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MSDS Material Safety Data Sheet

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

MALLINCKRODT



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: 202-483-7616

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.

CARBON TETRACHLORIDE

MSDS Number: C0979 --- Effective Date: 12/08/96

1. Product Identification

Synonyms: Tetrachloromethane, carbon tet, carbon chloride

CAS No.: 56-23-5

Molecular Weight: 153.84

Chemical Formula: CCl₄

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Carbon tetrachloride	56-23-5	99 - 100%	Yes

3. Hazards Identification

Emergency Overview

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

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

Health Rating: 3 - Severe (Cancer Causing)

Flammability Rating: 0 - None

Reactivity Rating: 1 - Slight

Contact Rating: 3 - Severe (Life)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD;
PROPER GLOVES

Storage Color Code:

Blue (Health)

Potential Health Effects

Inhalation:

Inhalation has a narcotic effect. Symptoms include headache, dizziness, nausea and dullness. Following exposures of high concentrations, victim may become unconscious, and if exposure is not terminated, death can result from respiratory failure.

Ingestion:

Abdominal pain, vomiting, diarrhea, visual disturbances, dizziness and unconsciousness can occur. Severe gastrointestinal upset progressing to serious kidney and liver damage can occur. Death can occur immediately or be delayed for as much as one week.

Skin Contact:

Can be absorbed through skin, with symptoms paralleling ingestion exposure. A dermatitis may be produced following long or repeated contact. Skin oils are removed upon contact, and the skin becomes red, cracked, and dry.

Eye Contact:

Severe irritant as vapor or liquid. Symptoms of burning and intense irritation occur.

Chronic Exposure:

Affects nervous system. Delayed effects from exposure include damage to the heart, liver and kidneys. Repeated or prolonged exposures may cause skin irritation, optic nerve damage with possible blindness, and hearing loss. Symptoms of darkened urine and liver cirrhosis have been reported.

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 immediately.

Ingestion:

Induce vomiting immediately as directed by medical personnel. 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 while removing contaminated clothing and shoes. Get medical attention immediately. 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.

Note to Physician:

To minimize hepatorenal damage, consider intravenous acetylcysteine. Hyperbaric oxygen is also utilized for significant exposures. Dialysis has also been suggested in severe cases. Give cardiorespiratory support as indicated and carefully monitor fluid and electrolytes. Closely monitor hepatic and renal functions. Avoid epinephrine because of myocardial sensitization and potential for inducing ventricular arrhythmias.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard. Under fire conditions, produces hydrochloric acid and phosgene.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

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

7. Handling and Storage

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Wear special protective equipment (Sec. 8) for maintenance break-in or where exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted 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 workplace. 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): 10 ppm (TWA); ceiling = 25 ppm, maximum 200 ppm (5-minute maximum peak in any 4 hours); - ACGIH Threshold Limit Value (TLV): 5 ppm (TWA), 10 ppm (STEL), skin; A2 suspected human carcinogen - NIOSH Recommended Exposure Limits (RELs): 2 ppm, 60-minute (STEL).

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, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus.

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:

Ether odor.

Solubility:

Negligible in water.

Specific Gravity:

1.59 @ 20C(68F)

pH:

No information found.

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

100

Boiling Point:

76.8C (171F)

Melting Point:

-23C (-9F)

Vapor Density (Air=1):

5.3

Vapor Pressure (mm Hg):

91 @ 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:

May produce carbon monoxide, carbon dioxide, hydrogen chloride and phosgene when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Reacts violently with fluorine gas, alkali metals, and aluminum. Incompatible with chemically active metals such as sodium, potassium, and magnesium. Will attack some forms of plastics, rubber, and coatings.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Oral rat LD50: 2350 mg/kg; skin rat LD50: 5070 mg/kg. Oral rat LD50: 2350 mg/kg; Inhalation rat LC50: 8000 ppm/4H; Skin rabbit LD50: >20 gm/kg; Irritation data, rabbit - std Draize: skin 4 mg, mild; eye 500 mg/24H, mild. Investigated as a tumorigen, mutagen, reproductive effector.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Carbon tetrachloride (56-23-5)	No	Yes	2B

12. Ecological Information

Environmental Fate:

When released into the soil, this material may leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released to water, this material is expected to quickly evaporate. 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 is expected to have a half-life of greater than 30 days.

Environmental Toxicity:

No information found.

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

Not regulated.

15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
Ingredient                                     TSCA  EC   Japan  Australia
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Carbon tetrachloride (56-23-5)                Yes  NE*   Yes    Yes

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-----\Chemical Inventory Status - Part 2\-----
Ingredient                                     Korea  DSL   NDSL  Phil.
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Carbon tetrachloride (56-23-5)                Yes   Yes   No    Yes

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*NE - Not Evaluated

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-----\Federal, State & International Regulations - Part 1\-----
Ingredient                                     -SARA 302-  -SARA 313-
RQ      TPQ      List  Chemical Catg.
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Carbon tetrachloride (56-23-5)                No    No    Yes   No

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-----\Federal, State & International Regulations - Part 2\-----
Ingredient                                     -RCRA-      -TSCA-
CERCLA  261.33     8(d)
-----
Carbon tetrachloride (56-23-5)                10        U211     No

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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)

Prop 65:

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

Australian Hazchem Code: 2Z

Poison Schedule: S7

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

Health: 3 Flammability: 0 Reactivity: 0

Label Hazard Warning:

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

Label Precautions:

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

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. 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 while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical attention immediately.

Product Use:

Laboratory Reagent

Revision Information:

New 16 section MSDS format, all sections have been revised.

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