



HANGZHOU KAIXIN TECHNOLOGY CO.,LTD.

Rm.1314-1315,Jinjun Plaza, 341, Shuixiang Rd., Jiangang, Hangzhou, China, 310020.

SAFETY DATA SHEET

TERTIARY BUTYL ACETATE

I. Identification of the Product and Company

PRODUCT

Product: Tertiary Butyl Acetate
Suggested use: Widely used in pharmaceutical intermediates,paints,ink, industrial cleaning agents, nitrocellulose, fuels etc.

COMPANY

Manufacturer: Hangzhou Kaixin Technology Co., Ltd.
Rm.1314-1315,Jinjun Plaza, 341, Shuixiang Rd.,
Jiangang, Hangzhou, China, 310020.
General contact: +86-571-86539522 (telephone/fax)
Emergency contact: +86-571-86096676 (telephone)

II. Hazards Identification

HAZARD CATEGORY

Class 3 flammable liquids

LABELS:



Signal word: **Danger**

HAZARD STATEMENTS

H225: Highly flammable liquid and vapor

H315: Causes skin irritation.

H319: Causes serious eye irritation

H332: Harmful if inhaled.

PRECAUTIONARY STATEMENTS

Prevention:

- P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233: Keep container tightly closed.
- P211: Do not spray on an open flame or other ignition source.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P284: [In case of inadequate ventilation] wear respiratory protection.

Response:

- P370 + P378: In case of fire, use foam, CO₂, dry powder, or sandy soil to extinguish.
- P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P302 + P352: IF ON SKIN: Wash with plenty of water.
- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:

- P403+P235: Store in a well-ventilated place. Keep cool.
- P411+P235: Store at temperature not exceeding 30 °C.

Disposal:

- P501: Dispose of contents/container to the regular government regulations.

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| III. Composition / Information on Ingredients |
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This material consists of one substance.

| Main Ingredients | Quality Index |
|-------------------------|---------------|
| APHA Color(Pt-Co) | ≤10 |
| Purity | ≥99.5% |
| Acidity(as Acetic Acid) | ≤0.03% |
| Water | ≤0.05% |
| Alcohol(as TBA) | ≤0.2% |
| Hydrocarbons | ≤0.2% |

CAS No.: 540-88-5

EINECS No.: 208-760-7

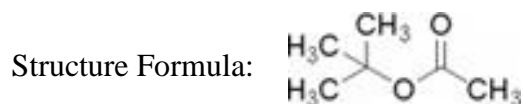
RTECS No.: AF7400000

Molecular Formula: $C_6H_{12}O_2$; $CH_3COOC(CH_3)_3$

Synonyms: Tert-Butyl Acetate; Acetic Acid Tert-Butyl Ester; Acetic Acid, 1,1-Dimethylethyl ester; 1,1-Dimethyl acetate; T-Butyl Acetate; TBAC

Molecular Weight: 116.16

IMDG Encoding Rules: 3191



IV. First Aid Measures

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.

Skin:

Remove contaminated clothing as needed. Wash skin thoroughly with mild soap water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Seek medical attention if ill effect or irritation develops.

Ingestion:

If large quantity swallowed, give lukewarm water (pint/1/2 litre) if victim completely conscious/alert. Do not induce vomiting. Risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

Inhalation:

If overcome by exposure, move victim to fresh air immediately. Give oxygen or artificial respiration as needed. Seek medical attention.

V. Fire Fighting Measures

Extinguishing media:

Foam, CO₂, dry powder, or sandy soil to put out a fire. Water fire-fighting isn't valid, but water can keep containers cooling.

Hazardous characteristics:

- Flammable, its vapor can form explosive mixtures with air. Near fire, high heat will cause a burning explosion. Strongly react with oxides.
- The vapor is heavier than air and can spread to the lower department of considerable local, a fire source will fire back.

Fire fighting instructions:

- Retreat and extinguish the fire from a safe distance or a protected area.
- Wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
- Will burn if involved in a fire. Upper hand in the direction of fire, as far as

possible to move containers from the scene empty Department.

- Use water spray to keep fire-exposed containers cool. Should be withdrawn immediately. Containers may explode in the heat of a fire.

Hazardous combustion products:

Carbon monoxide, carbon dioxide.

VI. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

Extremely flammable. Eliminate all source of ignition. All equipment used when handling this product must be grounded. Do not touch or walk through spilled material. Stop the leak if you can do it without risk.

Environment precautions:

- Do not flush into sewer, river and any body of water.
- The air in the area should be well ventilated.
- All flammable sources should be extinguished or eliminated.

Clean up methods:

- A vapor suppressing foam may be used to reduce vapors.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Use clean non-sparking tools to collect absorbed material.
- Dike large spills and place materials in salvage containers.
- Water spray may reduce vapor; but may not prevent ignition in closed spaces.
- For large spills, dike far ahead of liquid spill for later disposal. Contact the fire department, emergency rescue units and supplier for assistance.

VII. Handling and Storage

Handling:

- Production process is airtight, overall ventilation.
- The operator must go through a specialized training, strict adherence to the rule of operation.
- Operators should wear self-absorption filter respirators (half-mask), wear antistatic overalls, and rubber gloves.
- Away from fire, heat. No smoking in the workplace.

- Use explosion-proof ventilation systems and equipments.
- Avoid vapor to leak into the air of workplace and to contact with oxidizers, acids, alkalis.
- The flow rate should be controlled while filling, and there should have grounding device to prevent accumulation of static electricity.
- Care package and unload while transporting to avoid damages of the packaging and containers.
- Equipped with variety and quantity of fire equipment and leak emergency equipment.
- Empty containers may be harmful residue.

