

SAFETY DATA SHEET



Revision date: 19-Feb-2021

Revision Number 4

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier

Product Name ORANGE OIL

Product Code(s) 000000018886

Other means of identification

UN number 2319

CAS No. 8028-48-6

Synonyms Cinene; Limonene; Cajeputene; Orange, sweet, extract; D-Limonene BHT; Cold Pressed Orange Oil.

Recommended use of the chemical and restrictions on use

Recommended use For use in adhesive resins, flavours, fragrances, solvents, degreasing agents.

Uses advised against No information available.

Supplier

Ixom Operations Pty Ltd
ABN: 51 600 546 512
Level 8, 1 Nicholson Street
Melbourne 3000
Australia

Telephone Number: +61 3 9906 3000

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).

Flammable liquids	Category 3
Aspiration hazard	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

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves / protective clothing / eye protection / face protection
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 only non-sparking tools
Take precautionary measures against static discharge
Use explosion-proof electrical, ventilating, lighting equipment
Contaminated work clothing should not be allowed out of the workplace
In case of inadequate ventilation wear respiratory 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 ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
Avoid breathing vapour or spray mist.
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting
In case of fire: Use CO₂, dry chemical, or foam for extinction
Collect spillage

Precautionary Statements - Storage

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

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

Poisons Schedule (SUSMP)

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%
Orange, sweet, extract	8028-48-6	100

4. FIRST AID MEASURES

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Emergency telephone number	Poisons Information Center, Australia: 13 11 26 Poisons Information Center, New Zealand: 0800 764 766
Inhalation	Remove to fresh air.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Ingestion	Rinse mouth thoroughly with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes, and clothing. Use personal protective equipment as required. See section 8 for more information.

Most important symptoms and effects, both acute and delayed

Symptoms Irritation. Redness. May cause allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

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

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Suitable Extinguishing Media Dry chemical or CO₂. Foam.

Unsuitable extinguishing media Water.

Specific hazards arising from the chemical

Specific hazards arising from the chemical Flammable. Risk of ignition. Most vapors are heavier than air. Vapors may spread along ground and collect in low or confined areas (sewers, basements, tanks). Pay attention to flashback. Vapors may form explosive mixture with air. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Hazardous combustion products Carbon oxides.

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 Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes, and clothing. Ensure adequate ventilation. 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. Do not touch or walk through spilled material. See section 8 for more information.

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

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Keep out of waterways. Refer to protective measures listed in Sections 7 and 8.

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. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers. Use non-sparking tools.

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. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Do not eat, drink or smoke when using this product. Use personal protection equipment.

General hygiene considerations 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 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). Store away from foodstuffs. Keep in properly labelled containers. Keep in an area equipped with sprinklers. Keep container closed when not in use.

This material is a Scheduled Poison and must be stored, maintained and used in accordance with the relevant regulations.

Incompatible materials	Oxidizing agents. Mineral acids. Acidic clays. Peroxides. Halogens. Iodine pentafluoride. Vinyl chloride.
Poisons Schedule (SUSMP)	5

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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

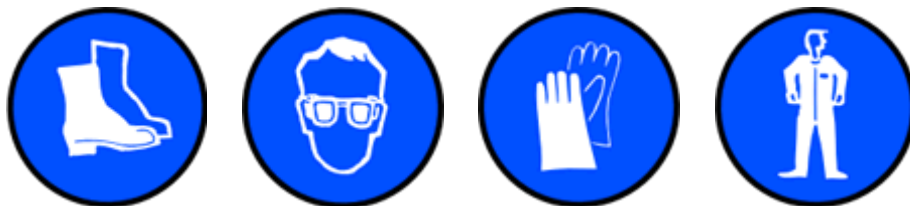
Appropriate engineering controls

Engineering controls Ensure adequate ventilation, especially in confined areas.

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. Long sleeved 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

Physical state	Liquid
Appearance	Clear
Color	Light yellow to Orange
Odor	Fresh Orange

Odor threshold No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	-96°C	
Boiling point / boiling range	176°C	
Flash point	>43°C	CC (closed cup)
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	6.1%	
Lower flammability or explosive limits	0.7%	
Vapor pressure	<2 mmHg @20°C	
Vapor density	4.7 (air=1)	
Relative density	0.842-0.846 @25°C	
Water solubility	Partially miscible	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	237°C	
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	0.923 cP @25°C	None known

Other information

10. STABILITY AND REACTIVITY

Reactivity

Reactivity Reacts with strong oxidising agents.

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 Vapours can form an explosive mixture with air.

Conditions to avoid

Conditions to avoid Heat, flames and sparks. Static discharge (electrostatic discharge). Direct sunlight.

Incompatible materials

Incompatible materials Oxidizing agents. Mineral acids. Acidic clays. Peroxides. Halogens. Iodine pentafluoride. Vinyl chloride.

Hazardous decomposition products

Hazardous decomposition products Carbon oxides.

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. Aspiration into lungs can produce severe lung damage.
Eye contact	May cause irritation.
Skin contact	Irritating to skin. May cause sensitization by skin contact.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Aspiration may cause pulmonary edema and pneumonitis.
Symptoms	Irritation. Redness. May cause allergic skin reaction.

Numerical measures of toxicity - Product Information**On basis of test data**

Oral LD50 > 2000 mg/kg (rat)
Dermal LD50 > 5000 mg/kg (rabbit)

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	Irritating to skin.
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	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	May be fatal if swallowed and enters airways.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

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

Persistence and degradability

Persistence and degradability Readily biodegradable.

Bioaccumulative potential

Bioaccumulation No information available.

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. Do not reuse empty containers.

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.

UN number	2319
Proper shipping name	TERPENE HYDROCARBONS, N.O.S. (ORANGE OIL)
Hazard class	3
Packing group	III
Hazchem code	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. (ORANGE OIL)
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. (ORANGE OIL)
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) 5

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**AICS**

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

Legend:

- 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 03/ 2019

Reason(s) For Issue: Reissue of an obsolete SDS

Change to Product Name

Addition/Change of synonymous name(s)

Issuing Date: 19-Feb-2021

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 Ixom 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.

End of Safety Data Sheet