ionz

SAFETY DATA SHEET

Updated on 03/12/2024

1. Material Identification

Product Name : Camphor
Catalog Number : io-43509
CAS Number : 76-22-2
Identified uses : Laboratory chemicals, manufacture of chemical compounds
Company : Ionz

>> R&D Use only

2. Hazards Identification

GHS Classification:

Flammable liquid (category 2)
Acute toxicity, oral (Category 3)
Acute toxicity, dermal (Category 3)
Acute toxicity, inhalation (Category 3)
Specific target organ toxicity, single exposure (Category 1)

Note

>> Pictograms displayed are for 99.9% (1965 of 1967) of reports that indicate hazard statements. This chemical does not meet GHS hazard criteria for 0.1% (2 of 1967) of reports.

Pictogram(s)

GHS Hazard Statements

>> H228 (97.6%): Flammable solid [Danger Flammable solids]

>> H302 (15.5%): Harmful if swallowed [Warning Acute toxicity, oral]

>> H315 (10.1%): Causes skin irritation [Warning Skin corrosion/irritation]

>> H332 (93.5%): Harmful if inhaled [Warning Acute toxicity, inhalation]

>> H371 (73.1%): May cause damage to organs [Warning Specific target organ toxicity, single exposure]

>> H373 (19.8%): May causes damage to organs through prolonged or repeated exposure [Warning Specific target organ toxicity, repeated exposure]

Precautionary Statement Codes

>> P210, P240, P241, P260, P261, P264, P270, P271, P280, P301+P317, P302+P352, P304+P340, P308+P316, P317, P319, P321, P330, P332+P317, P362+P364, P370+P378, P405, and P501

NFPA 704 Diamond

NFPA Health Rating

>> 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA Fire Rating

>> 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air.

NFPA Instability Rating

>> 0 - Materials that in themselves are normally stable, even under fire conditions.

Health Hazards:

>> Excerpt from ERG Guide 133 [Flammable Solids]:

>> Fire may produce irritating and/or toxic gases. Contact may cause burns to skin and eyes. Contact with molten substance may cause severe burns to skin and eyes. Runoff from fire control or dilution water may cause environmental contamination. (ERG, 2024)

ERG 2024, Guide 133 (Camphor, synthetic)

>> Fire may produce irritating and/or toxic gases.

>> Contact may cause burns to skin and eyes.

>> Contact with molten substance may cause severe burns to skin and eyes.

>> Runoff from fire control or dilution water may cause environmental contamination.

>> Excerpt from ERG Guide 133 [Flammable Solids]:

>> Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare-burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2024)

ERG 2024, Guide 133 (Camphor, synthetic)

>> Flammable/combustible material.

>> May be ignited by friction, heat, sparks or flames.

>> Some may burn rapidly with flare-burning effect.

>> Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence.

>> Substance may be transported in a molten form at a temperature that may be above its flash point.

>> May re-ignite after fire is extinguished.

>> Combustible. Gives off irritating or toxic fumes (or gases) in a fire. Above 66 °C explosive vapour/air mixtures may be formed. Finely dispersed particles form explosive mixtures in air.

3. Composition/Information On Ingredients

Chemical name : Camphor
CAS Number : 76-22-2
Molecular Formula : C10H16O
Molecular Weight : 152.2300 g/mol

4. First Aid Measures

First Aid:

>> Excerpt from NIOSH Pocket Guide for Camphor (synthetic):

>> Eye: IRRIGATE IMMEDIATELY - If this chemical contacts the eyes, immediately wash (irrigate) the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately.

>> Skin: SOAP WASH IMMEDIATELY - If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly.

>> Breathing: RESPIRATORY SUPPORT - If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.

>> Swallow: MEDICAL ATTENTION IMMEDIATELY - If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2024)

ERG 2024, Guide 133 (Camphor, synthetic)

>> General First Aid:

>> Call 911 or emergency medical service.

>> Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and avoid contamination.

>> Move victim to fresh air if it can be done safely.

>> Administer oxygen if breathing is difficult.

