

1733205

Reviewed on: 19.12.2022  
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**SECTION 01: Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifier**

- Trade name:  
Rosemary oil
- Article number:  
A1150
- CAS Number:  
8000-25-7
- EC Number:  
283-291-9
- No CAS EINECS:  
84604-14-8
- Registration number  
01-2120086955-39-0004

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 Application of the substance / the preparation

Perfume ingredient  
 Flavouring agent  
 Only for industrial use

**1.3 Details of the supplier of the safety data sheet**

Manufacturer/Supplier:  
 BIOLANDES, BP2                      TEL: +33(0)5.58.51.00.00  
 2760 Route de Bélis                email: fds@biolandes.com  
 40420 LE SEN  
 FRANCE

**1.4 Emergency telephone number:**  
 FR-ORFILA (INRS):+33(0)1 45 42 59 59

**SECTION 02: Hazards identification**

**2.1 Classification of the substance or mixture**

- Classification according to Regulation (EC) No 1272/2008



STOT SE 2 - H371 May cause damage to organs.  
 Asp. Tox. 1 - H304 May be fatal if swallowed and enters airways.



Flam. Liq. 3 - H226 Flammable liquid and vapour.



Skin Irrit. 2 - H315 Causes skin irritation.  
 Eye Irrit. 2 - H319 Causes serious eye irritation.  
 Skin Sens. 1B - H317 May cause an allergic skin reaction.



Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.

**2.2 Label elements**

- Labelling according to Regulation (EC) No 1272/2008
- Hazard pictograms

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GHS08    GHS02    GHS07    GHS09

- Signal word  
Danger

- Hazard statements

H226 Flammable liquid and vapour.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H371 May cause damage to organs.  
H411 Toxic to aquatic life with long lasting effects.

- Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P240 Ground and bond container and receiving equipment.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P501 Dispose of contents/container in accordance with local/regional/ national/international regulations.

2.3 Other hazards

- Results of PBT and vPvB assessment
- PBT:  
Not applicable.
- vPvB:  
Not applicable.
- Determination of endocrine-disrupting properties  
Substance is not listed.

### SECTION 03: Composition/information on ingredients











3.1 Substances

CAS No.	Description	%
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8000-25-7	Rosemary oil	
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- Identification number(s)
- EC number:  
283-291-9

• Dangerous components:

CAS Number		%
470-82-6	<b>Eucalyptol</b> EC number: 207-431-5  <b>Flam. Liq. 3 - H226;</b>  <b>Skin Sens.</b>  <b>1B - H317</b>	20,001-50,00
80-56-8	<b>pin-2(3)-ene</b> EC number: 201-291-9  <b>Asp. Tox. 1 - H304;</b>  <b>Flam. Liq. 3</b> - H226;  <b>Acute Tox. 4 - H302, Skin</b> <b>Irrit. 2 - H315, Skin Sens. 1B - H317</b>	10,001-20,00
76-22-2	<b>1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one</b> EC number: 200-945-0  <b>Flam. Sol. 2 - H228;</b>  <b>Acute Tox.</b> <b>4 - H302, Acute Tox. 4 - H332;</b>  <b>STOT SE</b> <b>2 - H371</b>	10,001-20,00
127-91-3	<b>beta-Pinene</b> EC number: 204-872-5  <b>Asp. Tox. 1 - H304;</b>  <b>Flam. Liq. 3</b>	5,001-10,00

