# Lyral (IFF)

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 8/9/2023 Revision date: 9/24/2024 Supersedes version of: 8/9/2023 Version: 2.0

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

| | | |
|---|---|---|
| Product form | : | Substance |
| Substance name | : | Lyral (IFF) |
| IUPAC name | : | 4-(4-hydroxy-4-methylpentyl)cyclohex-3-enecarbaldehyde |
| EC-No. | : | 250-863-4 |
| CAS-No. | : | 31906-04-4 |
| REACH registration No. | : | 01-2119971808-21 |
| Product code | : | 23016 |
| Product group | : | Trade product |

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### Relevant identified uses

Intended for general public

| | | |
|---|---|---|
| Main use category | : | Professional use,Consumer use |
| Use of the substance/mixture | : | Fragrance raw material |

### 1.3. Details of the supplier of the safety data sheet

De Hekserij
Spoorstraat 57
8271 RG IJsselmuiden
Nederland
www.hekserij.nl

### 1.4. Emergency telephone number

No additional information available

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin sensitisation, category 1B H317
Full text of H- and EUH-statements: see section 16

#### Adverse physicochemical, human health and environmental effects

May cause an allergic skin reaction.

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS07

| | | |
|---|---|---|
| Signal word (CLP) | : | Warning |
| Hazard statements (CLP) | : | H317 - May cause an allergic skin reaction. |
| Precautionary statements (CLP) | : | P261 - Avoid breathing dust, fume, gas, spray, vapours, mist.<br>P272 - Contaminated work clothing should not be allowed out of the workplace.<br>P280 - Wear protective clothing, eye protection, face protection, protective gloves.<br>P302+P352 - IF ON SKIN: Wash with plenty of soap and water.<br>P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.<br>P362+P364 - Take off contaminated clothing and wash it before reuse.<br>P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. |

EUH-statements : EUH208 - Contains Tocopherol (Vitamin E), Lyral (IFF). May produce an allergic reaction.

### 2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : Mono-constituent

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|
| Lyral (IFF) | CAS-No.: 31906-04-4<br>EC-No.: 250-863-4<br>REACH-no: 01-2119971808-21 | 90 – 100 | Skin Sens. 1B, H317 |
| Tocopherol (Vitamin E) | CAS-No.: 10191-41-0<br>EC-No.: 233-466-0<br>REACH-no: 01-2120086658-39 | 0.1 – 1 | Skin Sens. 1, H317 |

Full text of H- and EUH-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.
First-aid measures for first aider : First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation : Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact : May cause an allergic skin reaction.
Symptoms/effects after eye contact : None under normal conditions.
Symptoms/effects after ingestion : None under normal conditions.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.
Explosion hazard : No direct explosion hazard.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

| | | |
|---|---|---|
| Firefighting instructions | : | Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. |
| Protection during firefighting | : | Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

| | | |
|---|---|---|
| General measures | : | Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage. |

**For non-emergency personnel**

| | | |
|---|---|---|
| Protective equipment | : | Wear recommended personal protective equipment. |
| Emergency procedures | : | Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. |

**For emergency responders**

| | | |
|---|---|---|
| Protective equipment | : | Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : | Evacuate unnecessary personnel. Stop leak if safe to do so. |

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

| | | |
|---|---|---|
| For containment | : | Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible. |
| Methods for cleaning up | : | Take up liquid spill into absorbent material. |
| Other information | : | Dispose of materials or solid residues at an authorized site. |

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

| | | |
|---|---|---|
| Additional hazards when processed | : | Not expected to present a significant hazard under anticipated conditions of normal use. |
| Precautions for safe handling | : | Ensure good ventilation of the work station. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Wear personal protective equipment. |
| Hygiene measures | : | Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |

### 7.2. Conditions for safe storage, including any incompatibilities

| | | |
|---|---|---|
| Technical measures | : | Keep in a cool, well-ventilated place away from heat. |
| Storage conditions | : | Keep cool. Protect from sunlight. |
| Packaging materials | : | Store always product in container of same material as original container. |

