1 - IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

1.1 Product identification: CARDAMOM GUATEMALA OIL EXTRA

1.2 Relevant identified uses: Aromatic ingredient - for manufacturing use only, not for direct consumption as such

2 - HAZARDS IDENTIFICATION

2.1 Classification:

<table>
<thead>
<tr>
<th></th>
<th>According to regulation EC1272/2008</th>
<th>According to Dir 67/548/CEE or 1999/45/CE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 3</td>
<td>H226</td>
<td>Xn</td>
</tr>
<tr>
<td>Asp. Tox. 1</td>
<td>H304</td>
<td>N</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>H315</td>
<td>R38 Irritating to skin</td>
</tr>
<tr>
<td>Skin Sens. 1</td>
<td>H317</td>
<td>R43 May cause sensitization by skin contact</td>
</tr>
<tr>
<td>Eye Irrit. 2A</td>
<td>H319</td>
<td>R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment</td>
</tr>
<tr>
<td>Aquatic Chronic 2</td>
<td>H411</td>
<td>R65 Harmful: may cause lung damage if swallowed</td>
</tr>
</tbody>
</table>

Refer to the section 16 for the all hazard statements.

2.2 Label elements:
Produit : CARDAMOM GUATEMALA OIL EXTRA

Danger

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.
H411 Toxic to aquatic life with long lasting effects.

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition source. - No smoking.
P230 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P290 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.

Intervention

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331 Do NOT induce vomiting.
P370+P378 In case of fire: Use carbon dioxide, powder or foam for extinction.
P391 Collect spillage.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P321 Specific treatment.
P362 Take off contaminated clothing.
P363 Wash contaminated clothing before reuse.

Storage

P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Elimination

P501 Dispose of contents/container to a collection of special or hazardous waste.

2.3 Other hazards:

Not applicable.

3 - COMPOSITION/INFORMATION ON INGREDIENTS
3.1 Description: Obtained by steam distillation from cardamom fruit (Elettaria cardamomum (L.) Maton).

CAS: 8000-66-6  EINECS: 288-922-1

3.2 Hazardous components:

**Terpineol, acetate (20 - 50%)** - CAS: 80-26-2  EINECS: 232-357-5
- Regulation EC 1272/2008: Aquatic Chronic 2: H411
- Directive 67/548/CEE: R38 R51/53

**Cineole (20 - 50%)** - CAS: 470-82-6  EINECS: 207-431-5
- Directive 67/548/CEE: R10 R43

**Linalool (5 - 10%)** - CAS: 78-70-6  EINECS: 201-134-4
- Regulation EC 1272/2008: Eye Irrit. 2A: H319  Skin Irrit. 2: H315
- Directive 67/548/CEE: R38

**Linalyl acetate (5 - 10%)** - CAS: 115-95-7  EINECS: 204-116-4
- Regulation EC 1272/2008: Eye Irrit. 2A: H319  Skin Irrit. 2: H315
- Directive 67/548/CEE: R38

**alpha-Terpinéol (5 - 10%)** - CAS: 98-55-5  EINECS: 202-680-6
- Regulation EC 1272/2008: Eye Irrit. 2A: H319  Skin Irrit. 2: H315
- Directive 67/548/CEE: R36/38

(R)-p-mentha-1,8-diene (1 - 5%) - Index N°: 601-029-00-7  CAS: 5989-27-5  EINECS: 227-813-5
- Directive 67/548/CEE: R10 R38 R43 R50/R53 R65

7-methyl-3-methyleneocta-1,6-diene (1 - 5%) - CAS: 123-35-3  EINECS: 204-622-5
- Directive 67/548/CEE: R10 R38 R43 R65

**pin-2(3)-ene (1 - 5%)** - CAS: 80-56-8  EINECS: 201-291-9
- Directive 67/548/CEE: R10 R38 R43 R65

**Geraniol (1 - 5%)** - CAS: 106-24-1  EINECS: 203-377-1
- Regulation EC 1272/2008: Eye Dam. 1: H318  Skin Irrit. 2: H315  Skin Sens. 1: H317
- Directive 67/548/CEE: R38 R41 R43

**Citral (0.1 - 1%)** - Index N°: 605-019-00-3  CAS: 5392-40-5  EINECS: 226-394-6
- Regulation EC 1272/2008: Skin Irrit. 2: H315  Skin Sens. 1: H317
- Directive 67/548/CEE: R38 R43