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<b>PRODUCT :</b>	<b>Rosemary oil</b>	<i>(continued of page 2)</i>
87-44-5	- H226;  Skin Irrit. 2 - H315, Skin Sens. 1B - H317 <b>beta-Caryophyllene</b> EC number: 201-746-1  Asp. Tox. 1 - H304;  Skin Sens. 1B - H317	1,001- 5,00
5989-27-5	<b>d-limonene</b> EC number: 227-813-5  Asp. Tox. 1 - H304;  Flam. Liq. 3 - H226;  Skin Irrit. 2 - H315, Skin Sens. 1B - H317;  Aquatic Acute 1 - H400; Aquatic Chronic 3 - H412	1,001- 5,00
98-55-5	<b>p-menth-1-en-8-ol</b> EC number: 202-680-6  Skin Irrit. 2 - H315, Eye Irrit. 2 - H319	1,001- 5,00
99-87-6	<b>p-cymene</b> EC number: 202-796-7  Acute Tox. 3 - H331;  Asp. Tox. 1 - H304;  Flam. Liq. 3 - H226;  Aquatic Chronic 2 - H411	1,001- 5,00
123-35-3	<b>Myrcene</b> EC number: 204-622-5  Asp. Tox. 1 - H304;  Flam. Liq. 3 - H226;  Skin Irrit. 2 - H315, Eye Irrit. 2 - H319	1,001- 5,00
78-70-6	<b>Linalool</b> EC number: 201-134-4  Skin Irrit. 2 - H315, Eye Irrit. 2 - H319, Skin Sens. 1B - H317	1,001- 5,00
99-86-5	<b>1-isopropyl-4-methylcyclohexa-1,3-diene</b> EC number: 202-795-1  Asp. Tox. 1 - H304;  Flam. Liq. 3 - H226;  Acute Tox. 4 - H302, Skin Sens. 1 - H317;  Aquatic Chronic 2 - H411	0,101-1,00
586-62-9	Oral: ATE = 1680 mg/kg <b>Terpinolene</b> EC number: 209-578-0  Asp. Tox. 1 - H304;  Skin Sens. 1B - H317;  Aquatic Acute 1 - H400, Aquatic Chronic 1 - H410	0,101-1,00

#### SECTION 04: First aid measures

##### 4.1 Description of first aid measures

- General information:  
Seek immediate medical advice.
- After inhalation:  
Supply fresh air and to be sure call for a doctor.

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- After skin contact:  
If skin irritation continues, consult a doctor.  
Immediately wash with water and soap and rinse thoroughly.
- After eye contact:  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing:  
Seek immediate medical advice.
- Information for doctor:

4.2 Most important symptoms and effects, both acute and delayed  
No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed  
No further relevant information available.

**SECTION 05: Firefighting measures****5.1 Extinguishing media**

- Suitable extinguishing agents:  
CO<sub>2</sub>, sand, extinguishing powder. Do not use water.  
Use fire extinguishing methods suitable to surrounding conditions.
- For safety reasons unsuitable extinguishing agents:  
Water with full jet

5.2 Special hazards arising from the substance or mixture  
Formation of toxic gases is possible during heating or in case of fire.

**5.3 Advice for firefighters**

- Protective equipment:  
Do not inhale explosion gases or combustion gases.
- Additional information  
Cool endangered receptacles with water spray.

**SECTION 06: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Keep away from ignition sources.

**6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.

**6.3 Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

**6.4 Reference to other sections**

See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

**SECTION 07: Handling and storage****7.1 Precautions for safe handling**

Keep receptacles tightly sealed.  
Keep away from heat and direct sunlight.  
Ensure good ventilation/exhaustion at the workplace.  
Handle with care. Avoid jolting, friction and impact.

- Information about fire - and explosion protection:  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

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**Storage:**

- Requirements to be met by storerooms and receptacles:  
Store only in the original receptacle.  
Prevent any seepage into the ground.  
Use only receptacles specifically permitted for this substance/ product.
- Information about storage in one common storage facility:  
Not required.
- Further information about storage conditions:  
Keep container tightly sealed.  
Protect from heat and direct sunlight.  
Store receptacle in a well ventilated area.

**7.3 Specific end use(s)**

No further relevant information available.

### SECTION 08: Exposure controls/personal protection

**8.1 Control parameters**

- Ingredients with limit values that require monitoring at the workplace:  
Not required.
- Additional information:  
The lists valid during the making were used as basis.

**8.2 Exposure controls**

- Individual protection measures, such as personal protective equipment
- General protective and hygienic measures:  
The usual precautionary measures are to be adhered to when handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.
- Respiratory protection:  
Use suitable respiratory protective device in case of insufficient ventilation.
- Protection of hands:  
Protective gloves  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- Material of gloves  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- Penetration time of glove material  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye/face protection  
Safety glasses

### SECTION 09: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

**General Information**

<b>Physical state</b>	Fluid
<b>Colour:</b>	colourless to pale yellow
<b>Odour:</b>	aromatic
<b>Odour threshold:</b>	Not determined.
<b>Melting point/freezing point:</b>	< -20,0 °C
<b>Boiling point or initial boiling point and boiling range</b>	158,00 - 210,00 °C
<b>Flammability</b>	Not determined.
<b>Lower and upper explosion limit</b>	
<b>Lower:</b>	Not determined.

