

DL-CAMPHOR

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1. Product Identification

Synonyms: Camphor; 2-Bornanone; 2-Camphanone; Formosa camphor, Gum camphor, 1,7,7-Trimethylnorcamphor; Laurel camphor; dl-Camphor; DL-Camphor; 1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one; Synthetic camphor.

CAS No.: 76-22-2

Molecular Weight: 152.23

Chemical Formula: C₁₀H₁₆O

Product Codes: CHEM-009 and others

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Camphor	76-22-2	>96	Yes

3. Hazards Identification

EMERGENCY OVERVIEW

Appearance: white chunks. Flash Point: 64 deg C.

Warning! Flammable solid. Causes eye, skin, and respiratory tract irritation. May cause central nervous system effects.

Target Organs: Central nervous system, respiratory system, eyes, skin.

SAF-T-DATA^(tm) Ratings

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)

Potential Health Effects

Eye: Causes eye irritation. Camphor may be expected to be irritating to the eye, but no serious injuries have been noted.

Skin: Causes skin irritation.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation: Causes respiratory tract irritation. Camphor may cause loss of the sense of smell. Heavy exposures to camphor are reported to cause nausea, anxiety, dizziness, confusion, headache, twitching of facial muscles, spasticity, and with severe poisoning, convulsions and coma.

Chronic: No information found.

4. First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

5. Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Flammable solid. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media: For small fires, use dry chemical, soda ash, lime or sand. For large fires, use dry sand, dry chemical, soda ash or lime or withdraw from area and let fire burn.

Flash Point: 64 deg C (147.20 deg F)

Autoignition Temperature: 466 deg C (870.80 deg F)

Explosion Limits, Lower:0.6 vol %

Upper: 3.5 vol %

NFPA Rating: (estimated) Health: 2; Flammability: 2; Instability: 0

6. Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

7. Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame. Avoid breathing vapor.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances.

8. Exposure Controls/Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Chemical Name ACGIH NIOSH OSHA - Final PELs

Camphor 2 ppm TWA; 3 ppm STEL 2 mg/m³ TWA 200 mg/m³ IDLH 2 mg/m³ TWA

CAS deleted and replaced by 76-22-2. none listed none listed none listed

OSHA Vacated PELs: Camphor: 2 mg/m³ TWA CAS deleted and replaced by 76-22-2.: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. Physical and Chemical Properties

Physical State: Chunks

Appearance: white

Odor: aromatic odor - characteristic odor

pH: Not available.

Vapor Pressure: 0.65 mm Hg @ 25°C

Vapor Density: 5.24 (air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 204°C @ 760 mm Hg

Freezing/Melting Point: 175 - 177°C

Decomposition Temperature: Not available.

Solubility: Insoluble.

Specific Gravity/Density: 0.992 @ 25°C

10. Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Excess heat, confined spaces.

Incompatibilities with Other Materials: Strong oxidizing agents, strong reducing agents, chlorinated solvents.

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

11. Toxicological Information

RTECS#:

CAS# 76-22-2: EX1225000

CAS# 21368-68-3: EX1234000

LD50/LC50:

CAS# 76-22-2:

Inhalation, mouse: LC50 = 450 mg/m³;

Inhalation, rat: LC50 = 500 mg/m³;

Oral, mouse: LD50 = 1310 mg/kg;

CAS# 21368-68-3:

Carcinogenicity:

CAS# 76-22-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 21368-68-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

14. Transport Information

	US DOT	Canada TDG
Shipping Name:	CAMPHOR	CAMPHOR
Hazard Class:	4.1	4.1
UN Number:	UN2717	UN2717
Packing Group:	III	III

15. Regulatory Information

Chemical Inventory Status - Part 1

US FEDERAL

TSCA

CAS# 76-22-2 is listed on the TSCA inventory.

CAS# 21368-68-3 is not listed on the TSCA inventory. It is for research and development use only.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 21368-68-3: immediate, fire.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 76-22-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 21368-68-3 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XI F

Risk Phrases:

R 11 Highly flammable.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 37/39 Wear suitable gloves and eye/face protection.

WGK (Water Danger/Protection)

CAS# 76-22-2: 1
CAS# 21368-68-3: No information available.

Canada - DSL/NDSL

CAS# 76-22-2 is listed on Canada's DSL List.
CAS# 21368-68-3 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B4, D2B.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

16. Other Information

Product Use:

Laboratory Reagent and Consumer Hobby

Revision Information:

No Changes.

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