>> If victim is not breathing:

>> DO NOT perform mouth-to-mouth resuscitation; the victim may have ingestedor inhaled the substance.

>> If equipped and pulse detected, wash face and mouth, then give artificial respiration using a proper respiratory medical device (bag-valve mask, pocket mask equipped with a one-way valve or other device).

>> If no pulse detected or no respiratory medical device available, provide continuouscompressions. Conduct a pulse check every two minutes or monitor for any signs of spontaneous respirations.

>> Remove and isolate contaminated clothing and shoes.

>> For minor skin contact, avoid spreading material on unaffected skin.

>> In case of contact with substance, remove immediately by flushing skin or eyes with running water for at least 20 minutes.

>> For severe burns, immediate medical attention is required.

>> Effects of exposure (inhalation, ingestion, or skin contact) to substance may be delayed.

>> Keep victim calm and warm.

>> Keep victim under observation.

>> For further assistance, contact your local Poison Control Center.

>> Note: Basic Life Support (BLS) and Advanced Life Support (ALS) should be done by trained professionals.

>> Specific First Aid:

>> Removal of solidified molten material from skin requires medical assistance.

>> In Canada, an Emergency Response Assistance Plan (ERAP) may be required for this product. Please consult the shipping paper and/or the "ERAP" section.

First Aid Measures

Inhalation First Aid

>> Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.

Skin First Aid

>> Remove contaminated clothes. Rinse skin with plenty of water or shower.

Eye First Aid

>> First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Ingestion First Aid

>> Rinse mouth. Give a slurry of activated charcoal in water to drink. Artificial respiration may be needed. Refer for medical attention .

5. Fire Fighting Measures

>> Excerpt from ERG Guide 133 [Flammable Solids]:

>> SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam.

>> LARGE FIRE: Water spray, fog or regular foam. If it can be done safely, move undamaged containers away from the area around the fire.

>> FIRE INVOLVING METAL PIGMENTS OR PASTES (E.G. "ALUMINUM PASTE"): Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride-based extinguishers or class D extinguishers. Also, see ERG Guide 170.

>> FIRE INVOLVING TANKS, RAIL TANK CARS OR HIGHWAY TANKS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks in direct contact with flames. (ERG, 2024)

>> Use water spray, powder, foam, carbon dioxide.

6. Accidental Release Measures

Isolation and Evacuation:

Isolation and evacuation measures to take when a large amount of this chemical is accidentally released in an emergency.

>> Excerpt from ERG Guide 133 [Flammable Solids]:

>> IMMEDIATE PRECAUTIONARY MEASURE: Isolate spill or leak area for at least 25 meters (75 feet) in all directions.

>> LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet).

>> FIRE: If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2024)

Evacuation: ERG 2024, Guide 133 (Camphor, synthetic)

>> Immediate precautionary measure

>> Isolate spill or leak area for at least 25 meters (75 feet) in all directions.

>> Large Spill

>> Consider initial downwind evacuation for at least 100 meters (330 feet).

>> Fire

>> If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Spillage Disposal:

Methods for containment and safety measures to protect workers dealing with a spillage of this chemical.

>> Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Ventilation. Remove all ignition sources. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting.

Accidental Release Measures

Public Safety: ERG 2024, Guide 133 (Camphor, synthetic)

>> CALL 911. Then call emergency response telephone number on shipping paper. If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.

>> Keep unauthorized personnel away.

>> Stay upwind, uphill and/or upstream.

Spill or Leak: ERG 2024, Guide 133 (Camphor, synthetic)

>> ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.

>> Do not touch or walk through spilled material.

>> Small Dry Spill

>> With clean shovel, place material into clean, dry container and cover loosely; move containers from spill area.

>> Large Spill

>> Wet down with water and dike for later disposal.

>> Prevent entry into waterways, sewers, basements or confined areas.

7. Handling And Storage

Safe Storage:

>> Separated from strong oxidants, strong reducing agents, chlorinated solvents and food and feedstuffs. Well closed. Ventilation along the floor.

Storage Conditions:

>> Conditions for safe storage, including any incompatibilities: keep container tightly closed in a dry and well-ventilated place.