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<b>Upper:</b>	Not determined.
<b>Flash point:</b>	47,3 °C NFT 60-103 CC
<b>Ignition temperature:</b>	265,00 °C
<b>Decomposition temperature:</b>	Not determined.
<b>pH</b>	Not determined.
<b>Viscosity:</b>	
<b>Kinematic viscosity</b>	at 40,00 °C 6,00 mm <sup>2</sup> /s
<b>Dynamic:</b>	Not determined.
<b>Solubility</b>	
<b>water:</b>	Not determined.
<b>Partition coefficient n-octanol/water (log value)</b>	Not determined.
<b>Vapour pressure:</b>	Not determined.
<b>Density and/or relative density</b>	
<b>Density:</b>	Not determined.
<b>Relative density</b>	0,9020 0,9220 D20/20
<b>Vapour density</b>	Not determined.
<b>9.2 Other information</b>	No further relevant information available.
<b>Appearance:</b>	
<b>Form:</b>	fluid
<b>Important information on protection of health and environment, and on safety.</b>	
<b>Auto-ignition temperature:</b>	Not determined.
<b>Explosive properties:</b>	Not determined.
<b>Solvent content:</b>	
<b>Solids content:</b>	0,00 %
<b>Change in condition</b>	
<b>Evaporation rate</b>	Not determined.
<b>Information with regard to physical hazard classes</b>	
<b>Explosives</b>	not applicable
<b>Flammable gases</b>	not applicable
<b>Aerosols</b>	not applicable
<b>Oxidising gases</b>	not applicable
<b>Gases under pressure</b>	not applicable
<b>Flammable liquids</b>	Flammable liquid and vapour.
<b>Flammable solids</b>	not applicable
<b>Self-reactive substances and mixtures</b>	not applicable
<b>Pyrophoric liquids</b>	not applicable
<b>Pyrophoric solids</b>	not applicable
<b>Self-heating substances and mixtures</b>	not applicable
<b>Substances and mixtures, which emit flammable gases in contact with water</b>	not applicable
<b>Oxidising liquids</b>	not applicable
<b>Oxidising solids</b>	not applicable
<b>Organic peroxides</b>	not applicable
<b>Corrosive to metals</b>	not applicable
<b>Desensitised explosives</b>	not applicable

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### SECTION 10: Stability and reactivity

**10.1 Reactivity**

No further relevant information available.

**10.2 Chemical stability**

**10.3 Possibility of hazardous reactions**

No dangerous reactions known.

**10.4 Conditions to avoid**

No further relevant information available.

**10.5 Incompatible materials:**

No further relevant information available.

**10.6 Hazardous decomposition products:**

Not determined.

### SECTION 11: Toxicological information

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

- Acute toxicity

LD/LC50 values relevant for classification:

**ISO LD/LC**

<b>8000-25-7</b>	<b>Rosemary oil</b>	
Oral, LD50: 5000 mg/kg (rat) (1971)		
<b>470-82-6</b>	<b>Eucalyptol</b>	
Oral, LD50: 3849 mg/kg (mouse) (Jiao Xu, 2014)		
<b>76-22-2</b>	<b>1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one</b>	
Oral, LD50: >5000 mg/kg (rat) (Opdyke 1978)		
Dermal, LD50: >1000 mg/kg (mouse) (NTP 1998)		
<b>87-44-5</b>	<b>beta-Caryophyllene</b>	
Oral, LD50: > 5000 mg/kg (rat) (Hart and Wong 1971)		
<b>5989-27-5</b>	<b>(R)-p-mentha-1,8-diene</b>	
Oral, LD50: 4400 mg/kg (rat)		
<b>98-55-5</b>	<b>p-menth-1-en-8-ol</b>	
Oral, LD50: 4300 mg/kg (rat)		
<b>78-70-6</b>	<b>Linalool</b>	
Oral, LD50: 2790 mg/kg (rat)		
Dermal, LD50: 5610 mg/kg (Rabbit)		
<b>99-86-5</b>	<b>p-mentha-1,3-diene</b>	
Oral, LD50: 1680 mg/kg (ATE)		
• Primary irritant effect:		
- Skin corrosion/irritation		
Irritant to skin and mucous membranes.		
Causes skin irritation.		
- Serious eye damage/irritation		
<b>8000-25-7</b>	<b>Rosemary oil</b>	
Irritation of eyes, OECD 437 BCOP: NOT CLASSIFIED (in vitro) (55>IVIS>3 ; 2013)		
Irritating effect.		
Causes serious eye irritation.		
• Respiratory or skin sensitisation		
No sensitizing effects known.		
• Germ cell mutagenicity		
<b>8000-25-7</b>	<b>Rosemary oil</b>	
OECD 471 AMES: NEGATIVE (in vitro) (2013)		
<b>470-82-6</b>	<b>Eucalyptol</b>	
OECD 471 AMES: NEGATIVE (in vitro) (Haworth, 1983)		
<b>76-22-2</b>	<b>1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one</b>	
OECD 471 AMES: NEGATIVE (in vitro) (Anderson and Styles 1978)		
<b>87-44-5</b>	<b>beta-Caryophyllene</b>	
OECD 471 AMES: NEGATIVE (in vitro) (Heck and al., 1989)		

