

# SAFETY DATA SHEET



Revision date: 09-Aug-2023

Revision Number 3

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### Product identifier

**Product Name** MANDARIN OIL AUSTRALIAN COLD PRESSED

**Product Code(s)** 000000039174

### Other means of identification

**UN number** 2319

**CAS No.** 8008-31-9

**Synonyms** Cold Pressed Mandarin Oil; AAOIL00545

### Recommended use of the chemical and restrictions on use

**Recommended use** Essential oil. Therapeutic active, fragrance and flavour applications.

**Uses advised against** No information available

### Supplier

Ixom Operations Pty Ltd (Bronson & Jacobs division) - incorporated in Australia  
ABN:51 600 546 512  
70 Marple Avenue  
Villawood NSW 2163  
Australia

Telephone Number: +61 2 8717 2929

Facsimile: +61 2 9755 9611

### Emergency telephone number

Emergency telephone number **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

### GHS Classification

Classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

<b>Flammable liquids</b>	Category 3
<b>Aspiration hazard</b>	Category 1

Skin corrosion/irritation	Category 2
Skin sensitization	Category 1
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

**SIGNAL WORD**

Danger

**Label elements**

Flame  
Health hazard  
Exclamation mark  
Environment



**Hazard statements**

H226 - Flammable liquid and vapor  
H304 - May be fatal if swallowed and enters airways  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction

The following health/environmental hazard categories fall outside the scope of the Workplace Health and Safety Regulations:  
H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements - Prevention**

Avoid breathing dust / fume / gas / mist / vapours / spray  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical, ventilating, lighting equipment  
Use only non-sparking tools  
Take action to prevent static discharges  
Contaminated work clothing should not be allowed out of the workplace  
Wear protective gloves / protective clothing / eye protection / face protection  
Avoid release to the environment

**Precautionary Statements - Response**

Specific treatment (see First aid on this SDS)  
IF ON SKIN: Wash with plenty of soap and water  
If skin irritation or rash occurs: Get medical advice/attention  
Take off immediately all contaminated clothing and wash it before reuse  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
Do NOT induce vomiting  
In case of fire: Use extinguishing media as outlined in Section 5 of this Safety Data Sheet to extinguish.  
Collect spillage

**Precautionary Statements - Storage**

Store locked up  
Store in a well-ventilated place. Keep cool

**Precautionary Statements - Disposal**

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Other hazards which do not result in classification**

Very toxic to aquatic life

**General Hazards**

Poisons Schedule (SUSMP) None allocated

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substance**

Chemical nature Contains d-Limonene (Terpene hydrocarbons, CAS 5989-27-5) ~90%.

Chemical name	CAS No.	Weight-%
Mandarin oil	8008-31-9	100

**4. FIRST AID MEASURES**

**Description of first aid measures**

**General advice** For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

**Inhalation** Remove to fresh air. Call a physician if symptoms occur.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation or rash occurs: Get medical advice/attention.

**Ingestion** Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. Call a physician immediately.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Irritation. May cause allergic skin reaction. Redness. Rashes. Hives. Aspiration risk: may cause lung damage if swallowed.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** May cause sensitization by skin contact. Delayed pulmonary edema may occur. Treat symptomatically.

**5. FIRE FIGHTING MEASURES**

**Suitable Extinguishing Media**

**Suitable Extinguishing Media** Carbon dioxide (CO2). Foam. Dry chemical powder.

**Unsuitable extinguishing media** CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** Flammable. On burning will emit toxic fumes, including those of oxides of carbon. Risk of ignition. Keep product and empty container away from heat and sources of ignition.

Containers may explode when heated. In the event of fire, cool tanks with water spray. Runoff may create fire or explosion hazard. Environmentally hazardous. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**Hazardous combustion products** Oxides of carbon.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Hazchem code** 3Y

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with skin, eyes, and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Do not touch or walk through spilled material. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded.

**Other information** Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Shut off ignition sources. Clear area of all unprotected personnel. Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not allow to enter into soil/subsoil. Prevent product from entering drains. Refer to protective measures listed in Sections 7 and 8. See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**

**Methods for containment** Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Remove ignition sources. Provide adequate ventilation. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

**Methods for cleaning up** Slippery when spilt. Avoid accidents, clean up immediately. Dam up. Soak up with inert absorbent material. Take precautionary measures against static discharges. Use non-sparking tools. Pick up and transfer to properly labelled containers.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling** Avoid contact with skin, eyes, and clothing. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Take off contaminated clothing and wash before reuse. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. Keep in an area equipped with sprinklers. Use personal protection equipment. Use according to package label instructions.

**General hygiene considerations** Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Wear suitable gloves and eye/face protection.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Store locked up. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Do not store near combustible materials. Keep in an area equipped with sprinklers. Protect from direct sunlight. Keep in properly labelled containers. Store away from foodstuffs and sources of heat or ignition. Store in accordance with local regulations. Store away from incompatible materials described in Section 10. Keep container closed when not in use.

**Incompatible materials** Oxidizing agents. acidic clays and mineral acids.

**Poisons Schedule (SUSMP)** None allocated

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Limits** No value assigned for this specific material by Safe Work Australia.

**Appropriate engineering controls**

**Engineering controls** Ensure adequate ventilation, especially in confined areas. Vapour heavier than air - prevent concentration in hollows or sumps. DO NOT enter confined spaces where vapour may have collected.

