



# SAFETY DATA SHEET

## INTERNATIONAL FLAVORS & FRAGRANCES

Product LYRAL

Print Date 10.04.2015

Page 1 (6)

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : LYRAL  
IFF Code : 00129214  
Cust. Material : 00129214  
MSDS Number : R00000380500

Use of the Substance/Mixture : Ingredient used in Flavour and/or Fragrance preparations

Company : International Flavors & Fragrances  
(Zhejiang) Co., Ltd.  
Hangzhou Economic & Technological  
Development Area No. 321, 20 Ave 310018 Zhejiang ZHEJIANG


Telephone : +8657128928321  
Emergency telephone number :

### 2. HAZARDS IDENTIFICATION

#### GHS-Classification

Skin sensitization, Sub-category 1B  
Acute aquatic toxicity, Category 3

#### GHS-Labeling

Symbol(s) : 

Signal word : Warning

Hazard statements : H317: May cause an allergic skin reaction.  
H402: Harmful to aquatic life.

Precautionary statements : P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P272: Contaminated work clothing should not be allowed out of the workplace.  
P273: Avoid release to the environment.  
P280: Wear protective gloves.  
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.  
P321: Specific treatment (see supplemental first aid instructions on this label).  
P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention.  
P363: Wash contaminated clothing before reuse.

P501: Dispose of contents/ container to an approved waste disposal plant.

Version : 5  
Revision Date : 29.07.2014



# SAFETY DATA SHEET

## INTERNATIONAL FLAVORS & FRAGRANCES

Product LYRAL

Print Date 10.04.2015

Page 2 (6)

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name of the substance : 3-(4-hydroxy-4-methylpentyl)cyclohex-3-enecarbaldehyde  
Chemical characterization : alicyclic aldehydes  
Molecular formula : C<sub>13</sub>H<sub>22</sub>O<sub>2</sub>  
Molecular Weight : 210.16 g/mol  
CAS-No. : 31906-04-4, 51414-25-6

### 4. FIRST AID MEASURES

Inhalation : Remove from exposure site to fresh air and keep at rest. Obtain medical advice.  
Skin contact : Remove contaminated clothes. Wash thoroughly with water (and soap). Contact physician if symptoms persist.  
Eye contact : Flush immediately with water for at least 15 minutes. Contact physician if symptoms persist.  
Ingestion : Rinse mouth with water and obtain medical advice.

### 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Carbondioxide, dry chemical, foam.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Avoid inhalation and contact with skin and eyes. A self-contained breathing apparatus is recommended in case of a major spill.  
Environmental precautions : Keep away from drains, surface- and groundwater and soil.  
Methods for cleaning up : Clean up spillage promptly. Remove ignition sources. Provide adequate ventilation. Avoid excessive inhalation of vapours. Gross spillages should be contained by use of sand or inert powder and disposed of according to the local regulations.

### 7. HANDLING AND STORAGE

#### Handling

Advice on safe handling : Avoid excessive inhalation of concentrated vapors. Follow good manufacturing practices for housekeeping and personal hygiene. Wash any exposed skin immediately after any chemical contact, before breaks and meals, and at the end of each work period. Contaminated clothing and shoes should be thoroughly cleaned before re-use.  
  
If appropriate, procedures used during the handling of this material should also be used when cleaning equipment or removing residual

Version : 5  
Revision Date : 29.07.2014



# SAFETY DATA SHEET

## INTERNATIONAL FLAVORS & FRAGRANCES

Product LYRAL

Print Date 10.04.2015

Page 3 (6)

chemicals from tanks or other containers, especially when steam or hot water is used, as this may increase vapor concentrations in the workplace air. Where chemicals are openly handled, access should be restricted to properly trained employees.

Keep all heated processes at the lowest necessary temperature in order to minimize emissions of volatile chemicals into the air.

Advice on protection against fire and explosion : Keep away from ignition sources and naked flame.

### Storage

Requirements for storage areas and containers : Store in a cool, dry, ventilated area away from heat sources. Keep containers upright and tightly closed when not in use.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Verify if the substances declared in section 3 have relevant national exposure limits.

### Personal protective equipment

Respiratory protection : Use local exhaust ventilation around open tanks and other open sources of potential exposures in order to avoid excessive inhalation, including places where this material is openly weighed or measured. In addition, use general dilution ventilation of the work area to eliminate or reduce possible worker exposures. No respiratory protection is required during normal operations in a workplace where engineering controls such as adequate ventilation, etc. are sufficient.

If engineering controls and safe work practices are not sufficient, an approved, properly fitted respirator with organic vapor cartridges or canisters and particulate filters should be used:

- a) while engineering controls and appropriate safe work practices and/or procedures are being implemented; or
- b) during short term maintenance procedures when engineering controls are not in normal operation or are not sufficient; or
- c) if normal operational workplace vapor concentration in the air is increased due to heat ;
- d) during emergencies; or
- e) if engineering controls and operational practices are not sufficient to reduce airborne concentrations below an established occupational exposure limit.