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- 78-70-6 Linalool**  
OECD 471 AMES: NEGATIVE (in vitro) (Letizia and al., 2007)
- Carcinogenicity
- 76-22-2 1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one**  
Micronoyau: NEGATIVE (mouse) (NTP 1999)
- 78-70-6 Linalool**  
Micronoyau: NEGATIVE (mouse) (in vivo, Letizia and al., 2007)  
Micronoyau: NEGATIVE (in vitro) (DiSotto and al., 2011)
- Reproductive toxicity  
Not determined.
  - STOT-single exposure  
May cause damage to organs.
  - STOT-repeated exposure  
Not determined.
  - Aspiration hazard  
May be fatal if swallowed and enters airways.  
May be fatal if swallowed and enters airways.
  - Subacute to chronic toxicity:
- 8000-25-7 Rosemary oil**  
Oral, NOAEL: 1000 mg/kg (rat) (OECD 422, 2013)
- 76-22-2 1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one**  
Oral, NOAEL: >800 mg/kg (rat) (fetal toxicity GD 6 to 15, NTP 1992)
- 87-44-5 beta-Caryophyllene**  
Oral, NOAEL: 700 mg/kg (rat) (90 days Schmitt 2016)
- 78-70-6 Linalool**  
Oral, NOAEL: 200 mg/kg (rat) (maternal toxicity, Politano and al., 2008)
- 11.2 Information on other hazards
- Endocrine disrupting properties  
Substance is not listed.

## SECTION 12: Ecological information

- 12.1 Toxicity
- Aquatic toxicity:
- 76-22-2 1,7,7-Trimethylbicyclo[2.2.1]heptan-2-one**  
CE50/48h: 26,82 mg/l (daphnia)  
ErC50(0-72h): 23,8 mg/l (algae)
- 5989-27-5 (R)-p-mentha-1,8-diene**  
LD50: 0,71 mg/l (fish) (OECD 203)
- 99-87-6 p-cymene**  
LD50: 1,63 mg/l (fish) (OECD 203)
- 123-35-3 Myrcene**  
LD50: 0,51 mg/l (fish) (OECD 203)  
CE50/48h: 0,65 mg/l (daphnia)
- 78-70-6 Linalool**  
LD50: 27,8 mg/l (fish) ((OECD 203) RIFM 1991)  
ErC50(0-72h): 156,7 mg/l (algae)  
ErC50(0-48h): 59 mg/l (daphnia) ((OECD 202)
- 12.2 Persistence and degradability
- 8000-25-7 Rosemary oil**  
OECD 301: 70 % (in vitro) (301F 28 days, 2011)
- Behaviour in environmental systems:  
Not determined.
- 12.3 Bioaccumulative potential  
No further relevant information available.
- 12.4 Mobility in soil  
No further relevant information available.
- 12.5 Results of PBT and vPvB assessment
- PBT:

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- Not applicable.
- vPvB:  
Not applicable.
- 12.6 Endocrine disrupting properties  
The product does not contain substances with endocrine disrupting properties.
- 12.6 Other adverse effects  
No further relevant information available.
- Ecotoxicological effects:  
Not determined.
- Remark:  
Toxic for fish
- Additional ecological information:
- General notes:  
Toxic for aquatic organisms  
The material is harmful to the environment.