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### DNEL and PNEC

| Lyral (IFF) (31906-04-4) | |
|---|---|
| **DNEL/DMEL (Workers)** | |
| Long-term - systemic effects, dermal | 1.45 mg/kg bodyweight/day |
| Long-term - local effects, dermal | 2.5 mg/cm² |
| Long-term - systemic effects, inhalation | 3.67 mg/m³ |
| **DNEL/DMEL (General population)** | |
| Long-term - systemic effects,oral | 0.63 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 1.09 mg/m³ |
| Long-term - systemic effects, dermal | 0.87 mg/kg bodyweight/day |
| Long-term - local effects, dermal | 1.5 mg/cm² |
| **PNEC (Water)** | |
| PNEC aqua (freshwater) | 11.8 µg/l |
| PNEC aqua (marine water) | 1.18 µg/l |
| PNEC aqua (intermittent, freshwater) | 118 µg/l |
| **PNEC (Sediment)** | |
| PNEC sediment (freshwater) | 195 µg/kg dw |
| PNEC sediment (marine water) | 19.5 µg/kg dw |
| **PNEC (Soil)** | |
| PNEC soil | 32.1 µg/kg dw |
| **PNEC (STP)** | |
| PNEC sewage treatment plant | 0.2 mg/l |

### 8.2. Exposure controls

#### Appropriate engineering controls

**Appropriate engineering controls:**
Ensure good ventilation of the work station.

#### Personal protection equipment

**Personal protective equipment:**
Wear recommended personal protective equipment.
**Personal protective equipment symbol(s):**

#### Eye and face protection

**Eye protection:**
Safety glasses

#### Skin protection

**Skin and body protection:**
Wear suitable protective clothing

**Hand protection:**
Protective gloves

### Respiratory protection

**Respiratory protection:**
In case of insufficient ventilation, wear suitable respiratory equipment

### Environmental exposure controls

**Environmental exposure controls:**
Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Liquid |
| Colour | : | Not available |
| Odour | : | Not available |
| Odour threshold | : | Not available |
| Melting point | : | < -20 °C Atm. press.: 101,32 kPa Decomposition: 'no' Sublimation: 'no' |
| Freezing point | : | Not available |
| Boiling point | : | 297.6 °C Atm. press.: 1 atm |
| Flammability | : | Not available |
| Lower explosion limit | : | Not available |
| Upper explosion limit | : | Not available |
| Flash point | : | 94 °C |
| Auto-ignition temperature | : | Not available |
| Decomposition temperature | : | Not available |
| pH | : | Not available |
| Viscosity, kinematic | : | Not available |
| Solubility | : | Insoluble in water. |
| Partition coefficient n-octanol/water (Log Kow) | : | Not available |
| Partition coefficient n-octanol/water (Log Pow) | : | 2.08 |
| Vapour pressure | : | 0.005504 Pa Temp.: 23 °C |
| Vapour pressure at 50°C | : | Not available |
| Density | : | Not available |
| Relative density | : | 0.9909 |
| Relative vapour density at 20°C | : | Not available |
| Particle characteristics | : | Not applicable |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

| Tocopherol (Vitamin E) (10191-41-0) | |
|---|---|
| LD50 oral rat | > 4000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity) |
| LD50 dermal rat | > 3000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |

| Lyral (IFF) (31906-04-4) | |
|---|---|
| LD50 oral rat | 4971 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity) |
| LD50 dermal rabbit | > 5000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |

Skin corrosion/irritation : Not classified

| Tocopherol (Vitamin E) (10191-41-0) | |
|---|---|
| pH | 5 – 9 |

Serious eye damage/irritation : Not classified

| Tocopherol (Vitamin E) (10191-41-0) | |
|---|---|
| pH | 5 – 9 |

Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

| Tocopherol (Vitamin E) (10191-41-0) | |
|---|---|
| NOAEL (oral, rat, 90 days) | 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents) |

| Lyral (IFF) (31906-04-4) | |
|---|---|
| NOAEL (oral, rat, 90 days) | 150 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents), Guideline: EU Method B.7 (Repeated Dose (28 Days) Toxicity (Oral)) |

Aspiration hazard : Not classified

### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified.

