

MSDS Number: **E3050** * * * * * *Effective Date: 01/31/05* * * * * *
Supersedes: 11/04/04

MSDS MATERIAL SAFETY DATA SHEET

CHEMTREC: 800-424-

9300 (USA)

703-527-3887(Outside USA and Canada)

CANUTEC: 613-996-

6666

From: Mallinckrodt Baker, Inc
222 Red School Lane
Phillipsburg, NJ 08865

NOTE: Use CHEMTREC and

CANUTEC

phone numbers only in

the event

Emergency Telephone Number: 908-859-2151

of a chemical

emergency.

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

M A L L I N C K R O D T
E R

J. T. B A K

ETHYL BENZENE

1. Product Identification

Synonyms: Benzene, ethyl; ethylbenzen 99%; ethyl benzol

CAS No.: 100-41-4

Molecular Weight: 106.17

Chemical Formula: C₆H₅C₂H₅

Product Codes:

J.T. Baker: 5156, 5166

Mallinckrodt: 2427

2. Composition/Information on Ingredients

Ingredient Hazardous	CAS No	Percent
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Ethyl Benzene Yes	100-41-4	100%

3. Hazards Identification

Emergency Overview

WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED OR INHALED. VAPOR OR MIST IS IRRITATING TO THE EYES AND UPPER RESPIRATORY TRACT. CAUSES SKIN IRRITATION. AFFECTS CENTRAL NERVOUS SYSTEM.

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

Health Rating: 2 - Moderate (Life)
Flammability Rating: 3 - Severe (Flammable)
Reactivity Rating: 1 - Slight
Contact Rating: 2 - Moderate
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER
Storage Color Code: Red (Flammable)

Potential Health Effects

Inhalation:

Vapors irritate the mucous membranes and respiratory tract. May cause coughing, headache, Labored breathing, dizziness and unconsciousness. May affect blood circulation.

Ingestion:

Harmful if swallowed. Aspiration into the lungs may cause pneumonia. Abdominal pain, nausea, vomiting may occur. May affect central nervous system.

Skin Contact:

Causes irritation with redness and pain. Prolonged contact may cause dermatitis.

Eye Contact:

Vapors irritate the eyes, causing redness, pain, blurred vision.

Chronic Exposure:

Chronic exposure may cause fatigue, sleepiness, headache, and irritation of the eyes, respiratory tract and skin.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

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:

Aspiration hazard. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Immediately flush skin with plenty of 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: 21C (70F) CC

Autoignition temperature: 432C (810F)

Flammable limits in air % by volume:

l_{el}: 0.8; u_{el}: 6.7

Flammable Liquid and Vapor! Liquid floats on water and may travel to a source of ignition and spread the fire.

Explosion:

Sealed containers may rupture when heated. Above the flash point, explosive vapor-air mixtures may be formed. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.

Fire Extinguishing Media:

Dry chemical, alcohol foam or carbon dioxide. Water may be ineffective. Water spray may be used to keep fire exposed containers cool.

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. Vapors can flow along surfaces to distant ignition source and flash back.

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! 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.

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 Ethyl Benzene:

- OSHA Permissible Exposure Limit (PEL) -

100 ppm (TWA)

- ACGIH Threshold Limit Value (TLV) -

100 ppm (TWA) 125 ppm (STEL), A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans.

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:

Aromatic odor.

Solubility:

Insoluble in water.

Specific Gravity:

0.867 @ 20C/4C

pH:

No information found.

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

No information found.

Boiling Point:

136C (277F)

Melting Point:

-95C (-139F)

Vapor Density (Air=1):

3.66

Vapor Pressure (mm Hg):

10 @ 25.9C (79F)

Evaporation Rate (BuAc=1):

< 1

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:

Contact with strong oxidizing agents may cause fires and explosions. Attacks many plastics.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

For Ethyl Benzene - Oral rat LD50: 3500 mg/Kg; Skin rabbit LD50:15430 mg/Kg.
Investigated as a tumorigen, mutagen, reproductive effector.

-----\Cancer Lists\-----			
Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	

Ethyl Benzene (100-41-4)	No	No	2B

12. Ecological Information

Environmental Fate:

When released into water, this material is expected to readily biodegrade. When released to water, this material is expected to quickly evaporate. This material is not expected to significantly bioaccumulate. 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 not expected to be degraded by photolysis.

Environmental Toxicity:

96 Hr LC50 bluegill:150.0 mg/L (Static);

96 Hr LC50 fathead minnow :9.09 mg/L, (flow-through);

96 Hr LC50 rainbow trout: 14.0 mg/L (Static).

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: ETHYLBENZENE

Hazard Class: 3

UN/NA: UN1175

Packing Group: II

Information reported for product/size: 52L

International (Water, I.M.O.)

Proper Shipping Name: ETHYLBENZENE

Hazard Class: 3

UN/NA: UN1175

Packing Group: II

Information reported for product/size: 52L

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

Proper Shipping Name: ETHYLBENZENE

Hazard Class: 3

UN/NA: UN1175

Packing Group: II

Information reported for product/size: 52L

15. Regulatory Information

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

Ethyl Benzene (100-41-4)	Yes	Yes	Yes	Yes
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-----\Chemical Inventory Status - Part 2\-----
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Ingredient	Korea	DSL	--Canada-- NDSL	Phil.
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Ethyl Benzene (100-41-4)	Yes	Yes	No	Yes
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-----\Federal, State & International Regulations - Part 1\-----

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-SARA 302- -SARA 313----

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Ingredient Catg.	RQ	TPQ	List	Chemical
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-- Ethyl Benzene (100-41-4)	No	No	Yes	No
-----\Federal, State & International Regulations - Part 2\-----				
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Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)	
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Ethyl Benzene (100-41-4)	1000	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)

WARNING:

THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

Australian Hazchem Code: 3[Y]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: 2 Flammability: 3 Reactivity: 0

Label Hazard Warning:

WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED OR INHALED. VAPOR OR MIST IS IRRITATING TO THE EYES AND UPPER RESPIRATORY TRACT. CAUSES SKIN IRRITATION. AFFECTS CENTRAL NERVOUS SYSTEM.

Label Precautions:

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

Label First Aid:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. 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. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 3, 11, 12.

Disclaimer:

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