

MSDS Material Safety Data Sheet From: Mallinckrodt Baker, Inc.   222 Red School Lane Phillipsburg, NJ 08865	24 Hour Emergency Telephone: 908-659-2151 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.

DIBUTYL PHTHALATE

MSDS Number: D2056 --- Effective Date: 02/25/99

1. Product Identification

Synonyms: 1,2-Benzenedicarboxylic acid dibutyl ester; n-Butyl phthalate; Phthalic acid, dibutyl ester
CAS No.: 84-74-2
Molecular Weight: 278.35
Chemical Formula: C₆H₄(CO₂C₄H₉)₂
Product Codes:
 J.T. Baker: G811
 Mallinckrodt: 1829

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Di-n-butyl Phthalate	84-74-2	99 - 100%	Yes

3. Hazards Identification

Emergency Overview

WARNING: HARMFUL IF SWALLOWED. CAUSES SEVERE EYE IRRITATION. CAUSES SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE RESPIRATORY TRACT IRRITATION. MAY BE HARMFUL IF INHALED.

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

Health Rating: 2 - Moderate
 Flammability Rating: 1 - Slight
 Reactivity Rating: 1 - Slight
 Contact Rating: 2 - Moderate
 Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES
 Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation:

Inhalation of vapors or mists is not expected unless this material is heated or misted. If inhaled, material may cause irritation to respiratory tract.

Ingestion:

Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. Accidental ingestion of 10 g (ca. 40 mg/kg) in one person produced nausea and vomiting, dizziness, light sensitivity, swelling of the eyelids, watering of the eyes, and kidney effects (red and white blood cells and oxalate crystals in the urine).

Skin Contact:

Irritation and contact burns are possible, but do not occur frequently. Allergic dermatitis has been reported after using antiperspirants and contact with plastics containing dibutyl phthalate (such as a watchband).

Eye Contact:

Vapor or mist causes eye irritation. Splashes cause severe irritation with stinging pain and tears.

Chronic Exposure:

Workers in the artificial leather industry were studied and it was found that exposure to 1.7 to 66 mg/m³ over a period of 19 years showed central nervous system toxicity after 6 to 7 years. Symptoms included pain, numbness, weakness and spasms in the extremities. Because there was concurrent exposure to other phthalates and a few adipates and sebacates, dibutyl phthalate cannot be singled out as the direct cause.

Aggravation of Pre-existing Conditions:
No information found.

4. First Aid Measures

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

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. 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: 157C (315F) CC

Autoignition temperature: 402C (756F)

Flammable limits in air % by volume:

lcl: 0.5; ucl: 2.5

Slight fire hazard when exposed to heat or flame. Lower explosive limit was measured at 235C (456F).

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above.

Fire Extinguishing Media:

Dry chemical or carbon dioxide. Water or foam may cause frothing.

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

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Contain and recover liquid when possible. 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! 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.

7. Handling and Storage

Keep in a tightly closed container. Store in a cool, dry, ventilated area away from sources of heat or ignition. Protect against physical damage. Store separately from reactive or combustible materials, and out of direct sunlight. Isolate from incompatible substances. 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:

-OSHA Permissible Exposure Limit (PEL): 5 mg/m3 (TWA)

-ACGIH Threshold Limit Value (TLV): 5 mg/m3 (TWA)

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, a half-face respirator with an organic vapor cartridge and particulate filter (NIOSH type P95 or R95 filter) 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 respirator with an organic vapor cartridge and particulate filter (NIOSH P100 or R100 filter) 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. Please note that N series filters are not recommended for this material. 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. This compound possibly exists in both particulate and vapor phase. A gas/vapor cartridge should be used in addition to the particulate filter (NIOSH type P95 or better filter). If the vapor concentration alone exceeds the exposure limits, use a supplied air respirator, because warning properties are unknown for these compounds. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134).

Skin Protection:

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

nitrile rubber are suitable materials to use for personal protective equipment.

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:

Colorless to yellow oily liquid.

