

Revision date 2024-02-14

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name dl- Camphor
 Product No. 10
 Supplier Name IWASHIMA YAKUHHIN Co., Ltd.
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 Recommended uses and restrictions on use For research use only, do not use for human or animals.

2. Hazards identification

GHS classification	Flammable solids	Category 2
Physicochemical hazards	Serious eye damage / eye irritation	Category 2B
Health hazards	STOT-single exposure	Category 1 (central nervous system)
	STOT-repeated exposure	Category 1 (nerve system, liver)
Environmental hazards	Hazardous to the aquatic environment - Shortterm(Acute)	Category 3
	Pictograms	
		
	Signal word	Danger
	Hazard statements	Flammable solid Causes eye irritation Causes damage to central nervous system Causes damage to nerve system, liver through prolonged or repeated exposure Harmful to aquatic life
	Precautionary statements	
	Prevention	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use explosion-proof equipment. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment.
	Response	In case of fire: Use suitable extinguish equipment for extinction. 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 advice/attention. If exposed or concerned: Call a doctor/physician. Get medical advice/attention if you feel unwell.
	Storage	Store locked up.
	Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
	Other hazards	Not available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture	Substance
Chemical Name	dl- Camphor
Concentration or concentration range	99.0%
Formula (Molecular weight)	C ₁₀ H ₁₆ O (152.23)
CAS RN	76-22-2

Notice Through Official Gazettes	(4)-308, (4)-601
Reference Number (ENCS)	
Notice Through Official Gazettes	7-(2)-37, 7-(2)-63
Reference Number (ISHL)	
PRTR	—
Impurities and/or Additives	Not applicable

4 . FIRST AID MEASURES		
Inhalation		Remove person to fresh air and keep comfortable for breathing.
Skin contact		Wash with plenty of water.If symptoms persist, call a physician.
Eye contact		Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, call a physician.
Ingestion		Rinse mouth.Get medical advice/attention if you feel unwell.
Most important symptons/effects, acute and delayed		Not available.
Protection of first-aiders		Wear personal protective equipment as required.
Special notes for physicians		Not available.

5 . FIRE FIGHTING MEASURES		
Suitable extinguishing media		Water spray (fog), Foam, Extinguishing powder, Carbon dioxide
Unsuitable extinguishing media		Straight discharge of water.
Specific hazards arising from the chemical product		Irritating, toxic or corrosive gases may be generated by a fire.
Special extinguishing method		Evacuate non-essential personnel to safe area.
Special protective actions for fire-fighters		Wear self-contained breathing apparatus , protective gloves and eye protection.

6 . ACCIDENTAL RELEASE MEASURES		
Personal precautions, protective equipment and emergency procedures		Keep unnecessary personnel away. Ensure adequate ventilation.Wear protect clothes while the work.
Environmental precautions		Avoid release to the environment.
Methods and materials for contaminent and cleaning up		Collect spillage appropriately to prevent it from scattering. If appropriate, moisten first to prevent dusting. For waste disposal, see section 13 of the SDS. Immediately remove all ignition sources (no smoking nearby; prohibit sparks or flames).
Secondary disaster prevention measures		Cover with plastic sheeting to prevent scattering. Clean contaminated objects and areas thoroughly to remove residual contamination.

7 . HANDLING AND STORAGE		
Handling	Technical measures	See section 8 of the SDS, perform engineering controls and wear
Handling		See section 8 of the SDS, perform local ventiration or general ventilation.
	Safety handling precautions	Do not rough handling containers. Avoid contact and inhalation of dust. Wear protective equipment. Seal the container after use. After handling, wash hands. Do not eat, drink or smoke when using this product. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No
	Contact avoidance	See section 10 of the SDS.
	Hygiene measures	After handling, wash hands. Do not take food, drink and smoking while handling.
Storage	Safe storage conditions	Store in a cool, dark place.Protect from sunlight.
	Safe storage conditions	A sealed container that does not easily adhere to glass or similar materials.