8. Exposure Control/ Personal Protection

REL-TWA (Time Weighted Average)

>> 2 mg/m³

>> 2.0 [mg/m3]

PEL-TWA (8-Hour Time Weighted Average)

>> 2 mg/m³

>> 12.0 [mg/m3]

TLV-STEL

>> 19.0 [mg/m3]

>> 2 ppm as TWA; 3 ppm as STEL; A4 (not classifiable as a human carcinogen)

TLV-TWA (Time Weighted Average)

>> 2 ppm [1990]

TLV-STEL (Short Term Exposure Limit)

>> 3 ppm [1990]

Emergency Response: ERG 2024, Guide 133 (Camphor, synthetic)

>> Small Fire

>> Dry chemical, CO2, sand, earth, water spray or regular foam.

>> Large Fire

>> Water spray, fog or regular foam.

>> If it can be done safely, move undamaged containers away from the area around the fire.

>> Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste")

>> Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride-based extinguishers or class D extinguishers. Also, see GUIDE 170.

>> Fire Involving Tanks, Rail Tank Cars or Highway Tanks

>> Cool containers with flooding quantities of water until well after fire is out.

>> For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

>> Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

>> ALWAYS stay away from tanks in direct contact with flames.

Inhalation Risk:

>> A harmful contamination of the air will be reached on evaporation of this substance at 20 °C.

Effects of Short Term Exposure:

>> The substance is irritating to the eyes, skin and respiratory tract. The substance may cause effects on the central nervous system. This may result in convulsions and respiratory depression. Ingestion could cause death.

Fire Prevention

>> NO open flames. Above 66 °C use a closed system and ventilation. Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent deposition of dust.

Exposure Prevention

>> PREVENT DISPERSION OF DUST!

Inhalation Prevention

>> Use ventilation (not if powder), local exhaust or breathing protection.

Skin Prevention

>> Protective gloves.

Eye Prevention

>> Wear safety spectacles or eye protection in combination with breathing protection.

Ingestion Prevention

>> Do not eat, drink, or smoke during work.

Exposure Control and Personal Protection

Protective Clothing: ERG 2024, Guide 133 (Camphor, synthetic)

>> Wear positive pressure self-contained breathing apparatus (SCBA).

>> Structural firefighters' protective clothing provides thermal protection but only limited chemical protection.

9. Physical And Chemical Properties

Molecular Weight:

>> 152.23

Exact Mass:

>> 152.120115130

Physical Description:

>> Camphor appears as a colorless or white colored crystalline powder with a strong mothball-like odor. About the same density as water. Emits flammable vapors above 150 °F. Used to make moth proofings, pharmaceuticals, and flavorings.

>> COLOURLESS OR WHITE CRYSTALS WITH CHARACTERISTIC ODOUR.

Color/Form:

>> Colorless or white crystals, granules, or crystalline masses; or as colorless to white, translucent, tough masses

Odor:

>> Fragrant and penetrating odor

Taste:

The sensation of flavor perceived in the mouth and throat on contact with a substance.

>> Pungent aromatic taste

Boiling Point:

>> 399 °F at 760 mmHg (NIOSH, 2024)

>> 204 °C

Melting Point:

>> 345 °F (NIOSH, 2024)

>> 180 °C

Flash Point:

>> 150 °F (NIOSH, 2024)

>> 66 °C c.c.

Solubility:

>> Insoluble (NIOSH, 2024)

>> Solubility in water, g/100ml at 25 °C: 0.12

Density:

>> 0.99 (NIOSH, 2024) - Less dense than water; will float

>> 0.99 g/cm³

Vapor Density:

>> 5.24 (Air = 1)

>> Relative vapor density (air = 1): 5.24

Vapor Pressure:

>> 0.2 mmHg (NIOSH, 2024)

>> Vapor pressure, Pa at 20 °C: 27

LogP:

Autoignition Temperature:

>> 871 °F (466 °C)

>> 466 °C

Ionization Potential:

>> 8.76 eV

Odor Threshold:

>> Odor Threshold Low: 0.0026 [mmHg]

>> Odor Threshold High: 0.96 [mmHg]

>> Detection odor threshold from AIHA (mean = 0.079 ppm)

Refractive Index:

>> Index of refraction: 1.5462 at 20 °C/D

Collision Cross Section:

Collision cross section (CCS) represents the effective area for the interaction between an individual ion and the neutral gas through which it is traveling (e.g., in ion mobility spectrometry (IMS) experiments). It quantifies the probability of a collision taking place between two or more particles.

