

SAFETY DATA SHEET

Preparation Date: 4/08/2015

Revision date 9/18/2019

Revision Number: G3

1. IDENTIFICATION

Product identifier

Product code: CA186
Product Name: CAMPHOR, SYNTHETIC, BLOCKS

Other means of identification

Synonyms: 1,7,7-Trimethylbicyclo(2.2.1)-2-heptanone
 1,7,7-Trimethylnorcamphor
 2-Bornanone
 2-Camphanone
 2-Kamfanon
 2-Keto-1,7,7-trimethylnorcamphane
 Alphanon
 Bicyclo(2.2.1)heptan-2-one, 1,7,1-trimethyl-
 Bicyclo(2.2.1)heptane-2-one, 1,7,1-trimethyl-
 Bornane, 2-oxo-
 Camphor
 Camphor, natural
 Camphor, synthetic
 Camphor, synthetic (ACGIH:OSHA)
 DL-Camphor
 Formosa camphor
 Gum camphor
 Huile de camphre
 Japan camphor
 Kampfer (German)
 Laurel camphor
 Matricaria camphor
 Norcamphor, 1,7,7-trimethyl-
 Root bark oil
 Spirit of camphor
 dl-Camphor
CAS #: 76-22-2
RTECS # EX1225000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Plasticizer for cellulose esters and ethers.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300

Contact Person: Tom Tyner (USA - West Coast)
Contact Person: Ibad Tirmiz (USA - East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

| | |
|--|-------------|
| Acute toxicity - Oral | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Specific target organ toxicity (single exposure) | Category 3 |
| Flammable solids | Category 2 |

Label elements

Warning

Hazard statements

Harmful if swallowed
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
Flammable solid



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Ground container and receiving equipment
Use explosion-proof equipment
Wear protective gloves
Wear eye/face protection

Precautionary Statements - Response

In case of fire: Use CO₂, dry chemical, or foam to extinguish.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
IF ON SKIN: Wash with plenty of water
If skin irritation occurs: Get medical attention
Take off contaminated clothing and wash it before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell

Rinse mouth

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

Precautionary Statements - Disposal

Dispose of contents and container to an approved waste disposal plant in accordance with local, regional, national and international regulations as applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No | Weight-% |
|--------------|---------|----------|
| Camphor (DL) | 76-22-2 | 100 |

4. FIRST AID MEASURES

First aid measures

General Advice: National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact: Flush eyes with water for 15 minutes. Get medical attention.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms

- Causes serious eye irritation
- Causes skin irritation
- Irritating to respiratory system
- Central nervous system effects
- Excitement
- Convulsions
- May cause drowsiness or dizziness
- May cause coughing and shortness of breath
- Respiratory depression
- May cause central nervous system effects
- Weak, rapid pulse or rapid heart rate (Tachycardia)
- Causes digestive (gastrointestinal) tract irritation
- Abdominal pain
- Vomiting
- Nausea
- Thirst
- Odor of camphor on the breath

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:

Use water spray or water mist, alcohol-resistant foam, Dry chemical or Carbon dioxide (CO₂).

Unsuitable Extinguishing Media:

Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous combustion products

Carbon Monoxide, Carbon Dioxide.

Specific hazards

Flammable. Containers may explode when heated. When heated to decomposition it emits toxic fumes.

Special Protective Actions for Firefighters

Specific Methods:

No information available

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing dust. Remove all sources of ignition.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal. Use appropriate tools to put the spilled solid in a suitable waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials. Remove all sources of ignition. All equipment used when handling the product must be grounded.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not

breathe vapors/dust. Do not ingest. Keep away from heat and sources of ignition. Do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Keep away from heat and sources of ignition. Store away from incompatible materials. Store in a segregated and approved area.

