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SAFETY DATA SHEET

CITRUS OIL

1. Product Identifier/Supplier Contacts

Product Name	Citrus Oil
Synonyms	Cold Pressed Oil, Essential Oil, Peel Oil, Terpene Hydrocarbon
Item Number	300000-399999
Lot Number	YYMMDDNN
Recommended Use	Further fractionation or dilution and use as a fragrance, flavour, solvent or dispersing agent.
Supplier	Mildura Fruit Juices AUST Pty. Ltd. 15-29 The Crescent Mildura Vic 3500 Tel: 0350 189 501 Fax: 0350 222 356
Emergency	Manufacturing Manager 0419 323 457

2. Hazard Identification

Hazard Code, Statement and Category	H226 Flammable liquid and vapour Category 3 H315 Causes skin irritation Category 2 H319 Causes serious eye irritation Category 2A H410 Very toxic to aquatic life with long lasting effects
GHS Symbol	
Signal Word	Warning
Precautionary Statements Prevention	P210 Keep away from sparks and open flames.-No smoking. P264 Wash hands thoroughly after handling P273 Avoid release into the environment
Precautionary Statements Response	P370 + P378 In case of fire: Use sand, CO2, dry powder or foam for extinction. P302 + P352 IF ON SKIN (or hair): Rinse skin with plenty of soap and water. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P362 Take off contaminated clothing and wash before reuse

Precautionary Statements Storage	P403 + P235 Store in a well-ventilated place. Keep cool.
Precautionary Statements Disposal	P501 Dispose of container to recycling (containers are specific for purpose).

3. Composition/Information on Ingredients

Ingredients	Citrus Oil
CAS No.	5989-27-5
GHS No.	Not available
Concentration	90% Terpenes including limonene 10% Oxygenated compounds including aldehyde and citral

4. First Aid Measures

Inhaled	Remove from exposure. May be an irritant to the mucous membranes and the respiratory tract. Breathing in vapour can result in headaches, dizziness and possible nausea.
Ingested	DO NOT induce vomiting. Give Water. Seek medical advice immediately. Swallowing can result in nausea, vomiting, diarrhoea and abdominal pain.
Skin	Remove contaminated clothing and wash skin thoroughly with very soapy water. If irritation persists, seek medical advice.
Eyes	Flood with water for at least 15 minutes and seek medical advice.
First Aid Facilities	Eye Wash, Fresh Water, Detergent
Symptoms	Burning sensation, swelling, redness, blistering, dryness, irritation.
Medical Attention	Product has a degreasing effect. Treat symptomatically.

5. Fire Fighting Measures

Extinguishing Media	Use CO ₂ , Dry Powder or Foam type extinguishers. Spray extinguishing media to base of flames. Do not use direct water jet on burning material.
Specific Hazards	Reacts with strong oxidising agents. Liable to cause smoke & acrid fumes during combustion: carbon monoxide, carbon dioxide & other non-identified organic compounds may be formed. Closed containers may build up pressure when exposed to heat and should be cooled with water spray.
Protective Equipment	Avoid vapour inhalation. Wear positive pressure self-contained breathing apparatus and chemical resistant gloves and boots. Hazchem Code: 3[Y]

6. Accidental Release Measures

Personal precautions	Avoid inhalation and direct contact with skin and eyes. Wear chemical resistant gloves and boots. Remove ignition sources.
Environmental Precautions Containment and Clean up	Keep away from drains, soils, surface & ground waters. Remove all potential ignition sources. Contain spilled material. Cover with an inert or non-combustible inorganic adsorbent material such as sand, sweep up and remove to an approved disposal container. Clean area with soapy water and ventilate area. Observe state, federal and local disposal regulations.

7. Handling and Storage

Usage Precautions	Apply GMP and industrial hygiene practices, ensuring proper ventilation. No smoking whilst handling. Avoid static discharges. Avoid direct contact with skin and eyes.
Storage Conditions	Store in tightly closed original container in a ventilated area away from heat sources. Store in glass, lacquer lined steel or tin, aluminium or F/HDPE. Other plastics are not suitable.

8. Exposure Controls/ Personal Protection

Exposure Standards	D-Limonene [5989-27-5] Maximum workplace concentration 5ml/m ³ , 28mg/m ³ . Peak limitation II(4), H-danger of pre-cutaneous absorption, Sh- danger of sensitisation of the skin. C- No damage to embryo or foetus when exposure values are observed. List of MAK and BAT values 2012.
Engineering Controls	Use in well ventilated areas or with a local exhaust ventilation system. Vapour is heavier than air- prevent concentration in hollows or sumps. Do not enter confined spaces where vapour may have collected. Flameproof equipment is necessary in all areas where this chemical is used. Nearby equipment must be earthed. Electrical requirements for work area should be assessed according to AS3000.
Personal Protective Equipment (PPE)	Use an organic vapour respirator if inhalation risk exists. Avoid all skin contact. Use chemically resistant gloves if required. Use safety glasses if required. Wash hands with soap and water after handling.

9. Physical and Chemical Properties

Appearance	Colourless to orange liquid
Odour	Strong citrus
Initial Boiling Point	175.5°C to 176 °C
Flash Point	48 (CC)
Flammability	0.7 to 6.1%
Vapour Pressure	0.19 kPa at 20 °C
Vapour Density	4.7
Relative Density/SG	0.84
Solubility	0.0138 at 25 °C in water. Very soluble in 95% ethanol.
Auto-ignition temperature	237 °C
Volatile by weight	>92%
Partition Coefficient	4.23

10. Stability and Reactivity

Reactivity	Reacts with strong oxidising agents.
Chemical Stability	Increased temperature may cause closed containers to build up pressure.
Conditions to avoid	Avoid excessive heat.
Incompatible materials	Incompatible with oxidising agents, acidic clays and mineral acids.
Hazardous decomposition products	Peroxides formed by oxidation may present an explosion hazard if they become highly concentrated through distillation. Burning with emit toxic fumes.

11. Toxicological Information

Acute Toxicity	Orange Oil: Oral LD ₅₀ (rat) >5g/kg <i>Food and Cosmetic Toxicol</i> (1974) I2 (3), 733. Orange Oil: Oral LD ₅₀ (rabbit) >5g/kg <i>Food and Cosmetic Toxicol</i> (1974) I2 (3), 733.
Skin corrosion/irritation	D-Limonene: LD ₅₀ (rabbit New Zealand white) dermal >5 g/kg bw (24 hr application) <i>Office of Pollution Prevention and Toxics</i> 2006
Serious eye damage/irritation	No data available.
Respiratory or skin sensitisation	No data available.
Germ cell mutagenicity	No data available.
Carcinogenicity	No data available.
Reproductive toxicity	No damage to embryo or foetus when exposure values are observed. <i>List of MAK and BAT values</i> 2012.
Specific Target Organ Toxicity (STOT) – single exposure	No data available.
Specific Target Organ Toxicity (STOT) – repeated exposure	No data available.
Aspiration hazard	No data available.

12. Ecological Information

Ecotoxicity	Very toxic to aquatic organisms. LC50 Eisenia foetida Savigny (Earthworm) 6.0 ppm/48 hr, <i>Concise International Chemical Assessment Documents Number 5: Limonene</i> p.17 (1998). LC50 Daphnia magna (Water flea) 0.577 mg/L/48 hr, Programme on Chemical Safety; <i>Concise International Chemical Assessment Documents Number 5: Limonene</i> p.16 (1998).
Persistence and degradability	Partially biodegradable
Bioaccumulative potential	Risk of bioaccumulation in an aquatic species is high. May cause long term effects in the aquatic environment.
Mobility in soil	No data available.
Other adverse effects	Organic product. Will increase COD demands of environmental water.

13. Disposal Considerations

Safe handling and disposal methods	Use only the container types listed under storage information.
Disposal of contaminated packaging	Rinse with soapy water.
Environmental regulations	Avoid disposing to drainage systems and into the environment. Incineration by an approved agent may be necessary. Check local municipal laws.

14. Transport Information

UN Number	2319
Proper shipping name	Terpene Hydrocarbon n.o.s
Transport hazard class(es)	3 Flammable Liquid
Packing group	III
Environmental hazards	This material is classified as a Marine Pollutant (P) according to the International Maritime Dangerous Goods Code.
Special precautions during transport	Classified as Dangerous Goods.
Hazchem Code	3[Y]

15. Regulatory Information

Australian Standard	HB 76:201 Dangerous goods- Initial emergency response guide. AS 1940:2004 The storage and handling of flammable and combustible liquids.
International Maritime Dangerous Goods Code	Marine Pollutant (P)
Poisons Schedule Number	None allocated

16. Other Information

Date of preparation
Key acronyms

Refer to the document control table in the header.
COD- Chemical Oxygen Demand
GMP- Good Manufacturing Practice
MAK- Maximum Concentration (Maximale Arbeitsplatz-Konzentration)
BAT- Biological Tolerance Values (Biologische Arbeitsstoff-Toleranzwerte)
HSDB- Hazardous Substances Data Bank