

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

J. T. B A K E R

TETRACHLOROETHYLENE

1. Product Identification

Synonyms:

ethylene tetrachloride; tetrachloroethene; perchloroethylene; carbon bichloride; carbon dichloride

CAS No.: 127-18-4

Molecular Weight: 165.83

Chemical Formula: Cl2C:CCl2

Product Codes:

J.T. Baker: 9218, 9360, 9453, 9465, 9469

Mallinckrodt: 1933, 8058

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Tetrachloroethylene	127-18-4	99 - 100%	Yes

3. Hazards Identification

Emergency Overview

WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AN

RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM, LIVER AND KIDNEYS. SUSPECT CANCER HAZARD. MAY CAUSE
Risk of cancer depends on level and duration of exposure.

Potential Health Effects

Inhalation:

Irritating to the upper respiratory tract. Giddiness, headache, intoxication, nausea and vomiting on the inhalation of large amounts while massive amounts can cause breathing arrest, liver and kidney death. Concentrations of 600 ppm and more can affect the central nervous system after a few minutes

Ingestion:

Not highly toxic by this route because of low water solubility. Used as an oral dosage for hookworm (ml). Causes abdominal pain, nausea, diarrhea, headache, and dizziness.

Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain. May be absorbed through the skin with possible systemic effects.

Eye Contact:

Causes irritation, redness, and pain.

Chronic Exposure:

May cause liver, kidney or central nervous system damage after repeated or prolonged exposures. Suspected cancer risk from animal studies.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance. The use of alcoholic beverages enhances the toxic effects.

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:

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:

Wash skin with soap or mild detergent and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Call a physician.

Eye Contact:

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

Note to Physician:

Do not administer adrenaline or epinephrine to a victim of chlorinated solvent poisoning.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard but becomes hazardous in a fire situation because of vapor generation possible degradation to phosgene (highly toxic) and hydrogen chloride (corrosive). Vapors are heavy and collect in low-lying areas.

Explosion:

Not considered to be an explosion hazard. Containers may explode when involved in a fire.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. 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.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover as much as possible. Neutralize with alkaline material (soda ash, lime), then 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 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

Store in a cool, dry, ventilated area away from sources of heat or ignition. Isolate from flammable liquids. Protect from direct sunlight. Wear special protective equipment (Section 8) for maintenance break-in operations. Exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting work areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink, or smoke in work areas. Containers of this material may be hazardous when empty since they retain product residues (vapors, etc.). Observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection**Airborne Exposure Limits:**

-OSHA Permissible Exposure Limit (PEL):

100 ppm (TWA), 200 ppm (ceiling),

300 ppm/5min/3-hour (max)

-ACGIH Threshold Limit Value (TLV):
25 ppm (TWA), 100 ppm (STEL); listed as A3, animal carcinogen

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airbor Limits. Local exhaust ventilation is generally preferred because it can control the emissions of th contaminant at its source, preventing dispersion of it into the general work area. Please refer to document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for detai

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, c full-facepiece self-contained breathing apparatus.

Skin Protection:

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

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is poss Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Clear, colorless liquid.

Odor:

Ethereal odor.

Solubility:

0.015 g in 100 g of water.

Specific Gravity:

1.62 @ 20C/4C

pH:

No information found.

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

100

Boiling Point:

121C (250F)

Melting Point:

-19C (-2F)

Vapor Density (Air=1):

5.7

Vapor Pressure (mm Hg):

18 @ 25C (77F)

Evaporation Rate (BuAc=1):

0.33 (trichloroethylene = 1)

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Slowly decomposed by light. Deteriorates rapid moist climates.

Hazardous Decomposition Products:

Carbon dioxide and carbon monoxide may form when heated to decomposition. Hydrogen chloride gas and gas may be formed upon heating. Decomposes with moisture to yield trichloroacetic acid and hydrochl

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong acids, strong oxidizers, strong alkalis, especially NaOH, KOH; finely divided metals, especia barium, lithium. Slowly corrodes aluminum, iron and zinc.

Conditions to Avoid:

Moisture, light, heat and incompatibles.

11. Toxicological Information

Oral rat LD50: 2629 mg/kg; inhalation rat LC50: 34.2 g/m³/8H; investigated as a tumorigen, mutagen, reproductive effector.

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

---NTP Carcinogen---

Ingredient	Known	Anticipated	IARC Category
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Tetrachloroethylene (127-18-4)	No	Yes	2A
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12. Ecological Information

Environmental Fate:

When released into the soil, this material is expected to quickly evaporate. When released into the material may leach into groundwater. When released into the soil, this material may biodegrade to a extent. When released to water, this material is expected to quickly evaporate. When released into material is not expected to biodegrade. This material is not expected to significantly bioaccumulat

released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals.

Environmental Toxicity:

The LC50/96-hour values for fish are between 1 and 10 mg/l. The LC50/96-hour values for birds are between 1 and 100 mg/l. This material is expected to 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 an approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of the 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: TETRACHLOROETHYLENE
Hazard Class: 6.1
UN/NA: UN1897
Packing Group: III
Information reported for product/size: 20L
International (Water, I.M.O.)

Proper Shipping Name: TETRACHLOROETHYLENE
Hazard Class: 6.1
UN/NA: UN1897
Packing Group: III
Information reported for product/size: 20L
International (Air, I.C.A.O.)

Proper Shipping Name: TETRACHLOROETHYLENE
Hazard Class: 6.1
UN/NA: UN1897
Packing Group: III
Information reported for product/size: 20L

Ingredient	TSCA	EC	Japan	Australia
Tetrachloroethylene (127-18-4)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient	--Canada--			
	Korea	DSL	NDSL	Phil.
Tetrachloroethylene (127-18-4)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
Tetrachloroethylene (127-18-4)	No	No	Yes	No

-----\Federal, State & International Regulations - Part 2\-----

Ingredient	-RCRA-		-TSCA-
	CERCLA	261.33	8(d)
Tetrachloroethylene (127-18-4)	100	U210	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No

SARA 311/312: Acute: Yes Chronic: Yes Fire: No 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: 2[Z]

Poison Schedule: No information found.

WHMIS:

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

16. Other Information

NFPA Ratings: Health: 2 Flammability: 0 Reactivity: 0

Label Hazard Warning:

WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM, LIVER AND KIDNEYS. SUSPECT CANCER HAZARD. MAY CAUSE Risk of cancer depends on level and duration of exposure.

Label Precautions:

Do not get in eyes, on skin, or on clothing.
Do not breathe vapor or mist.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.

Label First Aid:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases, consult a physician.

Product Use:

Laboratory Reagent.

Revision Information:

No changes.

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