Incompatible Materials:

- Strong oxidizing agents
- Strong reducing agents
- Chlorinated solvents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

| Component | CAS No | OSHA | NIOSH | ACGIH | AIHA WEEL |
|--------------|---------|-------------------------|-------------------------|-------------------------|-----------|
| Camphor (DL) | 76-22-2 | 2 mg/m ³ TWA | 2 mg/m ³ TWA | 3 ppm STEL 2 ppm TWA | None |

Canada

| Component | CAS No | Canada - Alberta | Canada - British Columbia | Canada - Ontario | Canada - Quebec |
|--------------|---------|--|---------------------------|------------------|--|
| Camphor (DL) | 76-22-2 | 2 ppm TWA 12 mg/m ³ TWA 3 ppm STEL 19 mg/m ³ STEL | 2 ppm TWA 3 ppm STEL | 3 ppm STEL | 2 ppm TWAEV 12 mg/m ³ TWAEV 3 ppm STEV 19 mg/m ³ STEV |

Australia and Mexico

| Component | CAS No | Australia | Mexico |
|--------------|---------|--|--|
| Camphor (DL) | 76-22-2 | 3 ppm STEL 19 mg/m ³ STEL 2 ppm TWA 12 mg/m ³ TWA | 2 ppm TWA 12 mg/m ³ TWA 3 ppm STEL 19 mg/m ³ STEL |

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection:

Goggles or Safety glasses with side-shields.

Skin and body protection: Long sleeved clothing
Chemical resistant apron
Gloves

Respiratory protection: Effective dust mask. or. Wear respirator with dust filter. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|--|---|--|
| Physical state: Solid | Appearance: Crystalline solid. Crystals. Crystalline block. | Color: White. |
| Odor: Fragrant. Penetrating. | Taste Slightly bitter, cooling. | Formula C10-H16-O |
| Molecular/Formula weight (g/mole): 152.23 g/mol | Flammability (solid, gas) no data available | Flash point (°C): 66°C |
| Flashpoint (°C/°F): 66°C/ 150°F | Flash Point Tested according to: Closed cup | Autoignition Temperature (°C/°F): 466°C/ 871°F |
| Lower Explosion Limit (%): 0.6% | Upper Explosion Limit (%): 3.5% | Melting point/range(°C/°F): 179°C/ 354.2°F |
| Decomposition temperature(°C/°F): No information available | Boiling point/range(°C/°F): 204°C/ 399.2°F | Bulk density: No information available |
| Density (g/cm3): No information available | Specific gravity: 0.992 | pH No information available |
| Vapor pressure @ 20°C (kPa): 0.0866 | Evaporation rate: No information available | Vapor density: 5.24 |
| VOC content (g/L): No information available | Odor threshold (ppm): 1.3 | Partition coefficient (n-octanol/water): 2.38 |
| Viscosity: No information available | Miscibility: No information available | Solubility: Easily soluble in acetone Very slightly soluble in cold water |

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents
Reacts with reducing agents
Reactive with chlorinated solvents

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials: Strong oxidizing agents
Strong reducing agents
Chlorinated solvents

Hazardous decomposition products: Carbon oxides.

Other Information
Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Ingestion. Inhalation. Skin.

Acute Toxicity

Component Information

| |
|----------------|
| Camphor (DL) |
| CAS No 76-22-2 |

LD50/oral/rat = No information available
LD50/oral/mouse = 1310 mg/kg Oral LD50 Mouse
LD50/dermal/rabbit = No information available
LD50/dermal/rat = = 1310 mg/kg Oral LD50
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat =
Value - Acute Toxicity = No information available

LD50/oral/mouse =
Value - Acute Tox = 1310 mg/kg

LD50/dermal/rabbit
Value - Acute Toxicity = No information available

LD50/dermal/rat
VALUE - Acute Tox = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = 500 mg/m³