Hygiene measures : To the extent deemed appropriate, implement pre-placement and regularly scheduled ascertainment of symptoms and spirometry testing of lung function for workers who are regularly exposed to this material.  
To the extent deemed appropriate, use an experienced air sampling

Version : 5

Revision Date : 29.07.2014



# SAFETY DATA SHEET

## INTERNATIONAL FLAVORS & FRAGRANCES

Product LYRAL

Print Date 10.04.2015

Page 4 (6)

expert to identify and measure volatile chemicals that could be present in the workplace air to determine potential exposures and to ensure the continuing effectiveness of engineering controls and operational practices to minimize exposure.

Protective measures : In December 2003, the National Institute for Occupational Safety and Health ("NIOSH") published an Alert on preventing lung disease in workers who use or make flavorings [NIOSH Publication Number 2004-110].  
In August 2004, the United States Flavor and Extract Manufacturers Association (FEMA) issued a report entitled "Respiratory Safety in the Flavor Manufacturing Workplace".  
Both of these reports provide recommendations for reducing employee exposure and for medical surveillance in the workplace. The recommendations in these reports are generally applicable to the use of any chemical in the workplace and you are strongly urged to review both of these reports.  
The report published by FEMA also contains a list of "high priority" chemicals. If any of these chemicals are present in this product at a concentration  $\geq 1.0\%$  due to an intentional addition by IFF, the chemical(s) will be identified in this safety data sheet.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Appearance

Physical state : liquid  
Colour : colorless to pale yellow  
Odour : conforms to standard

#### Safety data

Flash point : 105 °C  
Ignition temperature : > 100 °C  
Melting point : -20 - 0 °C  
at 1,013.25 hPa  
Vapour pressure : 0.01 hPa  
Water solubility : 3.42 g/l  
Method: Purge & Trap  
Partition coefficient: n-  
octanol/water : log Pow: 2.080  
Viscosity, dynamic : 148 mPa.s  
at 25 °C  
Method: OECD 114

Version : 5  
Revision Date : 29.07.2014



# SAFETY DATA SHEET

## INTERNATIONAL FLAVORS & FRAGRANCES

Product LYRAL

Print Date 10.04.2015

Page 5 (6)

### 10. STABILITY AND REACTIVITY

- Conditions to avoid : Remarks: Direct sources of heat.
- Hazardous decomposition products : Note: Carbon monoxide and unidentified organic compounds may be formed during combustion.
- Hazardous reactions : Presents no significant reactivity hazard, by itself or in contact with water. Avoid contact with strong acids, alkali or oxidizing agents.

### 11. TOXICOLOGICAL INFORMATION

- Acute oral toxicity : LD50 (rat) = > 5,000 mg/kg
- Acute dermal toxicity : LD50 (rabbit) = > 5,000 mg/kg
- Skin irritation : No skin irritation (closed patch test, human, 48 h)  
Skin irritation (, rabbit)
- Eye irritation : Mild eye irritation (, rabbit, (undiluted))
- Sensitisation : Did not cause sensitization on laboratory animals. (, human, 10%)  
(, 0.0%)

### 12. ECOLOGICAL INFORMATION

#### Elimination information (persistence and degradability)

- Biodegradability : Not readily biodegradable. (41.2 %)

#### Ecotoxicity effects

- Toxicity to fish : LC50(96 h, ) = 11.8 mg/l (OECD Test Guideline 203)
- Toxicity to daphnia and other aquatic invertebrates : EC50(48 h, ) = 76 mg/l
- Toxicity to algae : ErC50(72 h, ) = 13.8 mg/l (OECD Test Guideline 201)

### 13. DISPOSAL CONSIDERATIONS

- Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations.
- Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. TRANSPORT INFORMATION

#### IATA

Not dangerous goods

#### IMDG\_GLOBAL

Not dangerous goods

### 15. REGULATORY INFORMATION

- Version : 5
- Revision Date : 29.07.2014



# SAFETY DATA SHEET

## INTERNATIONAL FLAVORS & FRAGRANCES

Product LYRAL

Print Date 10.04.2015

Page 6 (6)

Labelling according to EC Directives 1999/45/EC

Symbol(s) : Xi Irritant

R-phrases : R43 May cause sensitization by skin contact.

S-phrases : S24 Avoid contact with skin.  
S37 Wear suitable gloves.

**HMIS Classification** : Health hazard: 2  
Flammability: 1  
Physical and chemical hazards: 0

### 16. OTHER INFORMATION

#### Further information

The information in this safety data sheet is based on the properties of the material known to IFF at the time the data sheet was issued. The safety data sheet is intended to provide information for a health and safety assessment of the material and the circumstances under which it is packaged, stored or applied in the workplace. For such a safety assessment International Flavors & Fragrances holds no responsibility. This document is not intended for quality assurance purposes.

Version : 5

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