

MATERIAL SAFETY DATA SHEET

According to Regulation (EU) No 453/2010

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : VECTAIR AIROMA CITRUS TINGLE BAERO-04
Product code : 1252123

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

Application : SU22 Professional use. For industrial or institutional use. PC3 Airfreshener.

1.3. Details of the supplier of the safety data sheet

Supplier : Vectair System Ltd
Unit 3, Trident Centre, Armstrong Road
Basingstoke, Hampshire RG24 8NU, Great Britain
Telephone : +44-1256-319500
Fax : +44-1256-319510
E-mail : msds@vectairsystems.com
Website : http://www.vectairsystems.com

1.4. Emergency telephone number

EMERGENCY TELEPHONE NUMBER, for DOCTORS/FIRE BRIGADE/POLICE only:
GB - Telephone : +44-1256-319500 (During office hours only)

EMERGENCY TELEPHONE NUMBER (for DOCTORS only):
National Poisons Information Service +44-844 892 0111 (24/7)

SECTION 2 HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (99/45/EC) : Sensitizing. Extremely flammable. Dangerous for the environment.
CLP classification (1272/2008/EC) : Aerosols, category 1. Skin sensitization, category 1. Skin irritation, category 2. Eye irritation, category 2. Specific target organ toxicity after single exposure, category 3. Hazardous to the aquatic environment — Chronic category 3.
Human health hazards : Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness. Exposure to high vapour concentrations may result in a narcotic effect. Use only as directed. Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.
Physical/chemical hazards : Extremely flammable. Keep away from sources of ignition — No smoking. Do not spray on a naked flame or any incandescent material. Do not spray near fire, sources of heat or live electrical equipment. Aerosol may explode from internal pressure build-up when exposed to temperatures exceeding 50 °C.
Environmental hazards : Harmful to aquatic life with long lasting effects.
Other information : Keep out of the reach of children. Avoid contact with skin. Wear suitable gloves. Caution: Do not breathe spray. Use only in well-ventilated areas. Spray in short intervals for a short period only. Ventilate well after use. Harmful to house pets.

2.2. Label elements

Label elements (99/45/EC):

Hazard symbols :



Xi: Irritant



F+: Extremely flammable

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- R- and S-phrases : R12 Extremely flammable.
R43 May cause sensitisation by skin contact.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S2 Keep out of the reach of children.
S16 Keep away from sources of ignition — No smoking.
S23 Aerosol Do not breathe spray.
S24 Avoid contact with skin.
S37 Wear suitable gloves.
S51 Use only in well-ventilated areas.
- Additional labelling : Important: Pressurized container; protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.

Label elements (1272/2008/EC):

Hazard pictograms :



Signal word : Danger

- H- and P-phrases : H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
P251 Do not pierce or burn, even after use.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P280 gloves Wear protective gloves.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P501 Dispose of contents/container to an official chemical waste depot.

Additional labelling (99/45/EC and/or 1272/2008/EC)

- : Contains: d-Limonene .
: Where the mixture is labelled in accordance with Regulation (EC) No 1272/2008 (CLP) the packaging shall (also) carry the text: Contains: Propan-2-ol ; Citral ; Citronellol ; Geraniol .
: 7 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity.

2.3. Other hazards

- Other information : The classification of this product is based on the non-aerosolised form of the mixture (on basis of section 1.1.3.7. of Regulation (EC) No 1272/2008). The product does not need to carry all label elements required by Article 17 of Regulation (EC) No 1272/2008 on the basis of Annex I, point 1.5.2.1. Exemption for packages where the contents do not exceed 125 ml. Does not contain PBT or vPvB substances in concentrations higher than 0,1%.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

3.2. Mixtures

Product description : Mixture.