>> 142.8 Å² [M+H]+ [CCS Type: DT; Method: stepped-field]

10. Stability And Reactivity

>> Highly flammable. Slightly soluble in water.

>> Highly Flammable

11. Toxicological Information

Toxicity Summary:

>> IDENTIFICATION AND USE: Camphor is a solid, translucent, white crystal with penetrating aromatic odor used as a rubefacient/counter-irritant medication. It is also used in liniments as a counter-irritant for fibromyalgia, neuralgia, and similar conditions. In dermatology, when it is applied as lotion (0.1 to 3%), it is an anti-pruritic and surface anesthetic (when applied gently, it creates a feeling of coolness). Camphor is no longer used as a pesticide in the US. Other uses of camphor include insect repellant use (particularly to control clothes moths); cosmetic ingredient. HUMAN EXPOSURE AND TOXICITY: The main target organs of camphor exposure are the CNS and kidneys. Convulsions, depression, apnea, asystole, gastric irritation, colic, nausea, vomiting, diarrhea, anxiety, excitement, delirium, and severe post-convulsive coma may occur after intake of camphor. The symptoms may appear 5 to 90 min after ingestion depending on the

product ingested (solid or liquid). Poisoning by camphor is associated with an initial excitatory phase, with vomiting, diarrhea and excitement, followed by CNS depression and death. Toxic effects appear after the ingestion of approximately 2 g (lethal dose adults: 4 g, children: 0.5-1 g, infants: 70 mg/kg of pure camphor). There have been reports of instant collapse in infants after camphor has been applied to their nostrils. Camphor is irritating to the eyes, skin and mucous membranes. When camphor is applied on the skin, it is analgesic. Taken internally, it is an irritant and carminative /SRP: an agent used to reduce gas in the GI tract/. It has been used as a mild expectorant. Camphor is a CNS stimulant whose effects range from mild excitation to grand-mal convulsions or status epilepticus. These effects result from excitation of the cerebrum and lower structures of the CNS. Gastric irritation, together with cortical and medullary stimulation, frequently causes vomiting and diarrhea. It is not clear whether camphor toxicity is due to the parent compound, a metabolite (secondary alcohols, including borneol and isomers of hydroxy-camphor), or both. Camphor is used exclusively because of its local effects. When rubbed on the skin, it acts as a rubefacient and causes localized vasodilatation (mediated by way of an axon reflex), which gives feelings of comfort and warmth. As an anti-pruritic gent, when applied gently on the skin, it may create a feeling of coolness, and a mild, local anesthetic effect, which may be followed by numbness. When ingested in small amounts, it creates feelings of warmth and comfort in the stomach, but given in large doses it acts as an irritant. Camphor is not a human carcinogen, and the topical use of camphorated oil in pregnancy was not associated with teratogenic effects. However, camphor ingestion may lead to abortion and/or a death of the fetus because camphor crosses the placenta and fetuses lack the enzymes needed to hydroxylate and conjugate with glucuronic acid. ANIMAL STUDIES: Carcinogenicity tests in animals have been negative. Neuronal necrosis produced experimentally in mice by administration of multiple doses. In developmental studies, D-camphor elicited no evidence of teratogenicity when administered orally during the fetal period of organogenesis to pregnant rats at doses up to 1000 mg/kg bw/day, and to pregnant rabbits at doses up to 681 mg/kg bw/day. Camphor is not mutagenic with the Ames test but sister chromatid exchange has been reported in mice given 80 mg/kg doses of camphor ip, demonstrating possible genotoxicity.

USGS Health-Based Screening Levels for Evaluating Water-Quality:

This section provides the USGS Health-Based Screening Levels for Evaluating Water-Quality data.

