
MSDS**Material Safety Data Sheet**

From: Mallinckrodt Baker, Inc.
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Phillipsburg, NJ 08865



24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

Amyl Acetate (Mixed Isomers)

MSDS Number: A6360 --- *Effective Date: 09/14/00*

1. Product Identification

Synonyms: Amylacetate Ester; Banana Oil; Pear Oil; n-Pentyl Acetate

CAS No.: 628-63-7

Molecular Weight: 130.19

Chemical Formula: CH₃COOC₅H₁₁

Product Codes: 9094

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	
Hazardous			
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-			
n-Amyl Acetate	628-63-7	> 60%	Yes
2-Methyl Butyl Acetate	624-41-9	> 35%	Yes
Isoamyl Acetate	123-92-2	> 5%	Yes

3. Hazards Identification

Emergency Overview

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

J.T. Baker SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate

Flammability Rating: 3 - Severe (Flammable)

Reactivity Rating: 1 - Slight

Contact Rating: 2 - Moderate

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER.

Storage Color Code: Red (Flammable)

Potential Health Effects

Inhalation:

Inhalation of vapors causes irritation to the respiratory tract. High concentrations can cause narcosis, headache, fatigue, chest pains, cough, nausea, dizziness, and possible damage to liver and kidneys.

Ingestion:

May be absorbed through the gastrointestinal tract; symptoms may parallel inhalation. Additional symptoms may include vomiting, stomach pain.

Skin Contact:

May cause irritation, redness, and pain. Liquid degreases the skin.

Eye Contact:

Vapors > 300 ppm cause burning sensations in the eyes. Contact causes irritation, redness, and pain.

Chronic Exposure:

Prolonged or repeated skin exposure may cause dermatitis. Chronic exposure may cause eye effects.

Aggravation of Pre-existing Conditions:

Use of alcoholic beverages may enhance toxic effects.

4. First Aid Measures

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.

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.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Flash point: 38C (100F) CC

Autoignition temperature: 379C (714F)

Flammable limits in air % by volume:

l_{el}: 1.1; u_{el}: 7.5

Flammable Liquid and Vapor! Contact with strong oxidizers may cause fire.

(Flash point and Auto Ignition values for the mixed isomer.)

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.

Sealed containers may rupture when heated.

Fire Extinguishing Media:

Dry chemical, alcohol foam or carbon dioxide. Water may be ineffective.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece 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! Have dry powder fire extinguisher on hand during clean-up operations. 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. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802. 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.

J. T. Baker SOLUSORB(R) solvent adsorbent is recommended for spills of this product.

7. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Do Not attempt to clean empty containers since residue is difficult to remove. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

For n-Amyl Acetate:

- OSHA Permissible Exposure Limit (PEL):

100 ppm (TWA).

for Pentyl Acetate, all isomers:

- ACGIH Threshold Limit Value (TLV):
50 ppm (TWA), 100 ppm (STEL)

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.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half-face organic vapor respirator may be worn for up to ten times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece organic vapor respirator 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 positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. Where respirators are required, you must have a written program covering the basic requirements in the OSHA respirator standard. These include training, fit testing, medical approval, cleaning, maintenance, cartridge change schedules, etc. See 29CFR1910.134 for details.

Skin Protection:

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

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.

9. Physical and Chemical Properties

Appearance:

Clear, colorless liquid.

Odor:

Banana-like odor.

Solubility:

Slight (0.1-1%)

Specific Gravity:

0.88

pH:

No information found.

% Volatiles by volume @ 21C (70F):

100

Boiling Point:

149.25C (300F) (n-Amyl Acetate).

Melting Point:

-70.8C (-96F) (n-Amyl Acetate).

Vapor Density (Air=1):

4.5 (n-Amyl Acetate).

Vapor Pressure (mm Hg):

5 @ 25C (77F) (n-Amyl Acetate).

Evaporation Rate (BuAc=1):

0.42

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Emits acrid smoke and fumes when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong alkalis, acids, nitrates and oxidizing agents.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

For n-Amyl Acetate: No LD50/LC50 information found relating to normal routes of occupational exposure.

For Isoamyl Acetate: LD50 oral rat: 16600 mg/kg. Investigated as a tumorigen.

-----\Cancer Lists\-----

Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	

n-Amyl Acetate (628-63-7)	No	No	None
2-Methyl Butyl Acetate (624-41-9)	No	No	None
Isoamyl Acetate (123-92-2)	No	No	None

12. Ecological Information

Environmental Fate:

For n-Amyl Acetate: When released into the soil, this material may leach into groundwater. When released into the water, this material is expected to have a half-life of less than 1 day. This material is not expected to significantly bioaccumulate. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days.

For Isoamyl Acetate: 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 greater than 30 days. When released into water, this material is expected to readily biodegrade. When released to water, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life of less than 1 day. This material has an estimated bioconcentration factor (BCF) of less than 100. This material has a log octanol-water partition coefficient of less than 3.0. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to be readily removed from the atmosphere by wet deposition. When released into the air, this material is expected to have a half-life between 1 and 10 days.

Environmental Toxicity:

No information found.

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

Domestic (Land, D.O.T.)

Proper Shipping Name: AMYL ACETATES
Hazard Class: 3
UN/NA: UN1104
Packing Group: III
Information reported for product/size: 20L

International (Water, I.M.O.)

Proper Shipping Name: AMYL ACETATES
Hazard Class: 3.3
UN/NA: UN1104
Packing Group: III
Information reported for product/size: 20L

International (Air, I.C.A.O.)

Proper Shipping Name: AMYL ACETATES
Hazard Class: 3.3
UN/NA: UN1104
Packing Group: III
Information reported for product/size: 20L

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----
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Ingredient	TSCA	EC	Japan	
Australia				
n-Amyl Acetate (628-63-7)	Yes	Yes	Yes	Yes
2-Methyl Butyl Acetate (624-41-9)	Yes	Yes	Yes	Yes
Isoamyl Acetate (123-92-2)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----
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Ingredient	Korea	--Canada--		
		DSL	NDSL	Phil.
n-Amyl Acetate (628-63-7)	Yes	Yes	No	Yes
2-Methyl Butyl Acetate (624-41-9)	Yes	Yes	No	Yes
Isoamyl Acetate (123-92-2)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
	-SARA 302-		-----SARA 313-----	
Ingredient Catg.	RQ	TPQ	List	Chemical
n-Amyl Acetate (628-63-7)	No	No	No	No
2-Methyl Butyl Acetate (624-41-9)	No	No	No	No
Isoamyl Acetate (123-92-2)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)
n-Amyl Acetate (628-63-7)	5000	No	Yes
2-Methyl Butyl Acetate (624-41-9)	No	No	No
Isoamyl Acetate (123-92-2)	5000	No	Yes

Chemical Weapons Convention: No TSCA 12(b): Yes CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
Reactivity: No (Mixture / Liquid)

Australian Hazchem Code: 3[Y]

Poison Schedule: No information found.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: **1** Flammability: **3** Reactivity: **0**

Label Hazard Warning:

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

Label Precautions:

- Avoid contact with eyes, skin and clothing.
- Avoid breathing vapor.
- Use only with adequate ventilation.
- Keep away from heat, sparks and flame.
- Wash thoroughly after handling.

Keep container closed.

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.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 8.

Disclaimer:

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