**SECTION 13: Disposal considerations**

- 13.1 Waste treatment methods
  - Recommendation  
Must be specially treated adhering to official regulations.
- Uncleaned packaging:
- Recommendation:  
Disposal must be made according to official regulations.

**SECTION 14: Transport information**

- 14.1 UN number or ID number  

<b>ADR</b>	UN1993
<b>IMDG</b>	UN1993
<b>IATA</b>	UN1993
- 14.2 UN proper shipping name  

<b>ADR</b>	1993 FLAMMABLE LIQUID, N.O.S. (ROSMARINUS OFFICINALIS EXTR.)
<b>IMDG</b>	FLAMMABLE LIQUID, N.O.S. (ROSMARINUS OFFICINALIS EXTR.)
<b>IATA</b>	FLAMMABLE LIQUID, N.O.S. (ROSMARINUS OFFICINALIS EXTR.)

- 14.3 Transport hazard class(es)  

<b>ADR</b>	
<b>Class</b>	3 (F1) Flammable liquids.



- IMDG**
- Class** 3 Flammable liquids.
- Label**



- IATA**
- Class** 3 Flammable liquids.

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**Label**



14.4 Packing group

**ADR** III

**IMDG** III

**IATA** III

14.5 Environmental hazards:

**Marine pollutant:** Yes

14.6 Special precautions for user

Warning: Flammable liquids.

**Danger code (Kemler):** 30

**EMS Number:** F-E,S-E

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

- Transport/Additional information:  
Not applicable.

**ADR**

**Excepted quantities (EQ):** E1

**Limited quantities (LQ)** 5L

**Transport category** 3

**Tunnel restriction code** D/E

**IMDG**

**Limited quantities (LQ)** 5L

**Excepted quantities (EQ)** E1

- UN "Model Regulation":  
UN 1993 FLAMMABLE LIQUID, N.O.S. (ROSMARINUS OFFICINALIS EXTR.), 3,  
III, ENVIRONMENTALLY HAZARDOUS

### SECTION 15: Regulatory information

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

- REGULATION (EC) No 1907/2006 ANNEX XVII  
Conditions of restriction: 3, 40
- DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment - Annex II  
Substance is not listed.
- REGULATION (EU) 2019/1148
- Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))  
Substance is not listed.
- Annex II - REPORTABLE EXPLOSIVES PRECURSORS  
Substance is not listed.
- Regulation (EC) No 273/2004 on drug precursors  
Substance is not listed.
- Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors  
Substance is not listed.

- National regulations:

- Technical instructions (air):

- Class Share in %  
I 11,83

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- Waterhazard class:  
Water hazard class 2 (Self-assessment): hazardous for water.

15.2 Chemical safety assessment:  
A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

The information in this safety data sheet is based on the state of our knowledge at the date indicated. The information in this sheet must be regarded as a description of the safety requirements for the product, they are not to be considered a warranty or quality specification and have no contractual value on properties and application areas thereof. The information contained in this safety data sheet relate to the specific material designated and may not be valid with respect to the product associated with another product or process, unless it is specified in the text of this document.

The required information complies with EU regulations in force. It does not exempt the user from knowing and applying all the national regulations in force.

- Relevant phrases

H226	Flammable liquid and vapour.
H228	Flammable solid.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H371	May cause damage to organs.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

- Training hints

Minimum training in occupational risk prevention is recommended for personnel who will handle this product, in the purpose of facilitating the understanding and interpretation of this form of safety data in the same way as the labeling of the product.

- Abbreviations and acronyms:

IFRA:International Fragrance Association IOFI:International Organization of the Flavor Industry IFRA:International Fragrance Association IOFI:International Organization of the Flavor Industry  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 IMDG: International Maritime Code for Dangerous Goods IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation DOT: US Department of Transportation  
 IATA: International Air Transport Association IATA: International Air Transport Association  
 ICAO: International Civil Aviation Organisation ICAO: International Civil Aviation Organisation  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society) CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 LC50: Lethal concentration, 50 percent LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative vPvB: very Persistent and very Bioaccumulative  
 CE50: effective concentration at 50% ErC50:concentration of test substance which results in a 50 percent reduction in either growth rate (ErC50)relative to the control within 72hrs exposure.

- Sources

IFRA/IOFI Labelling Manual,REACH registration dossier,supplier information

- \* Data compared to the previous version altered.