Chemical

>> Camphor

Reference

>> Smith, C.D. and Nowell, L.H., 2024. Health-Based Screening Levels for evaluating water-quality data (3rd ed.). DOI:10.5066/F71C1TWP

Evidence for Carcinogenicity:

Evidence that this chemical does or may cause cancer. The information here is collected from various sources by the Hazardous Substances Data Bank (HSDB).

>> A4; Not classifiable as a human carcinogen. /Camphor, synthetic/

Exposure Routes:

>> The substance can be absorbed into the body by inhalation and by ingestion.

Inhalation Exposure

>> Cough. Sore throat. Further see Ingestion.

Skin Exposure

>> Redness.

Eye Exposure

>> Redness. Pain.

Ingestion Exposure

>> Burning sensation in the throat and chest. Nausea. Vomiting. Diarrhoea. Headache. Confusion. Convulsions. Unconsciousness.

Adverse Effects:

An adverse effect is an undesired harmful effect resulting from a medical treatment or other intervention.

>> Neurotoxin - Other CNS neurotoxin

>> Occupational hepatotoxin - Secondary hepatotoxins: the potential for toxic effect in the occupational setting is based on cases of poisoning by human ingestion or animal experimentation.

>> Skin Sensitizer - An agent that can induce an allergic reaction in the skin.

>> ACGIH Carcinogen - Not Classifiable.

Toxicity Data:

>> LCLo (mice) = 400 mg/m3/3H

Interactions:

>> Five tested plant volatile oils and their mixtures were evaluated for controlling the Margarodid, Icerya seychellarum seychellarum (Westw.) on growing Sago palms in Antoniades public gardens, Alexandria, Egypt. The tested volatile oils at concentration rates of 0.5, 1 and 1.5 % (v/v) were as follows: Camphor 20%; Dill 20%; Rose 30%; Peppermint 20% and Clove 30% (v/v). Their mixtures were Camphor/Peppermint; Camphor/Rose; at a rate of 1:1 Camphor/Rose/ Peppermint at 1:1:2 and Camphor/Rose/Dill at 2:1:1. The calculated results as general mean of residual reduction percent for the whole inspection periods of the test indicated that the superior volatile oils in reducing mealybugs were both Camphor and Rose, followed by Dill, Peppermint and the least efficient was Clove volatile oil. The evaluated volatile oils mixtures showed that each of Camphor/Rose/Peppermint, Camphor/Rose, and Camphor/Peppermint mixtures occupied a higher rank of efficiency against the treated mealybugs. /Mixture/

Antidote and Emergency Treatment:

>> Treatment of camphor intoxication is primarily supportive with a focus on airway management and seizure control. No antidotes are available. Activated charcoal should be administered for gastrointestinal decontamination, although its efficacy is doubtful. Due to prominent CNS effects, the induction of emesis is contraindicated. If liquid camphor is ingested, a nasogastric tube can be used to aspirate gastric contents before instillation of activated charcoal. Alcohols and oil solutions should be avoided because they have been reported to enhance absorption of camphor. Although not readily available, lipid hemodialysis and resin hemoperfusion have been reported to lower blood camphor concentrations in severely poisoned patients. Benzodiazepines such as lorazepam or diazepam are indicated for symptoms of CNS hyperactivity, such as agitation, tremors, and seizures. Phenobarbital can be used for recurrent or prolonged seizures.

Human Toxicity Excerpts:

>> /HUMAN EXPOSURE STUDIES/ Camphor applied to the skin of volunteers as a 20% solution in alcohol produced no significant sensation of irritation or pain at normal skin temperatures. ...It did appear to have a slight sensitising effect on the perception of temperature change during heating and cooling, and increased the sensation of burning at high temperatures.

Non-Human Toxicity Excerpts:

>> /LABORATORY ANIMALS: Acute Exposure/ In urethane-anesthetized rabbits, ... camphor had a vasodilating action in the isolated rabbit-ear vessels when directly applied to the vessel at 50%.

Human Toxicity Values:

Quantitative human toxicity values (e.g., lethal dose) for this compound.