**Geranyl acetate (0.1 - 1%)** - CAS: 105-87-3  EINECS: 203-341-5
- Directive 67/548/CEE: R38 R43 R51/53

**nerolidol (0.1 - 1%)** - CAS: 7212-44-4  EINECS: 230-597-5
- Regulation EC 1272/2008: Eye Irrit. 2A: H319  Aquatic Acute 1: H400  Aquatic Chronic 1: H410
- Directive 67/548/CEE: R50/R53

**pin-2(10)-ene (0.1 - 1%)** - CAS: 127-91-3  EINECS: 204-872-5
- Directive 67/548/CEE: R10 R38 R43 R65
4 - FIRST-AID MEASURES

4.1 Description of first aid measures:

Skin contact: Remove any contaminated clothing or shoes. Wash affected areas thoroughly with soap and water for at least 15 minutes. Contact a physician if necessary.

Eye Contact: Flush immediately with clean water for at least 10 minutes. Contact a physician if necessary.

Ingestion: Rinse the mouth. Contact a physician immediately.

Excessive inhalation: Remove to fresh air. If breathing has stopped, administer artificial respiration and oxygen if available. Contact a physician if necessary.

4.2 Most important symptoms and effects, both acute and delayed:
Take into account hazard and safety statements

4.3 Indication of any immediate medical attention and special treatment needed:
None.

5 - FIRE-FIGHTING MEASURES

5.1 Extinguishing media:
Recommended: Carbon dioxide, dry chemical or foam.
Not recommended: Direct water.

5.2 Special fire fighting procedures:
Cool down other threatened recipients with pulverized water.
Do not inhale fire fumes or gases (CO, CO2, organic products).

5.3 Self-contained breathing apparatus and protective clothing should be worn when fires involved c

6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment:
Avoid contact with skin, eyes, clothes.
Provide adequate ventilation.

6.2 Environmental protection measures:
Prevent contamination of soil, ground and surface water.

6.3 Collecting measures:
Gross spillages should be contained by use of sand or inert powder and disposed off in accordance with local laws and regulations.

7 - HANDLING AND STORAGE

7.1 Handling:
Keep away all ignition sources.
Provide adequate ventilation.
Do not eat, drink, smoke in the working areas.
Wash hands after use.

7.2 Storage:
Store the product in a cool, dry and ventilated area away from heat sources, and protected from light in tightly closed original container. Keep air contact to a minimum.

Packing material:
-recommended : glass, stainless steel, aluminium.
-not recommended : naked iron.

7.3 Specific end uses:
Not applicable.

8 - EXPOSURE CONTROLS/PERSOAL PROTECTION

8.1 Control parameters:
None.

8.2 Exposure control:
To avoid eye and mucous membrane projection and according to the working area organization wearing eye glasses and gloves is recommended.
Avoid excessive inhalation of concentrated vapors.

Do not re-use empty containers: Quickly get clear of sponges, wovens, ... etc, used to sponge the product. Keep away from food and drink.

Hygien and safety at work: adapted personal protective equipment is advised.

9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Basic informations:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspect</td>
<td>Colourless to pale yellow liquid.</td>
</tr>
<tr>
<td>Odeur</td>
<td>Spicy, camphor like.</td>
</tr>
<tr>
<td>Vapour density (mmHg)</td>
<td>0.050</td>
</tr>
<tr>
<td>Flash Point (°C)(closed cup)</td>
<td>58</td>
</tr>
<tr>
<td>Specific Gravity (+20°C)</td>
<td>0.910 to 0.945</td>
</tr>
</tbody>
</table>

