to vapor), compared to the rate of vaporization of a specific known material.

- >> 0.9 (butyl acetate= 1)

## 10. Stability And Reactivity

- >> Highly flammable. Slightly water soluble.
- >> Highly Flammable

## 11. Toxicological Information

**Exposure Routes:**

- >> The substance can be absorbed into the body by inhalation of its vapour.

>> inhalation, ingestion, skin and/or eye contact

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**Inhalation Exposure**

>> Cough. Dizziness. Drowsiness. Headache. Sore throat.

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**Skin Exposure**

>> Dry skin. Redness.

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**Eye Exposure**

>> Redness. Pain.

>> irritation eyes, skin, nose; narcosis; dermatitis; possible kidney, liver injury; possible central nervous system depression

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**Target Organs:**

Organs that are affected by exposure to this chemical. Information in this section reflects human data unless otherwise noted.

>> Eyes, skin, respiratory system, kidneys, liver, central nervous system

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**Adverse Effects:**

An adverse effect is an undesired harmful effect resulting from a medical treatment or other intervention.

>> Neurotoxin – Acute solvent syndrome

>> Occupational hepatotoxin – Secondary hepatotoxins: the potential for toxic effect in the occupational setting is based on cases of poisoning by human ingestion or animal experimentation.

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**Human Toxicity Excerpts:**

>> Irritation of eyes & upper resp tract is first response to vapor ... & may occur at concn above 300 ppm. At very high concn there may be depression of CNS ... .

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**Non-Human Toxicity Excerpts:**

>> ... 2000 ppm caused eye & nose irritation in guinea pigs; at 5000 ppm, there was lacrimation after 5 minutes, incoordination in 90 minutes, and narcosis within 9 hr, from which the animals recovered. A concentration of 10,000 ppm was fatal after 5 hr.

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**Populations at Special Risk:**

>> In persons with impaired pulmonary function, especially those with obstructive airway diseases, the breathing of sec-amyl acetate might cause exacerbation of symptoms due to its irritant properties. ... Persons with pre-existing skin disorders may be more susceptible to the effects of /sec-amyl acetate/. ...

## 12. Ecological Information

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**Fish/Seafood Concentrations:**

Concentrations of this compound in fish or seafood.

>> sec-Amyl acetate was tentatively identified as a volatile compound in rotten mussels at a concentration of 0.36 ug/g wet weight(1).

## 13. Disposal Considerations

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**Spillage Disposal**

>> Remove all ignition sources. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

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**Disposal Methods**

>> SRP: At the time of review, criteria for land treatment or burial (sanitary landfill) disposal practices are subject to significant revision. Prior to implementing land disposal of waste residue (including waste sludge), consult with environmental regulatory agencies for guidance on acceptable disposal practices.

>> Amyl acetate is a waste chemical stream constituent which may be subjected to ultimate disposal by controlled incineration. /Amyl acetate/

## 14. Transport Information

### DOT

1-Methylbutyl acetate

3

UN Pack Group: III

Reportable Quantity of 5000 lb or 2270 kg

### IATA

1-Methylbutyl acetate

3,

UN Pack Group: III

## 15. Regulatory Information

### Clean Water Act Requirements:

The Clean Water Act (CWA) of 1972 establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under CWA, the U.S. Environmental Protection Agency (EPA) developed the Toxic Pollutant List (40 CFR Part 401.15) and the Priority Pollutant List (40 CFR Part 423, Appendix A). These lists are to be used by EPA and States to develop the Effluent Guidelines regulations and ensure water quality criteria and standards.

>> 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.

### Regulatory Information

#### The Australian Inventory of Industrial Chemicals

>> Chemical: 2-Pentanol, acetate

#### New Zealand EPA Inventory of Chemical Status

>> 2-Pentanol, acetate: HSNO Approval: HSR001242 Approved with controls

## 16. Other Information

### Toxic Combustion Products:

Toxic products (e.g., gases and vapors) produced from the combustion of this chemical.

>> Toxic gases & vapors (such as carbon monoxide) may be released in fire ...

### Other Safety Information

#### Chemical Assessment

>> Evaluation – Chemicals that are unlikely to require further regulation to manage risks to environment

"The information provided is believed to be accurate but is not comprehensive and should be used as a reference. It reflects our current knowledge and is intended for safety guidance related to the product. This document does not constitute a warranty of the product's properties. lonz is not responsible for any damages resulting from handling or contact with the product incorrectly."