>> ...fatalities in children have been recorded from 1g.

Non-Human Toxicity Values:

>> LD50 Mouse oral 1310 mg/kg

Populations at Special Risk:

>> Camphor crosses the placenta and has been implicated in fetal and neonatal death. It has been used to induce abortions. Camphor poisoning during pregnancy was reported in four cases and, in each case, camphorated oil was mistaken for castor oil. The topical use of camphorated oil in pregnancy was not associated with teratogenic effects. /camphorated oil/

12. Ecological Information

Average Daily Intake:

The average amount of the compound taken into the body through eating, drinking, or breathing.

>> Based on food consumption data collected on the French population by the Observatoire des Consommations alimentaires (OCA), the dietary exposure to camphor was estimated to be 1.5 mg/person/day(1). Assuming an average body weight of 60 kg, this corresponds to an exposure of 25 ug/kg bw/day(1).

13. Disposal Considerations

Spillage Disposal

>> Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Ventilation. Remove all ignition sources. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting.

Disposal Methods

>> SRP: The most favorable course of action is to use an alternative chemical product with less inherent propensity for occupational harm/injury/toxicity or environmental contamination. Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or water; effects on animal and plant life; and conformance with environmental and public health regulations.

>> SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a permitted wastewater treatment facility is acceptable only after review by the governing authority and assurance that "pass through" violations will not occur. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must be evaluated in accordance with EPA 40 CFR Part 261, specifically Subpart B, in order to determine the appropriate local, state and federal requirements for disposal.

>> Waste treatment methods: product: burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

14. Transport Information

DOT

Camphor
4.1
UN Pack Group: III

IATA

Camphor
4.1,
UN Pack Group: III

15. Regulatory Information

TSCA Requirements:

This section provides information on requirements concerning this chemical under the Toxic Substances Control Act (TSCA) of 1976. TSCA provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics and pesticides.

>> Section 8(a) of TSCA requires manufacturers of this chemical substance to report preliminary assessment information concerned with production, exposure, and use to EPA as cited in the preamble in 51 FR 41329. Effective date: 1/26/94; Reporting date: 3/28/94.

Regulatory Information

The Australian Inventory of Industrial Chemicals

>> Chemical: Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-

The Australian Inventory of Industrial Chemicals

>> Chemical: Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-, (1S)-

The Australian Inventory of Industrial Chemicals

>> Chemical: Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-, (1R)-

The Australian Inventory of Industrial Chemicals

>> Chemical: Oils, camphor

California Safe Cosmetics Program (CSCP) Reportable Ingredient

>> Hazard Traits - Fragrance Allergen

>> Authoritative List - Annex III of the EU Cosmetics Regulation No. 1223/2009 - Fragrance Allergens

>> Report - if present in a rinse-off cosmetic product at a concentration at or above 0.01 percent (100 parts per million) or in a leave-on cosmetic product at a concentration at or above 0.001 percent (10 parts per million)

REACH Registered Substance

>> Status: Active Update: 13-03-2023 https://echa.europa.eu/registration-dossier/-/registered-dossier/5625

REACH Registered Substance

>> Status: Active Update: 23-10-2018 https://echa.europa.eu/registration-dossier/-/registered-dossier/27204

New Zealand EPA Inventory of Chemical Status

>> Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-: Does not have an individual approval but may be used under an appropriate group standard

New Zealand EPA Inventory of Chemical Status

>> Oils, camphor: Does not have an individual approval but may be used under an appropriate group standard

16. Other Information

Toxic Combustion Products:

Toxic products (e.g., gases and vapors) produced from the combustion of this chemical.

>> The substance decomposes on burning producing toxic gases and irritating fumes.

Other Safety Information

Chemical Assessment

>> IMAP assessments - Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl-, (1S)-: Environment tier I assessment

"The information provided is believed to be accurate but is not comprehensive and should be used as a reference. It reflects our current knowledge and is intended for safety guidance related to the product. This document does not constitute a warranty of the product's properties. Ionz is not responsible for any damages resulting from handling or contact with the product incorrectly."