



From: Mallinckrodt Baker, Inc.
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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.

t-AMYL ALCOHOL

1. Product Identification

Synonyms: 2-Butanol, 2-methyl; tert-pentyl alcohol; t-amyl alcohol 99%; Ethyl dimethyl carbinol

CAS No.: 75-85-4

Molecular Weight: 88.15

Chemical Formula: C₅H₁₂O

Product Codes: 9046

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
2-Butanol, 2-methyl-	75-85-4	100%	Yes

3. Hazards Identification

Emergency Overview

WARNING! FLAMMABLE! HARMFUL IF SWALLOWED OR INHALED. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. NARCOTIC.

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

Health Rating: 2 - Moderate

Flammability Rating: 4 - Extreme (Flammable)

Reactivity Rating: 2 - Moderate

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:

Vapors and mists are irritating to the upper respiratory tract. High concentrations may have a narcotic effect, causing headaches, nausea, and vomiting.

Ingestion:

Ingestion may produce narcotic effects, with headache, nausea, and vomiting.

Skin Contact:

Causes irritation. May be absorbed through skin.

Eye Contact:

Vapors and mist cause eye irritation. Splashes may cause irritation with severe pain, redness.

Chronic Exposure:

Repeated ingestion may cause liver damage.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders may be more susceptible to the effects of this material.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Wash clothes before reuse. Get medical attention if irritation develops or persists.

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: 19C (66F) OC

Autoignition temperature: 437C (819F)

Flammable limits in air % by volume:

lel: 1.2; uel: 9.0

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Closed containers exposed to heat may explode. Vapors can flow along surfaces to distant ignition source and flash back.

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. Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures.

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!

J. T. Baker SOLUSORB® 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. Keep out of light to improve shelf-life. 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.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. 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):

For conditions of use where exposure to the substance is apparent and engineering controls are not feasible, consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

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:

Camphor odor.

Solubility:

Slightly soluble in water.

Density:

0.81

pH:

No information found.

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

100

Boiling Point:

102C (216F)

Melting Point:

-9C (16F)

Vapor Density (Air=1):

3.0

Vapor Pressure (mm Hg):

12 @ 20C (68F)

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

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

Hazardous Polymerization:

Will not occur.

Incompatibilities:

T-Amyl Alcohol is incompatible with strong oxidizers, strong acids, bases, aliphatic amines, isocyanates and alkali metals.

Conditions to Avoid:

Heat, flame, sources of ignition, light and incompatibles.

11. Toxicological Information

Oral rat LD50: 1000 mg/kg.

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

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
2-Butanol, 2-methyl- (75-85-4)	No	No	None

12. Ecological Information

Environmental Fate:

Based on physical properties, t-amyl alcohol is not expected to be distributed in air. Some amounts may distribute in ground water and soils.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal 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: PENTANOLS

Hazard Class: 3

UN/NA: UN1105

Packing Group: II

Information reported for product/size: 4L

International (Water, I.M.O.)

Proper Shipping Name: PENTANOLS

Hazard Class: 3

UN/NA: UN1105

Packing Group: II

Information reported for product/size: 4L

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

Proper Shipping Name: PENTANOLS

Hazard Class: 3

UN/NA: UN1105

Packing Group: II

Information reported for product/size: 4L

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----
Ingredient TSCA EC Japan Australia

2-Butanol, 2-methyl- (75-85-4) Yes Yes Yes Yes

-----\Chemical Inventory Status - Part 2\-----
Ingredient Korea DSL NDSL Phil.

2-Butanol, 2-methyl- (75-85-4) Yes Yes No Yes

-----\Federal, State & International Regulations - Part 1\-----
-SARA 302- -SARA 313-
Ingredient RQ TPQ List Chemical Catg.

2-Butanol, 2-methyl- (75-85-4) No No No No

-----\Federal, State & International Regulations - Part 2\-----
-RCRA- -TSCA-
Ingredient CERCLA 261.33 8(d)

2-Butanol, 2-methyl- (75-85-4) No No No

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

Australian Hazchem Code: 2[S]E

Poison Schedule: None allocated.

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! HARMFUL IF SWALLOWED OR INHALED. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. NARCOTIC.

Label Precautions:

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

Label First Aid:

In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. In case of contact, immediately flush skin with plenty of water for at least 15 minutes. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, call a physician immediately.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Disclaimer:

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