8 . EXPOSURE CONTROLS/PERSONAL PROTECTION		
Administrative Control Levels		No set up.
Occupational Exposure Limits	Japan Society for Occupational Health ACGIH	No set up. TLV: 2 ppm (TWA) ; 3 ppm (STEL)
Engineering controls		Provide the safety shower facility, and hand and eye-wash facility Use a local exhaust system
Personal protective equipment	Respiratory protection Hand protection Eye/face protection Skin and body protection	Dust mask, gas mask Protection gloves Chemical safety goggles Lab Coat, long sleeve work clothes
Special note		Protective equipment should be inspected periodically according to the protective inspection chart.
9 . PHYSICAL AND CHEMICAL PROPERTIES		
Physical state	State Colour Odor	Solid Colorless or white translucent. Characteristic aromatic odor.
Melting point/freezing point		175 ~ 180°C
Boiling point, initial boiling point and boiling range		204°C
Flammability		No data available
Upper/lower flammability or explosive limits		0.6-3.5 vol% (air)
Flash point		66 °C
Auto-ignition temperature		460 °C
Decomposition temperature		No data available
pH		No data available
Kinematic viscosity		No data available
Solubilities		Freely soluble in ethanol (95), in diethyl ether and in carbon disulfide, and slightly soluble in water.
n-Octanol/water partition coefficient:(log Pow)		log P =2.38
Vapour pressure		0.027kPa (20°C)
Specific Gravity / Relative density		0.992 (25/4°C)
Vapour density		5.24(air=1)
Particle characteristics		No data available
Other data		No data available
10 . STABILITY AND REACTIVITY		
Reactivity		No data available
Chemical stability		Decompose by heat and light. The substance decomposes on burning producing toxic gases and irritating fumes.
Hazardous reactions		Reacts violently with strong oxidizing agents, strong reducing agents and chlorinated solvents
Conditions to avoid		Combustion.
Incompatible materials		Strong oxidizing agents. Strong reducing agents. Chlorinated solvents.
Hazardous decomposition products		Irritating and/or toxic fumes or gases. Emits toxic fumes under
11 . TOXICOLOGICAL INFORMATION		
Acute toxicity - Oral		(Oral)LD50 : 1310mg/kg (Mouse)
Acute toxicity (Dermal)		No data available
Acute toxicity (Inhalation : gas)		No data available
Acute toxicity (Inhalation : vapours)		InhalationLD50 : 0.5 mg/L (vapor (saturated vapour concentration: 5.3 mg/L), exposure time:unknown).(Rat)
Acute toxicity - Inhalation (Dusts/Mists)		No data available
Skin irritation/corrosion		Skin irritation and pain. (Human)
Serious eye damage/ irritation		Irritation.
Respiratory sensitization		No data available
Skin sensitization		Chronic exposure: In addition to contact dermatitis, allergic reactions may also be triggered.
Reproductive cell mutagenicity		Mouse bone marrow micronucleus test (after 90 days dermal administration): Negative Sister chromatid exchange test (intraperitoneal administration): Positive

Carcinogenicity	Ames test : Negative
Reproductive toxicity	ACGIH: A4 (Not classifiable as a human carcinogen).
Reproductive toxicity, effects on or via lactation	There is a background used to induce miscarriage. Reported to be related to fetal and neonatal death (details unknown).
	No data available
STOT-single exposure	There are many cases of serious symptoms caused by ingestion of this substance, leading to death or hospitalization. Vomiting, convulsions, coma, seizures or grand mal, epilepsy, visual impairment, etc. are characteristic symptoms. Sometimes emotional instability, confusion, and delirium are observed. This substance is thought to cause central nervous system stimulation and cerebral excitement, and these symptoms are thought to occur.
STOT-repeated exposure	Headache, difficulty breathing, coma, hepatomegaly.
Aspiration hazard	No data available
1 2 . ECOLOGICAL INFORMATION	
Ecotoxicity	Hazardous to the aquatic environme LC50 = 35mg/L ((Zebrafish) , 96 hours)
	Hazardous to the aquatic environme No data available
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Hazard to the ozone layer	No data available
1 3 . DISPOSAL CONSIDERATIONS	
Waste from residues	Dispose of contents/container in accordance with local/regional/national/international regulations.
Contaminated container and cont	Dispose of contents/container in accordance with local/regional/national/international regulations.
1 4 . TRANSPORT INFORMATION	
International restriction	UN Number Proper shipping name UN classification (Transport hazard class) Subsidiary hazard class Packing group Marine pollutant
	UN2717 CAMPHOR, 4.1 — III Not applicable
Domestic restriction	Marine Aviation Rail and road
	Flammable Solids (Ship Safety Act) Flammable Solids (Civil Aeronautics Act) Not applicable
1 5 . REGULATORY INFORMATION	
Industrial Safety and Health Act	Dangerous and Harmful Substances Subject to Notify Their Names, etc.
Pollutant Release and Transfer Register Law	Not applicable
Poisonous and Deleterious Substances Control Law	Not applicable
Fire Service Act	Not applicable
1 6 . OTHER INFORMATION	
Key literature references and sources for data etc.	NITE: National Institute of Technology and Evaluation (JAPAN): Nite Chemical Risk Information Platform Ministry of Health, Labour and Welfare : GHS model SDS information Japanese Pharmacopoeia Inagaki I(1972)[Phytochemistry] Shokubutukagaku (in Japanese) 4th edition.Ishiyaku Publishers,Inc. National Institutes of Health : PubChem ECHA : Opinion of the Committee for Risk Assessment (RAC) in EU
This SDS is according to JIS Z 7253: 2019.	
This information in this Safety Data Sheet is designed only as a guidance for handling, and is not to be considered a warranty or quality specification of this product.The information provided is correct to the best of our knowledge, information and belief at the data of its publication and so on. However, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity.	