Information on hazardous substances:

| Substance name | Concentration (w/w) (%) | CAS nr. | EC number | Symbols | R-phrases |
|----------------|-------------------------|---------|-----------|---------|-----------|
| | | | | | |

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| | | | | | |
|---|-----------|-----------|-----------|-------|----------------|
| Isobutane | 25 - 50 | 75-28-5 | 200-857-2 | F+ | 12 |
| Ethanol | 10 - < 20 | 64-17-5 | 200-578-6 | F | 11 |
| Propane | 10 - < 20 | 74-98-6 | 200-827-9 | F+ | 12 |
| Propan-2-ol | 5 - < 10 | 67-63-0 | 200-661-7 | F; Xi | 11-36-67 |
| Propyleneglycol | 5 - < 10 | 57-55-6 | 200-338-0 | ----- | ----- |
| d-Limonene | 1 - < 2,5 | 5989-27-5 | 227-813-5 | Xi; N | 10-38-43-50/53 |
| p-Menth-1-en-8-ol | 1 - < 5 | 98-55-5 | 202-680-6 | Xi | 36/38 |
| Linalool | 1 - < 5 | 78-70-6 | 201-134-4 | Xi | 38 |
| Butane | 0,1 - < 1 | 106-97-8 | 203-448-7 | F+ | 12 |
| 3a,4,5,6,7,7a-Hexahydro-4,7-methanoinden-6-yl acetate | 0,1 - < 1 | 5413-60-5 | 226-501-6 | ----- | 52/53 |
| Citral | 0,1 - < 1 | 5392-40-5 | 226-394-6 | Xi | 38-43 |
| Citronellol | 0,1 - < 1 | 106-22-9 | 203-375-0 | Xi; N | 38-43-51/53 |
| Geranyl acetate | 0,1 - < 1 | 105-87-3 | 203-341-5 | N | 51/53 |
| Geraniol | < 0,1 | 106-24-1 | 203-377-1 | Xi | 38-41-43 |
| p-Cymene | < 0,1 | 99-87-6 | 202-796-7 | Xn; N | 10-51/53-65 |

Reference is made to chapter 16 for full text of each relevant R phrase. Occupational exposure limit(s), if relevant, are listed in section 8.

| Substance name | REACH nr. | Hazard Class | Pictograms | H-phrases |
|---|------------------|---|---------------------|------------------------|
| Isobutane | 01-2119485395-27 | Flam. Gas 1; Press. Gas | GHS02; GHS04 | H220; H280 |
| Ethanol | 01-2119457610-43 | Flam. Liq. 2; Eye Irrit. 2 | GHS02; GHS07 | H225; H319 |
| Propane | 01-2119486944-21 | Flam. Gas 1; Press. Gas | GHS02; GHS04 | H220; H280 |
| Propan-2-ol | 01-2119457558-25 | Flam. Liq. 2; Eye Irrit. 2; STOT SE 3 | GHS02; GHS07 | H225; H319; H336 |
| Propyleneglycol | 01-2119456809-23 | ----- | ----- | ----- |
| d-Limonene | 01-2119529223-47 | Flam. Liq. 3; Skin Irrit. 2; Skin Sens. 1; Aquatic Acute 1; Aquatic Chronic 1 | GHS02; GHS07; GHS09 | H226; H315; H317; H410 |
| p-Menth-1-en-8-ol | 01-2119980717-23 | Skin Irrit. 2; Eye Irrit. 2 | GHS07 | H315; H319 |
| Linalool | 01-2119474016-42 | Skin Irrit. 2 | GHS07 | H315; H319 |
| Butane | 01-2119474691-32 | Flam. Gas 1; Press. Gas | GHS02; GHS04 | H220; H280 |
| 3a,4,5,6,7,7a-Hexahydro-4,7-methanoinden-6-yl acetate | 01-2119934491-39 | Aquatic Chronic 3 | ----- | H412 |
| Citral | 01-2119462829-23 | Skin Irrit. 2; Skin Sens. 1 | GHS07 | H315; H317 |
| Citronellol | 01-2119453995-23 | Eye Irrit. 2; Skin Irrit. 2; Skin Sens. 1B | GHS07 | H319; H317; H315 |
| Geranyl acetate | 01-2119973480-35 | Aquatic Chronic 2 | GHS09 | H411 |
| Geraniol | 01-2119552430-49 | Skin Sens. 1; Eye Dam. 1; Skin Irrit. 2 | GHS05; GHS07 | H317; H318; H315 |
| p-Cymene | 01-2119881770-31 | Flam. Liq. 3; Asp. Tox. 1; Aquatic Chronic 2 | GHS02; GHS08; GHS09 | H226; H304; H411 |

Reference is made to chapter 16 for full text of each relevant H phrase.