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms**Skin Contact:** Causes skin irritation. Moderate skin irritation.**Eye Contact:** Causes eye irritation.**Inhalation** Irritating to respiratory system. May affect respiration (respiratory depression, emphysema). Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath. Apnea may occur. May cause nausea, vomiting. May affect behavior/central nervous system (excitement). May affect behavior and the brain and central nervous system(muscle contraction and spasticity).**Ingestion** Harmful if swallowed. Causes digestive (gastrointestinal) tract irritation. Causes abdominal pain (epigastric distress). It causes irritation or a burning sensation of the mouth and throat. Causes vomiting. May cause nausea. May cause thirst. Odor of camphor from the mouth is readily apparent. In cases where excessive dose of camphor was ingested, disturbances of vision such flickering, darkening, or veiling of vision as well as noises in the ears and deafness have occurred. May cause mydriasis (dilated pupils). May affect behavior/central nervous system (headache, excitement, vertigo, drowsiness, mental confusion, seizures/convulsions, dizziness, twitching of the facial muscles, muscular spasms, feeling of tension, rigidity, and with severe poisoning, unconsciousness or coma). May affect the cardiovascular system (tachycardia). May affect liver. May affect urinary system (kidneys).**Aspiration hazard** No information available.**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Chronic Toxicity** Prolonged or repeated inhalation may cause emphysema. Prolonged or repeated skin contact may cause dermatitis.**Sensitization:** No information available.**Mutagenic Effects:** No information available**Carcinogenic effects:** Not considered carcinogenic.

| Component | CAS No | IARC | ACGIH - Carcinogens | NTP | OSHA HCS - Carcinogens | Australia - Notifiable Carcinogenic Substances | Australia - Prohibited Carcinogenic Substances |
|--------------|---------|------------|---|------------|------------------------|--|--|
| Camphor (DL) | 76-22-2 | Not listed | A4 Not Classifiable as a Human Carcinogen | Not listed | Not listed | Not listed | Not listed |

*ACGIH (American Conference of Governmental Industrial Hygienists)**IARC (International Agency for Research on Cancer)**NTP (National Toxicology Program)**OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

Reproductive toxicity No data is available

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure STOT - single exposure. respiratory system.

STOT - repeated exposure No information available.

Target Organs: Central nervous system. Kidneys. Respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Camphor (DL) - 76-22-2

Fish Pimephales promelas (fathead minnow) - 110 mg/l - 96 h

Persistence and degradability: 94% (by BOD), 100% (by GC)

Bioaccumulative potential: An estimated Biocentration Factor (BCF) value of 38.

Mobility in soil No information available

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

| Component | CAS No | RCRA - F Series Wastes | RCRA - K Series Wastes | RCRA - P Series Wastes | RCRA - U Series Wastes |
|--------------|---------|------------------------|------------------------|------------------------|------------------------|
| Camphor (DL) | 76-22-2 | None | None | None | None |

14. TRANSPORT INFORMATION

DOT

UN-No: UN2717

Proper Shipping Name: Camphor, synthetic

Hazard Class 4.1

Subsidiary Class No information available

Packing group: III

Emergency Response Guide Number 133

Marine Pollutant No data available

DOT RQ (lbs): No information available
Special Provisions A1, IB8, IP3, T1, TP33
Symbol(s): No information available
Description: UN2717, Camphor, 4.1, III

TDG (Canada)

UN-No: UN2717
Proper Shipping Name: Camphor, synthetic
Hazard Class 4.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No Information available
Description: UN2717, Camphor, 4.1, III

ADR

UN Number UN2717
Proper Shipping Name: Camphor, synthetic
Transport hazard class(es) 4.1
Packing group III
Subsidiary Risk: No information available
Description: UN2717, Camphor, 4.1, III

IMDG

UN-No: UN2717
Proper Shipping Name: Camphor, synthetic
Hazard Class: 4.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No information available
EMS: F-A
Description UN2717, Camphor, 4.1, III

RID

UN Number UN2717
Proper Shipping Name: Camphor, synthetic
Transport hazard class(es) 4.1
Subsidiary Risk: No information available
Packing group III
Description: UN2717, Camphor, 4.1, III

ICAO (air)

UN-No: UN2717
Proper Shipping Name: Camphor, synthetic
Hazard Class 4.1
Subsidiary Risk: No information available
Packing Group: III
Description: UN2717, Camphor, 4.1, III