Odor:

Slight aromatic odor.

Solubility:

Insoluble in water.

Specific Gravity:

1.05 @ 20C/4C

pH:

No information found.

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

100

Boiling Point:

340C (644F)

Melting Point:

-35C (-31F)

Vapor Density (Air=1):

9.6

Vapor Pressure (mm Hg):

< 0.01 @ 20C (68F)

Evaporation Rate (BuAc=1):

ca. 0.0

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

May also produce 1-butene, butanol and phthalic anhydride. Carbon dioxide and carbon monoxide may form when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Oxidizing agents, acids, chlorine, nitrates, bases and alkalis.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Toxicological Data:

Oral rat LD50: 8000 mg/kg; inhalation rat LC50: 4250 mg/m3; skin rabbit LD50: > 20 mL/kg. Investigated as a tumorigen, mutagen, reproductive effector.

Reproductive Toxicity:

Women working where phthalates are used had higher incidence of miscarriages, menstrual disorders, and reduced gestation periods.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Di-n-butyl Phthalate (84-74-2)	No	No	None

12. Ecological Information

Environmental Fate:

When released into the soil, this material may biodegrade to a moderate extent. When released into the soil, this material may leach into groundwater. When released into water, this material is expected to readily biodegrade. When released into water, this material is expected to have a half-life between 10 and 30 days. This material has an experimentally-determined bioconcentration factor (BCF) of less than 100. This material is not expected to significantly bioaccumulate. When released into the air, this material may be removed from the atmosphere to a moderate extent by dry deposition.

Environmental Toxicity:

This material may be toxic to aquatic life.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in 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: RQ, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DI-N-BUTYL PHTHALATE)
Hazard Class: 9
UN/NA: UN3082
Packing Group: III
Information reported for product/size: 20L

International (Water, I.M.O.)

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DI-N-BUTYL PHTHALATE)
Hazard Class: 9
UN/NA: UN3082
Packing Group: III
Information reported for product/size: 20L

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

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DI-N-BUTYL PHTHALATE)
Hazard Class: 9
UN/NA: UN3082
Packing Group: III
Information reported for product/size: 20L

15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
Ingredient                                     TSCA  EC  Japan  Australia
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Di-n-butyl Phthalate (84-74-2)                Yes  Yes  Yes    Yes
-----\Chemical Inventory Status - Part 2\-----
Ingredient                                     Korea  --Canada--
                                     Korea  DSL   NDSL   Phil.
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Di-n-butyl Phthalate (84-74-2)                Yes  Yes  No    Yes
-----\Federal, State & International Regulations - Part 1\-----
Ingredient                                     -SARA 302-  -SARA 313-
                                     RQ  TPQ    List  Chemical Catg.
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Di-n-butyl Phthalate (84-74-2)                No  No    Yes    No
-----\Federal, State & International Regulations - Part 2\-----
Ingredient                                     CERCLA  261.33  -TSCA-
                                     10      8(d)
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Di-n-butyl Phthalate (84-74-2)                10      U069    No
Chemical Weapons Convention: No  TSCA 12(b): Yes  CDTA: Yes
SARA 311/312: Acute: Yes  Chronic: Yes  Fire: No  Pressure: No
Reactivity: No  (Pure / Liquid)

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Australian Hazchem Code: No information found.

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: 2 Flammability: 1 Reactivity: 0

Label Hazard Warning:

WARNING! HARMFUL IF SWALLOWED. CAUSES SEVERE EYE IRRITATION. CAUSES SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE RESPIRATORY TRACT IRRITATION. MAY BE HARMFUL IF INHALED.

Label Precautions:

Avoid breathing vapor or mist.
 Avoid contact with eyes, skin and clothing.
 Keep container closed.
 Use with adequate ventilation.
 Wash thoroughly after handling.

Label First Aid:

In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention. In case of skin contact, immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention. If inhaled, remove to fresh air. Get medical attention for

any breathing difficulty.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 3, 8.

Disclaimer:

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