**Individual protection measures, such as personal protective equipment**

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES.



**Eye/face protection** Glasses.

**Skin and body protection** Wear suitable protective clothing. Antistatic boots. Overalls.

**Hand protection** Impervious gloves.

**Respiratory protection** If determined by a risk assessment an inhalation risk exists, wear an organic vapour

respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

**Environmental exposure controls** No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	No information available
<b>Color</b>	Brown Red
<b>Odor</b>	Characteristic Citrus aroma
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	Not Applicable	None known
<b>pH (as aqueous solution)</b>	No data available	None known
<b>Melting point / freezing point</b>	-90 °C	None known
<b>Boiling point / boiling range</b>	~178 °C	None known
<b>Flash point</b>	45-48 °C	CC (closed cup)
<b>Evaporation rate</b>	~5.8	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	6.1	
<b>Lower flammability or explosive limits</b>	0.7	
<b>Vapor pressure</b>	~2 mm Hg @ 25°C	None known
<b>Vapor density</b>	~4.7	None known
<b>Relative density</b>	0.845 - 0.855 @20°C	None known
<b>Water solubility</b>	No data available	None known
<b>Solubility(ies)</b>	Immiscible in water Very soluble in 95% ethanol.	None known
<b>Partition coefficient</b>	~4.23	None known
<b>Autoignition temperature</b>	~237 °C	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

### Other information

**VOC Content (%)** approx. >92

## 10. STABILITY AND REACTIVITY

### Reactivity

**Reactivity** No information available.

### Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** Yes.

### Possibility of hazardous reactions

**Possibility of hazardous reactions** Heating can cause expansion or decomposition of the material, which can lead to the containers exploding.

**Conditions to avoid**

**Conditions to avoid** Heat, flames and sparks. Static discharge (electrostatic discharge). Avoid contact with combustible substances. Direct sunlight.

**Incompatible materials**

**Incompatible materials** Oxidizing agents. acidic clays and mineral acids.

**Hazardous decomposition products**

**Hazardous decomposition products** Oxides of carbon.

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information** No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

**Inhalation** May cause irritation.

**Eye contact** May cause irritation.

**Skin contact** Causes skin irritation. May cause sensitization by skin contact.

**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May be fatal if swallowed and enters airways. Aspiration may cause pulmonary edema and pneumonitis.

**Symptoms** Irritation. May cause allergic skin reaction. Redness. Rashes. Hives. Aspiration risk: may cause lung damage if swallowed.

**Numerical measures of toxicity - Product Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Mandarin oil	>5000 mg/kg (Rat)(1)	>5000 mg/kg (Rabbit) (1)	-

See section 16 for terms and abbreviations

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** May cause sensitization by skin contact.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

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<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	May be fatal if swallowed and enters airways. Risk of serious damage to the lungs (by aspiration).

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity** Keep out of waterways. Very toxic to aquatic life with long lasting effects.

### Persistence and degradability

**Persistence and degradability** Partially biodegradable. (1).

### Bioaccumulative potential

**Bioaccumulation** This product shows a high bioaccumulation potential. (1).

### Mobility

**Mobility in soil** No information available.

### Other adverse effects

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Dispose of in accordance with federal, state and local regulations.

## 14. TRANSPORT INFORMATION

### ADG

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

<b>UN number</b>	2319
<b>Proper shipping name</b>	TERPENE HYDROCARBONS, N.O.S. (CONTAINS D-LIMONENE)
<b>Hazard class</b>	3
<b>Packing group</b>	III
<b>Environmental hazard</b>	Yes
<b>Hazchem code</b>	3Y

### IATA



Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

**UN number** 2319  
**UN proper shipping name** TERPENE HYDROCARBONS, N.O.S. (CONTAINS D-LIMONENE)  
**Transport hazard class(es)** 3  
**Packing group** III

**IMDG**

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

**UN number** 2319  
**UN proper shipping name** TERPENE HYDROCARBONS, N.O.S. (CONTAINS D-LIMONENE)  
**Transport hazard class(es)** 3  
**Packing group** III  
**IMDG EMS Fire** F-E  
**IMDG EMS Spill** S-D  
**Marine pollutant** Yes

**15. REGULATORY INFORMATION**

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**National regulations**

**Australia**

Classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

See section 8 for national exposure control parameters

**Poisons Schedule (SUSMP)** None allocated

**Major hazard (accident/incident planning) regulation**

Verify that license requirements are met

Hazardous chemical

Liquids that meet the criteria for Class 3 Packing Group II or III

Threshold quantity (T)

50 000

**International Inventories**

**AIIC**

This material is listed on the Australian Inventory of Industrial Chemicals.

**Legend:**

**AIIC- Australian Inventory of Industrial Chemicals**

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

The Rotterdam Convention Not applicable

## 16. OTHER INFORMATION

Supplier Safety Data Sheet 12/ 2022

**Reason(s) For Issue:** 5 Yearly Revised Primary SDS

**Issuing Date:** 09-Aug-2023

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

### Revision Note:

The symbol (\*) in the margin of this SDS indicates that this line has been revised.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

### Key literature references and sources for data used to compile the SDS

EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGL(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian Industrial Chemicals Introduction Scheme (AICIS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

### Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Bronson & Jacobs representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

Bronson and Jacobs incorporating the businesses of Woods and Woods and Keith Harris and Australian Botanical Products.

**End of Safety Data Sheet**