9.2 Other information:
Solubility : ethanol / oil / solvents.

10 - STABILITY AND REACTIVITY

10.1 Reactivity:
This product presents no significant reactivity hazard.

10.2 Chemical stability:
It is stable and will not react violently with water.

10.3 Hazardous reactions:
Hazardous reaction will not occur if using conditions and prescriptions are followed.

10.4 Conditions to avoid:
Avoid contact or contamination with strong acids, alkalis, or oxidizing agents.

10.5 Materials to avoid:
Not relevant.

10.6 Hazardous decomposition products:
No decomposition product if storage and handling conditions are followed.

11 - TOXICOLOGICAL INFORMATION

11.1 Acute toxicity:
No data available.

11.2 Irritation:
No data available.

11.3 Sensitization:
No data available.

11.4 Chronic exposure:
No data available.

11.5 Cancerogenicity:
No data available.

11.6 Mutagenicity:
No data available.

11.7 Reproduction toxicity:
No data available.

12 - ECOLOGICAL INFORMATION

12.1 Toxicity:
No data available.

12.2 Persistence and degradability:
No data available.

12.3 Bioaccumulative potential:
No data available.
12.4 Soil mobility:
No data available.

12.5 Results of PBT and vPvB assessment:
No data available.

12.6 Other adverse effects:
No data available.
Avoid contamination of soil, ground and surface water.

13 - DISPOSAL CONSIDERATIONS

Release to atmosphere: avoid.
Release to surface water: avoid.
Release into natural environment: avoid.
Destruction of waste: incineration.
Treatment of empty containers: re-use inadvisable.
Waste Disposal Methods: Place material and absorbent into sealed containers and dispose off in accordance with current applicable laws and regulations.

14 - TRANSPORT INFORMATION

14.1 N° UN: 1169 - Extracts, aromatic, liquid

14.2 Transport hazard class(es):

| ADR  | 3, III | D/E |
| IATA | 3, III |
| IMDG | 3, III |

Dangerous for the environment / Marine Pollutant

15 - REGULATORY INFORMATION

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

15.2 Chemical safety assessment:
Not relevant.

16 - OTHER INFORMATION
The information given in this MSDS was obtained from current and reliable sources. However, these data are provided without any warranty, expressed or implied, regarding their correctness or accuracy. Since the conditions of use, handling, storage, and disposal of this product are beyond P&B control, it is the responsibility of the user both to determine safe conditions for use as well as to assume liability for loss, damage, and expenses arising out of improper use. No warranty expressed or implied regarding the product described herein shall be created by or inferred from any statement or omission in this MSDS.

Revisions are mentioned by a black stroke in left margin.

Acronyms:
- REACH: Regulation, Evaluation, Authorization of Chemicals
- CSR: Chemical Safety Report
- IFRA: International Fragrance Association
- IOFI: International Organization of the Flavor Industry
- ATE: Acute Toxicity Estimation
- ES: Exposure Scenario

Bibliography, data sources: IFRA IOFI Labeling manual 2013

Hazardous classification for mixture and evaluation methods according Reg EC1272/2008:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causes serious eye irritation.</td>
<td>H319</td>
</tr>
<tr>
<td>Causes skin irritation.</td>
<td>H315</td>
</tr>
<tr>
<td>Toxic to aquatic life with long lasting effects.</td>
<td>H411</td>
</tr>
<tr>
<td>May cause an allergic skin reaction.</td>
<td>H317</td>
</tr>
<tr>
<td>Flammable liquid and vapour.</td>
<td>H226</td>
</tr>
<tr>
<td>May be fatal if swallowed and enters airways.</td>
<td>H304</td>
</tr>
</tbody>
</table>

List of relevant phrases:
According to Reg EC1272/2008:

- H304  May be fatal if swallowed and enters airways.
- H318  Causes serious eye damage.
- H319  Causes serious eye irritation.
- 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.
- H226  Flammable liquid and vapour.
- H315  Causes skin irritation.
- H317  May cause an allergic skin reaction.
- H317  May cause an allergic skin reaction.

According to Dir 67/548/EC:

- H304  May be fatal if swallowed and enters airways.
- H318  Causes serious eye damage.
- H319  Causes serious eye irritation.
- H400  Very toxic to aquatic life.
- H410  Very toxic to aquatic life with long lasting effects.
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- H315  Causes skin irritation.
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<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R22</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>R36</td>
<td>Irritating to eyes</td>
</tr>
<tr>
<td>R38</td>
<td>Irritating to skin</td>
</tr>
<tr>
<td>R41</td>
<td>Risk of serious damage to eyes</td>
</tr>
<tr>
<td>R43</td>
<td>May cause sensitization by skin contact</td>
</tr>
<tr>
<td>R50</td>
<td>Very toxic to aquatic organisms</td>
</tr>
<tr>
<td>R50/53</td>
<td>Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td>
</tr>
<tr>
<td>R51/53</td>
<td>Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment</td>
</tr>
<tr>
<td>R52/53</td>
<td>Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment</td>
</tr>
<tr>
<td>R53</td>
<td>May cause long-term adverse effects in the aquatic environment</td>
</tr>
<tr>
<td>R65</td>
<td>Harmful : may cause lung damage if swallowed</td>
</tr>
</tbody>
</table>

This product is for an industrial use only and not personal use.

Version 4.0 of 11.03.2014