| Tocopherol (Vitamin E) (10191-41-0) | |
|---|---|
| LC50 - Fish [1] | > 11 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) |
| EC50 - Crustacea [1] | > 23.53 mg/l Test organisms (species): Daphnia magna |
| EC50 72h - Algae [1] | > 25.8 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum) |
| NOEC chronic fish | > 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '28 d' |

| Lyral (IFF) (31906-04-4) | |
|---|---|
| LC50 - Fish [1] | 11.8 mg/l Test organisms (species): Pimephales promelas |
| EC50 - Crustacea [1] | 15 mg/l Test organisms (species): Daphnia magna |
| EC50 72h - Algae [1] | 25.4 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum) |
| NOEC chronic algae | 5.95 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum) |

## 12.2. Persistence and degradability

| Lyral (IFF) (31906-04-4) | |
|---|---|
| Persistence and degradability | Not rapidly degradable |

| Tocopherol (Vitamin E) (10191-41-0) | |
|---|---|
| Persistence and degradability | Not rapidly degradable |

| Lyral (IFF) (31906-04-4) | |
|---|---|
| Persistence and degradability | Not rapidly degradable |

## 12.3. Bioaccumulative potential

| Tocopherol (Vitamin E) (10191-41-0) | |
|---|---|
| Partition coefficient n-octanol/water (Log Kow) | > 6 |

| Lyral (IFF) (31906-04-4) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | 2.08 |

## 12.4. Mobility in soil

No additional information available

## 12.5. Results of PBT and vPvB assessment

No additional information available

## 12.6. Endocrine disrupting properties

No additional information available

## 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

| ADR | IMDG | IATA | ADN | RID |
|---|---|---|---|---|
| **14.1. UN number or ID number** | | | | |
| Not regulated for transport | | | | |
| **14.2. UN proper shipping name** | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| **14.3. Transport hazard class(es)** | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| **14.4. Packing group** | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| **14.5. Environmental hazards** | | | | |
| Not regulated | Not regulated | Not regulated | Not regulated | Not regulated |
| No supplementary information available | | | | |

### 14.6. Special precautions for user

**Overland transport**
Not regulated

**Transport by sea**
Not regulated

**Air transport**
Not regulated

**Inland waterway transport**
Not regulated

**Rail transport**
Not regulated

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

**EU-Regulations**

**REACH Annex XVII (Restriction List)**

| EU restriction list (REACH Annex XVII) | | |
|---|---|---|
| **Reference code** | **Applicable on** | **Entry title or description** |
| 3(b) | Lyral (IFF) ; Tocopherol (Vitamin E) | Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10 |

**REACH Annex XIV (Authorisation List)**

Not listed on REACH Annex XIV (Authorisation List)

**REACH Candidate List (SVHC)**

Not listed on the REACH Candidate List

**PIC Regulation (Prior Informed Consent)**

Not listed on the PIC list (Regulation EU 649/2012)

**POP Regulation (Persistent Organic Pollutants)**

Not listed on the POP list (Regulation EU 2019/1021)

**Ozone Regulation (1005/2009)**

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

**Dual-Use Regulation (428/2009)**

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

**Explosives Precursors Regulation (2019/1148)**

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

**Drug Precursors Regulation (273/2004)**

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

**National regulations**

**Netherlands**

SZW-lijst van kankerverwekkende stoffen : The substance is not listed
SZW-lijst van mutagene stoffen : The substance is not listed
SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : The substance is not listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

| Abbreviations and acronyms: | |
|---|---|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |

| Abbreviations and acronyms: | |
|---|---|
| BCF | Bioconcentration factor |
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| COD | Chemical oxygen demand (COD) |
| DMEL | Derived Minimal Effect level |
| DNEL | Derived-No Effect Level |
| EC-No. | European Community number |
| EC50 | Median effective concentration |
| EN | European Standard |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| STP | Sewage treatment plant |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| VOC | Volatile Organic Compounds |
| CAS-No. | Chemical Abstract Service number |
| N.O.S. | Not Otherwise Specified |
| vPvB | Very Persistent and Very Bioaccumulative |
| ED | Endocrine disruptor |

| Full text of H- and EUH-statements: | |
|---|---|
| EUH208 | Contains Tocopherol (Vitamin E), Lyral (IFF). May produce an allergic reaction. |
| H317 | May cause an allergic skin reaction. |
| Skin Sens. 1 | Skin sensitisation, Category 1 |
| Skin Sens. 1B | Skin sensitisation, category 1B |

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.