SECTION 4 FIRST-AID MEASURES

4.1. Description of first aid measures

First aid measures

- Inhalation : Not applicable under normal conditions of use. Consult a doctor if victim feels unwell.
- Skin contact : Take off contaminated clothing. Wash off skin with plenty of water and soap before product dries up. Consult a doctor if irritation occurs.
- Eye contact : Wash out with (lukewarm) water for at least 15 minutes. Remove contact lenses. Consult a doctor.
- Ingestion : Aerosol/mist: Ingestion is unlikely to occur.

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

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Effects and symptoms

- Inhalation : No specific effects and/or symptoms are known.
Skin contact : Irritant. May cause redness and irritation, sensitisation. May produce an allergic reaction. May cause dry skin and redness.
Eye contact : Irritant. May cause redness and pain.
Ingestion : Aerosol/mist: Ingestion is unlikely to occur.

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

- Note to physicians : None known.

SECTION 5 FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

- Suitable : Carbondioxide (CO₂). Alcohol resistant foam. Dry chemical. Water fog.
Not suitable : Water jet.

5.2. Special hazards arising from the substance or mixture

- Special exposure hazards : Aerosol may explode from internal pressure build-up when exposed to temperatures exceeding 50 °C. Do not expose emergency personnel to overheated aerosol containers. Water may be used to cool container and prevent explosion of the aerosol.
Hazardous thermal decomposition products : Carbon monoxide may be evolved if incomplete combustion occurs.

5.3. Advice for firefighters

- Special protective equipment for fire-fighters : Fight a fire where aerosols are involved from a protected position. Use adequate respiratory equipment in case of insufficient ventilation.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

- Personal precautions : Danger of slipping. Clean up spills immediately. Wear shoes with non-slip soles. Avoid contact with spilled or released material. Do not breathe vapours and/or spray. Keep away from sources of ignition — No smoking. Build up of highly flammable gasses involves an explosion risk. Vapours are heavier than air. Build up (of gasses) in low areas involves risk of suffocation.

6.2. Environmental precautions

- Environmental precautions : Avoid release of product into sewers, surface water and/or ground water. Waste product should not be allowed to contaminate soil or water.
Other information : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Collect spilled material in containers. Collect cans in an approved container. Do not pierce aerosols. Wash away remainder with plenty of water and soap.

6.4. Reference to other sections

- Reference to other sections : See also section 8.

SECTION 7 HANDLING AND STORAGE

7.1. Precautions for safe handling

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Handling : Handle in accordance with good occupational hygiene and safety practices in well-ventilated areas.
Important: Pressurized container; protect from sunlight and do not expose to temperatures exceeding 50°C.
Do not pierce or burn, even after use. Keep away from sources of ignition — No smoking. Do not spray on a naked flame or any incandescent material. Do not spray near fire, sources of heat or live electrical equipment.
Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Do not breathe spray. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage : Keep frost-free, in a cool (< 35°), dry and well-ventilated place. Protect from sunlight and keep away from heat.
Recommended packaging : Not applicable.

7.3. Specific end use(s)

Use : Use only as directed.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits : Occupational exposure limits have not been established for this product. Derived no-effect levels (DNEL) have not been established for this product. Predicted no-effect concentrations (PNEC) have not been established for this product.

Workplace exposure limits (mg/m³):

| Chemical name | Country | TWA 8 hour (mg/m ³) | STEL 15 min (mg/m ³) | Comments |
|-----------------|---------|---------------------------------|----------------------------------|---------------------------------------|
| Isobutane | | 1900 | 2400 | |
| Ethanol | GB | 1920 | - | |
| Ethanol | | 260 | 1900 | Mac: NL |
| Propane | | 1800 | - | |
| Propan-2-ol | GB | 999 | 1250 | |
| Propyleneglycol | GB | 474 | - | Total Vapour and Particulates |
| Propyleneglycol | | 474 | - | MAC UK: Total Vapour and Particulates |
| d-Limonene | | 110 | - | MAC: DE, CH, NL |
| Butane | GB | 1450 | 1810 | |
| Butane | | 1450 | 1810 | |

Derived no-effect level (DNEL) for workers:

| Chemical name | Route of exposure | DNEL, short-term | | DNEL, long-term | |
|---|-------------------|------------------------|------------------------|----------------------|--------------------------|
| | | Local effect | Systemic effect | Local effect | Systemic effect |
| Ethanol | Dermal | | | | 343 mg/kg bw/day |
| | Inhalation | 1900 mg/m ³ | | | 950 mg/m ³ |
| Propan-2-ol | Dermal | | | | 888 mg/kg bw/day |
| | Inhalation | | | 10 mg/m ³ | 500 mg/m ³ |
| Propyleneglycol | Inhalation | | | | 168 mg/m ³ |
| d-Limonene | Inhalation | | | | 33,3 mg/m ³ |
| Linalool | Dermal | | 5 mg/kg bw | | 2,5 mg/kg bw/day |
| | Inhalation | | 16,5 mg/m ³ | | 2,8 mg/m ³ |
| 3a,4,5,6,7,7a-Hexahydro-4,7-methanoinden-6-yl acetate | Dermal | | | | 0,849 mg/kg bw/day |
| | Inhalation | | | | 0,9678 mg/m ³ |
| Citral | Dermal | | | | 1,7 mg/kg bw/day |
| | Inhalation | | | | 9 mg/m ³ |
| Citronellol | Dermal | | | | 45,8 mg/kg bw/day |
| | Inhalation | | | | 161,6 mg/m ³ |
| Geraniol | Dermal | | | | 12,5 mg/kg bw/day |

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| | | | | |
|--|------------|--|--|-------------|
| | Inhalation | | | 161,6 mg/m3 |
|--|------------|--|--|-------------|

Derived no-effect level (DNEL) for consumers:

| Chemical name | Route of exposure | DNEL, short-term | | DNEL, long-term | |
|---|-------------------|------------------|-----------------|-----------------|---------------------|
| | | Local effect | Systemic effect | Local effect | Systemic effect |
| Ethanol | Dermal | 950 mg/m3 | | 10 mg/m3 | 206 mg/kg bw/day |
| | Inhalation | | | | 114 mg/m3 |
| | Oral | | | | 87 mg/kg bw/day |
| Propan-2-ol | Dermal | 950 mg/m3 | | 10 mg/m3 | 319 mg/kg bw/day |
| | Inhalation | | | | 89 mg/m3 |
| | Oral | | | | 26 mg/kg bw/day |
| Propyleneglycol | Inhalation | 950 mg/m3 | | 10 mg/m3 | 50 mg/m3 |
| | Inhalation | | | | 8,33 mg/m3 |
| | Oral | | | | 4,76 mg/kg bw/day |
| Linalool | Dermal | 950 mg/m3 | 2,5 mg/kg bw | 15 mg/kg bw/day | 1,25 mg/kg bw/day |
| | Inhalation | | | | 4,1 mg/m3 |
| | Oral | | | | 1,2 mg/kg bw |
| 3a,4,5,6,7,7a-Hexahydro-4,7-methanoinden-6-yl acetate | Dermal | 950 mg/m3 | | | 0,2093 mg/kg bw/day |
| | Inhalation | | | | 0,2407 mg/m3 |
| | Oral | | | | 1,698 mg/kg bw/day |
| Citral | Dermal | 950 mg/m3 | | | 1 mg/kg bw/day |
| | Inhalation | | | | 2,7 mg/m3 |
| | Oral | | | | 0,6 mg/kg bw/day |
| Citronellol | Dermal | 950 mg/m3 | | | 27,5 mg/kg bw/day |
| | Inhalation | | | | 47,8 mg/m3 |
| | Oral | | | | 13,75 mg/kg bw/day |
| Geraniol | Dermal | 950 mg/m3 | | | 7,5 mg/kg bw/day |
| | Inhalation | | | | 47,8 mg/m3 |
| | Oral | | | | 13,75 mg/kg bw/day |