IATA

UN Number UN2717
Proper Shipping Name: Camphor, synthetic
Transport hazard class(es) 4.1
Subsidiary Risk: No information available
Packing group III
Precautionary Statements - Response 3L
Special Provisions No information available
Description: UN2717, Camphor, 4.1, III

15. REGULATORY INFORMATION

International Inventories

| Component | CAS No | U.S. TSCA | KOREA KECL | Philippines (PICCS) | Japan ENCS | China IECSC | Australia (AICS) | EINECS-No. |
|--------------|---------|---------------|---------------------|---------------------|--------------------------------|-------------|------------------|----------------------|
| Camphor (DL) | 76-22-2 | PresentACTIVE | Present KE-34423 | Present | Present (4)-308,(4)-60 1 | Present | Present | Present 200-945-0 |

U.S. Regulations

Camphor (DL)

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: 0334

Pennsylvania RTK: Present

Minnesota - Hazardous Substance List: Present

California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

| Component | CAS No | Carcinogen | Developmental Toxicity | Male Reproductive Toxicity | Female Reproductive Toxicity: |
|--------------|---------|------------|------------------------|----------------------------|-------------------------------|
| Camphor (DL) | 76-22-2 | Not Listed | Not Listed | Not Listed | Not Listed |

CERCLA/SARA

| Component | CAS No | CERCLA - Hazardous Substances and their Reportable Quantities | Section 302 Extremely Hazardous Substances and TPQs | Section 302 Extremely Hazardous Substances and RQs | Section 313 - Chemical Category | Section 313 - Reporting de minimis |
|--------------|---------|---|---|--|---------------------------------|------------------------------------|
| Camphor (DL) | 76-22-2 | None | None | None | None | None |

U.S. TSCA

| Component | CAS No | TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS) | TSCA 8(d) -Health and Safety Reporting |
|--------------|---------|---|--|
| Camphor (DL) | 76-22-2 | Not Applicable | 01/26/199406/30/1998 |

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
Camphor (DL)
76-22-2 (100)

WHMIS 2015 Hazard Classification
Flammable solids - Category 2: H228 Flammable solid. (synthetic)

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous

DSL/NDSL

| Component | CAS No | Canada (DSL) | Canada (NDSL) |
|--------------|---------|--------------|---------------|
| Camphor (DL) | 76-22-2 | Present | Not Listed |

| Component | CAS No | CEPA Schedule I - Toxic Substances |
|--------------|---------|---|
| Camphor (DL) | 76-22-2 | Not listed |
| Component | CAS No | CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting |
| Camphor (DL) | 76-22-2 | Not listed |

EU Classification

EU GHS - SV - CLP 1272/2008

| Component | CAS No | EU GHS - SV - CLP (1272/2008) |
|--------------|---------|-------------------------------|
| Camphor (DL) | 76-22-2 | No information |

EU - CLP (1272/2008)

R-phrases(s)

- R11 - Highly flammable
- R22 - Harmful if swallowed
- R36/38 - Irritating to eyes and skin

S -phrase(s)

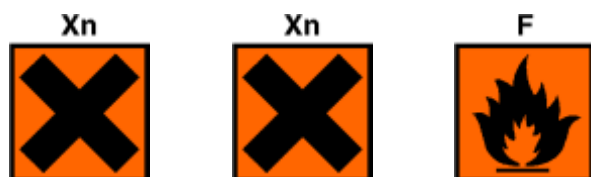
- S 9 - Keep container in a well-ventilated place.
- S16 - Keep away from sources of ignition - No smoking
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
- S46 - If swallowed, seek medical advice immediately and show this container or label
- S36/37 - Wear suitable protective clothing and gloves

| Component | CAS No | Classification | Concentration Limits: | Safety Phrases |
|--------------|---------|----------------|-----------------------|----------------|
| Camphor (DL) | 76-22-2 | | No information | |

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

- Flammable
- Xn - Harmful
- Xi - Irritant



16. OTHER INFORMATION

Preparation Date: 4/08/2015
 Revision date: 9/18/2019
 Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet