

# SAFETY DATA SHEET



Revision date: 01-Oct-2024

Revision Number 2

## Section 1: Identification

### Product identifier

**Product Name** LEMON FLAVOUR NAT DL E49044 (FALEM49044)

**Product Code(s)** 000000026184

### Other means of identification

**Proper shipping name** EXTRACTS, FLAVOURING, LIQUID

**UN number or ID number** 1197

**Pure substance/mixture** Mixture

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

**Recommended use** Flavour.

**Uses advised against** No information available.

### Details of manufacturer or importer

#### **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.

## Section 2: Hazard identification

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).  
Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

### GHS Classification

<b>Flammable liquids</b>	Category 3
<b>Aspiration hazard</b>	Category 1
<b>Skin corrosion/irritation</b>	Category 2

<b>Skin sensitization</b>	Category 1
<b>Acute aquatic toxicity</b>	Category 1
<b>Chronic aquatic toxicity</b>	Category 1

**Label elements**

Flame  
Exclamation mark  
Health hazard  
Environment



**Signal word**  
DANGER

**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  
H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements - Prevention**

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

**Precautionary Statements - Response**

Specific treatment (see First aid on this SDS).  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
If skin irritation or rash occurs: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
Do NOT induce vomiting.  
In case of fire: Use CO2, dry chemical, or foam for extinction.  
Collect spillage.

**Precautionary Statements - Storage**

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

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant.

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

Very toxic to aquatic life with long lasting effects.

**Section 3: Composition and information on ingredients**

Chemical name	CAS No.	Weight-%
d-Limonene	5989-27-5	>60
Lemon oil	8008-56-8	10-<30
Citral	5392-40-5	1-<10

## Section 4: First aid measures

### Description of first aid measures

<b>General advice</b>	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor. Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Aspiration into lungs can produce severe lung damage. If breathing is irregular or stopped, administer artificial respiration. Get immediate medical attention. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Delayed pulmonary edema may occur.
<b>Eye contact</b>	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.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
<b>Ingestion</b>	ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
<b>Self-protection of the first aider</b>	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. Use personal protective equipment as required. See section 8 for more information. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing.

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

<b>Symptoms</b>	Itching. Rashes. Hives. Difficulty in breathing. Coughing and/ or wheezing. Dizziness.
<b>Effects of Exposure</b>	No information available.

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

<b>Note to physicians</b>	May cause sensitization by skin contact. Delayed pulmonary edema may occur. Treat symptomatically. Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances.
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## Section 5: Firefighting measures

### Suitable Extinguishing Media

<b>Suitable extinguishing media</b>	Foam. Dry chemical. Carbon dioxide (CO <sub>2</sub> ).
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### Specific hazards arising from the chemical

**Specific hazards arising from the chemical** Flammable. 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. Product is or contains a sensitizer. May cause sensitization by skin contact. 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 and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Hazchem code** 3Y

## **Section 6: Accidental release measures**

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or 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.

**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. Prevent product from entering drains. 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 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. Use non-sparking tools. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

## **Section 7: Handling and storage**

### Precautions for safe handling

**Advice on safe handling** Use personal protection equipment. 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. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

**General hygiene considerations** Do not eat, drink or smoke when using this product. 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. 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). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children. Store away from other materials. Keep container closed when not in use.

**Incompatible materials** Oxidizing agent.

**Section 8: Exposure controls and personal protection**

**Control parameters**

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

Chemical name	Australia	New Zealand	ACGIH TLV
Citral 5392-40-5	-	-	TWA: 5 ppm inhalable fraction and vapor Sk* dermal sensitizer

Chemical name	European Union	United Kingdom	Germany DFG
d-Limonene 5989-27-5	-	-	TWA: 5 ppm TWA: 28 mg/m <sup>3</sup> Peak: 20 ppm Peak: 112 mg/m <sup>3</sup> Sk* skin sensitizer

**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.



<b>Eye/face protection</b>	Glasses.
<b>Skin and body protection</b>	Wear suitable protective clothing. Antistatic boots. Overalls.
<b>Hand protection</b>	Impervious gloves.
<b>Respiratory protection</b>	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.
<b>Environmental exposure controls</b>	No information available.
<b>Thermal hazards</b>	No information available.

## Section 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>	Pale Yellow to Yellow
<b>Odor</b>	Juicy Lemon
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	48 °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	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	0.8299 - 0.8699	@ 20 °C
Water solubility	No data available	None known
Solubility(ies)	Immiscible in water	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

### Other information

## Section 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). Direct sunlight.

### Incompatible materials

**Incompatible materials** Oxidizing agent.

### Hazardous decomposition products

**Hazardous decomposition products** Oxides of carbon.

## **Section 11: Toxicological information**

### 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** Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract.

**Eye contact** May cause irritation.

**Skin contact** May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Repeated exposure may cause skin dryness or cracking. Causes skin irritation.

**Ingestion** Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Symptoms** Itching. Rashes. Hives. Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Redness. May cause redness and tearing of the eyes.

### Acute toxicity

#### Numerical measures of toxicity - Product Information

No information available

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
d-Limonene	= 5200 mg/kg ( Rat ) = 4400 mg/kg ( Rat )	> 5 g/kg ( Rabbit )	-
Lemon oil	= 2840 mg/kg ( Rat )	-	-
Citral	= 4960 mg/kg ( Rat )	= 2250 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** Causes skin irritation. Classification based on data available for ingredients.
- Serious eye damage/eye irritation** No information available.
- Respiratory or skin sensitization** May cause an allergic skin reaction. Classification based on data available for ingredients.
- Germ cell mutagenicity** No information available.
- Carcinogenicity** No information available.

Chemical name	Australia	European Union	IARC
d-Limonene - 5989-27-5	-	-	Group 3

- 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.

**Section 12: Ecological information**

**Ecotoxicity**

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

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
d-Limonene	-	LC50: 0.619 - 0.796mg/L (96h, Pimephales promelas) LC50: =35mg/L (96h,	-	LC50 Daphnia magna (Water flea) 0.577 mg/L/48 hr (1)



		Oncorhynchus mykiss)		
Citral	EC50: =16mg/L (72h, Desmodemus subspicatus) EC50: =19mg/L (96h, Desmodemus subspicatus)	-	-	EC50: =7mg/L (48h, Daphnia magna)

**Terrestrial ecotoxicity** There is no data for this product.

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation**

**Component Information**

Chemical name	Partition coefficient
d-Limonene	4.23
Citral	2.76

**Mobility**

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

**Section 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.

See section 8 for more information

**Section 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 or ID number** 1197  
**Proper shipping name** EXTRACTS, FLAVOURING, LIQUID  
**Transport hazard class(es)** 3  
**Packing group** III  
**Environmental hazard** Yes  
**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** 1197  
**UN proper shipping name** EXTRACTS, FLAVOURING, LIQUID  
**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** 1197  
**UN proper shipping name** EXTRACTS, FLAVOURING, LIQUID  
**Transport hazard class(es)** 3  
**Packing group** III  
**IMDG EMS Fire** F-E  
**IMDG EMS Spill** S-D  
**Marine pollutant** P

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
 No information available

**Section 15: Regulatory information**

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

**National regulations**

**Australia**

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).  
 Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

See section 8 for national exposure control parameters

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**

No poisons schedule number allocated

**Poison Schedule Number** Not applicable

**Australian Industrial Chemicals Introduction Scheme (AICIS)**

Chemical name	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
d-Limonene - 5989-27-5	Present	Specific information requirement: Obligations to provide information apply. You must tell us within 28 days if the circumstances of your importation or manufacture (introduction) are different to those in our assessment.
Lemon oil - 8008-56-8	Present	-
Citral - 5392-40-5	Present	-

**Illicit Drug Precursors/Reagents**

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

**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

**National pollutant inventory**

Subject to reporting requirement

Chemical name	National pollutant inventory
d-Limonene - 5989-27-5	20 MWH Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total

International Inventories

**AIIC**

All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals.

**NZIoC**

Contact supplier for inventory compliance status.

**TSCA**

Contact supplier for inventory compliance status.

**DSL/NDSL**

Contact supplier for inventory compliance status.

**EINECS/ELINCS**

Contact supplier for inventory compliance status.

**ENCS**

Contact supplier for inventory compliance status.

**IECSC**

Contact supplier for inventory compliance status.

**KECL**

Contact supplier for inventory compliance status.

**PICCS**

Contact supplier for inventory compliance status.

**Legend:**

**AIIC- Australian Inventory of Industrial Chemicals**

**NZIoC - New Zealand Inventory of Chemicals**

**TSCA - United States Toxic Substances Control Act Section 8(b) Inventory**

**DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List**

**EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**

**ENCS - Japan Existing and New Chemical Substances**

**IECSC - China Inventory of Existing Chemical Substances**

**KECL - Korean Existing and Evaluated Chemical Substances**

**PICCS - Philippines Inventory of Chemicals and Chemical Substances**

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

**Section 16: Other information**

**Reason(s) For Issue:**

5 Yearly Revised Primary SDS  
Change to Transport Information

**Prepared By**

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

Revision date: 01-Oct-2024

**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**

SVHC: Substances of Very High Concern for Authorization:  
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances  
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances  
STOT: Specific Target Organ Toxicity  
ATE: Acute Toxicity Estimate  
LC50: 50% Lethal Concentration  
LD50: 50% Lethal Dose

**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**

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
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)  
National Institute of Technology and Evaluation (NITE)  
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
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)  
U.S. 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  
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**