Storage

- Products should store in a cool, dry and ventilated warehouse, keep distance from fire and heat.
- The temperature of the warehouse should not exceed 30°C.
- Keep the container sealed for the strongly water absorption of products.
- With the oxidizers, acids, alkalis, should separate and avoid mixing storage.
- Use explosion - proof type lighting, ventilation.
- Using mechanical equipments and tools that easily produce sparks is forbidden.
- Storage areas should be provided with leak emergency response equipment and suitable host material.

Suitable containers / packing: Galvanized Iron drums; IBC totes; ISOTANK.

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| VIII. Exposure Controls / Personal Protection |
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Occupational Exposure standard:

TWA 950 mg/m³; STEL 1210 mg/m³

Engineering control:

- Production process is airtight, overall ventilation.
- Provide safety shower and eyewash equipment.

Respiratory protection:

- Possible exposure to vapor, should wear self-absorption filter respirators (half mask).
- Emergency rescue or evacuation, it is recommended to wear air respirator.

Hand protection:

Wear rubber oil resistant gloves.

Eye protection:

Wear protective chemical safety glasses.

Body protection:

Wear anti-static overalls.

Other protections:

Smoking is forbidden. Shower and dressing after work. Attention to personal hygiene.

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| IX. Physical and Chemical Properties |
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| Properties | Information | Properties | Information |
|---------------------------------|--|--|---------------------------------|
| Appearance and Character | Colorless transparent liquid with fruit flavor | Critical Pressure (Kpa) | 3.17 |
| Melting Point (°C) | -62 | Evaporation Rate | 2.8 |
| Boiling Point (°C) | 98 | Dynamic Viscosity | <1.2(@20°C) |
| Density | 0.86 g/cm ³ (@25°C) | Surface Tension | 22.4(Dynes/cm @20°C) |
| Relative Vapor Pressure (Air=1) | 4 | Electrical Resistivity | 23.8 |
| Saturated Vapor Pressure (25°C) | 6.3MPa | Octanol / Water Partition Coefficient 23°C | 1.76 |
| Maximum Increment Reactivity | 0.20g Ozone/Gtbac | Flash Point (°C) | 4°C at 1013.0 hPa (759.8 mm Hg) |
| PH | 6~7 | Autogenous Ignition Temperature (°C) | 518 |
| Water solubility | 0.8% (@20°C) | Upper Explosive Limit | 6.88vol% |
| Odor Threshold | 71ppb | Lower Explosive Limit | 1.26vol% |
| Refractive Index | n ₂₀ /D _{1.386} (lit) | Solubility Parameter | 7.7 |
| Dielectric Constant | 1.97(DIC @20°C, cyclohexane) | | |

Solubility:

Can be mixed with alcohol, ether, and other organic - soluble.

Main Application:

Widely used in pharmaceutical intermediates, solvents, paints, ink, industrial cleaning agents, nitrocellulose, fuels, gasoline additives etc.

X. Stability and Reactivity

Stability: Under normal stable condition.

Strong oxidants (such as strong oxides, strong acids and bases): increased risks of fire and explosion.

Hazardous Polymerization: Not polymerize

XI. Toxicology Information

Acute toxicity

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| Oral | LD50 | >4100mg/kg(rat) |
| Skin | LD50 | >2000mg/kg(rbt) |
| Ingestion | LC50/4H | >2230mg/m ³ /4h(rat) |

Irritating:

Human eyes: Cause irritation 300ppm(3rd class)

Rabbit skin: 500 24h, Mild irritation

Rabbit eyes: 100, Mild irritation

Other:

This product is identified as non - VOC solvents by U.S. Environmental Protection Agency (EPA).

XII. Ecological Information

Ecotoxicity: LC50 : 420ml/L(72h)(Alga)

Non-biodegradable:

In the air, when the hydroxyl radical concentration is 5.00×10^5 个/cm³, degradation half-life is 29d(in theory)

XIII. Disposal Information

Nature of Wastes: Hazardous Wastes

Wastes Disposal Methods: Incineration

Waste Note: In accordance with national and local laws and regulations before disposal.

XIV. Transport Information

IMDG

UN number: 1123
Proper Shipping Name: Butyl Acetates
Transport hazard classification: Class 3 flammable liquid

Packing Labels:



Packing group: II

DOT: UN 1123, Butyl Acetates, 3, II

IATA:

UN number: 1123
Proper Shipping Name: Butyl Acetates
(Tert-Butyl Acetate)

Class: 3

Packing Group: II

Packing Labels:



Packing Instruction(Cargo aircraft): 307

Environmentally hazardous: No

XV. Regulation Information

Global Inventory Status

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions. *Additional Explanatory Status Statements follow the table, as necessary.

| Country/Region | Inventory | Status Description |
|--------------------------|------------------|---------------------------|
| Australia | AICS | Compliant |
| Canada | DSL | Compliant |
| China | IECSC | Compliant |
| Japan | ENCS | Compliant |
| Korea | KECI | Compliant |
| New Zealand | NZIoC | Compliant |
| Philippines | PICCS | Compliant |
| United States of America | TSCA | Compliant |

National Chemical Safety Regulations:

Chemical Dangerous Goods Safety Management Regulations (The 52nd State Council Executive Meeting, January 9, 2002); Safety Production License Regulations (The 34th State Council Executive meeting, January 7, 2004); Hazardous Materials Safety Regulations to Implement Rules (Labor [1992] No. 677); The Workplace Safe Use of Chemicals ([1996] Ministry of Labor No. 423) and other regulations; Commonly Used Classification of Dangerous Chemicals and Signs (GB13690-92).

The material is classified as 3.2 class flash point flammable liquids.

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| XVI. Other information |
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This safety data sheet is updated in accordance with the implementation of GHS requirements.

Date of Creation: September 1, 2014

Date of Revision: July 29, 2019