

MATERIAL SAFETY DATA SHEET

Distributor

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Product identification

Product name: CAMPHOR
CAS NO. 76-22-2
Synonyms: dl-camphor, camphor-2, camphor synthetic
Formula: C₁₀H₁₆O
Molecular weight: 152.24

Composition/information on ingredients

bornan-2-one, 3-chloro-4-methylphenyl isocyanate

Hazards identification

Emergency Overview:

WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM. COMBUSTIBLE.

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

Health Rating: 3 - Severe (Life)
Flammability Rating: 2 - Moderate
Reactivity Rating: 0 - None
Contact Rating: 2 - Moderate
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER
Storage Color Code: Red (Flammable)

Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Affects the nervous system. Symptoms range from dizziness to convulsions and coma depending on the amount and duration of exposure. Seizures may occur suddenly.

Ingestion:

Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. May cause headache, fainting, cyanosis, hypotension, arrhythmias, and convulsions. Seizures may occur suddenly.

Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain. Is readily and rapidly absorbed through the skin, with symptoms paralleling those following inhalation and ingestion exposures.

Eye Contact:

Causes irritation, redness, and pain.

Chronic Exposure:

Chronic exposure may damage the liver and kidneys. Chronic exposure may produce symptoms mimicking Reye's Syndrome.

Aggravation of Pre-existing Conditions:

Persons with pre-existing nervous system disorders or liver disease may be more susceptible to the effects of

this substance.

First aid measures

Prompt action is essential.

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion:

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 soap and 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:

The odor of camphor on the breath or in urine may assist in diagnosis of overexposure. Tests may be needed to differentiate between chronic camphor toxicity and Reye's Syndrome.

Fire fighting measures

Fire:

Flash point: 66C (151F) CC
Autoignition temperature: 466C (871F)
Flammable limits in air % by volume:
l_{el}: 0.6; u_{el}: 3.5

Combustible solid. Contact with strong oxidizers may cause fire. May be ignited by heat, sparks or flame. May burn rapidly with flare-burning effect. Fire may produce irritating or poisonous gases.

Explosion:

Vapor is explosive when exposed to heat or flame.

Fire Extinguishing Media:

Use alcohol foam, dry chemical or carbon dioxide. (Water may be ineffective.) Water spray may be used to keep fire exposed containers cool. Do not allow water runoff to enter sewers or waterways.

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.

Accidental release measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Solid camphor sublimates to its gaseous state in air at room temperature and standard pressure. Spills: Use non-sparking tools and equipment. Pick up spill for recovery or disposal and place in a closed container.

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 (dust, solids);

observe all warnings and precautions listed for the product.

Exposure controls/Personal protection

Airborne Exposure Limits:

for camphor:

- OSHA Permissible Exposure Limit (PEL) - 2 mg/m³ (TWA).
- ACGIH Threshold Limit Value (TLV): 2 ppm (TWA), 3 ppm (STEL), A4 - not classifiable as a human carcinogen.

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 full facepiece respirator with organic vapor cartridge and high efficiency particulate filter (NIOSH type N100 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. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. 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 full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Physical and chemical properties

Appearance: white crystal powder
Melting Point: 170 degree C
Odor: fragrant penetrating odor
Solubility: slight (0.1-1%)
Specific Gravity: 0.992 @ 25C/4C
Vapor Density (Air=1): 5.24
Vapor Pressure (mm Hg): 0.65 @ 25C (77F)
Evaporation Rate (BuAc=1): < 1

Stability and reactivity data

Stability:

Stable under ordinary conditions of use and storage. Sublimes at room temperature and standard pressure.

Hazardous Decomposition Products:

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

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Camphor is incompatible with potassium permanganate, chromic anhydride naphthalene, and oxidizers. Volatile

reaction occurs with steam. Evolves explosive vapors when heated. Salts, of any kind, should not be added to camphor water.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

Toxicological information

No LD50/LC50 information found relating to normal routes of occupational exposure. Investigated as a tumorigen and mutagen.

Ingredient	Known	Anticipated	IARC Category
Camphor	No	No	None

Ecological information

Environmental Fate: n/a
Environmental Toxicity: n/a

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.

Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: CAMPHOR
Hazard Class: 4.1
UN/NA: UN2717
Packing Group: III
Information reported for product/size: 500G

International (Water, I.M.O.)

Proper Shipping Name: CAMPHOR
Hazard Class: 4.1
UN/NA: UN2717
Packing Group: III
Information reported for product/size: 500G

Regulatory Information

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.

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.