Predicted no-effect concentration (PNEC):

| Chemical name | Route of exposure | Fresh water | Marine water | |
|-----------------|--------------------|-------------|--------------|-----------------|
| Ethanol | Water | 0,96 mg/l | 0,79 mg/l | |
| | Sediment | 3,6 mg/kg | 2,9 mg/kg | |
| | Intermittent water | | | 2,75 mg/l |
| | STP | | | 580 mg/l |
| | Soil | | | 0,63 mg/kg |
| | Oral | | | 0,72 mg/kg food |
| Propan-2-ol | Water | 140,9 mg/l | 140,9 mg/l | |
| | Sediment | 552 mg/kg | 552 mg/kg | |
| | Intermittent water | | | 140,9 mg/l |
| | STP | | | 2251 mg/l |
| | Soil | | | 28 mg/kg |
| | Oral | | | 160 mg/kg food |
| Propyleneglycol | Water | 260 mg/l | 26 mg/l | |
| | Sediment | 572 mg/kg | 57,2 mg/kg | |
| | Intermittent water | | | 183 mg/l |
| | STP | | | 20000 mg/l |
| | Soil | | | 50 mg/kg |
| | Oral | | | 1133 mg/kg food |
| d-Limonene | Water | 0,0054 mg/l | 0,0005 mg/l | |
| | Sediment | 1,32 mg/kg | 0,13 mg/kg | |
| | STP | | | 1,8 mg/l |
| | Soil | | | 0,262 mg/kg |
| | Oral | | | 3,33 mg/kg food |
| | p-Menth-1-en-8-ol | Water | 0,068 mg/l | 0,0068 mg/l |

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| | | | | |
|---|--------------------|---------------|---------------|----------------|
| Linalool | Sediment | 1,85 mg/kg | 0,185 mg/kg | |
| | STP | | | 2,6 mg/l |
| | Soil | | | 0,329 mg/kg |
| | Water | 0,2 mg/l | 0,02 mg/l | |
| | Sediment | 2,22 mg/kg | 0,222 mg/kg | |
| 3a,4,5,6,7,7a-Hexahydro-4,7-methanoinden-6-yl acetate | Intermittent water | | | 2 mg/l |
| | STP | | | 10 mg/l |
| | Soil | | | 0,327 mg/kg |
| | Oral | | | 7,8 mg/kg food |
| | Water | 0,15795 mg/l | 0,01579 mg/l | |
| Citral | Sediment | 1,95095 mg/kg | 1,95095 mg/kg | |
| | Intermittent water | | | 0,15795 mg/l |
| | STP | | | 2,45 mg/l |
| | Soil | | | 0,90322 mg/kg |
| | Water | 0,0067 mg/l | 0,0006 mg/l | |
| Citronellol | Sediment | 0,125 mg/kg | 0,0125 mg/kg | |
| | Intermittent water | | | 0,0678 mg/l |
| | STP | | | 1,6 mg/l |
| | Soil | | | 0,0209 mg/kg |
| | Water | 0,0024 mg/l | 0,00024 mg/l | |
| Geranyl acetate | Sediment | 0,0256 mg/kg | 0,00256 mg/kg | |
| | Intermittent water | | | 0,024 mg/l |
| | STP | | | 580 mg/l |
| | Soil | | | 0,00371 mg/kg |
| | Water | 0,00372 mg/l | 0,000372 mg/l | |
| Geraniol | Sediment | 0,442 mg/kg | 0,442 mg/kg | |
| | Intermittent water | | | 0,0372 mg/l |
| | STP | | | 8 mg/l |
| | Soil | | | 0,0859 mg/kg |
| | Water | 0,0108 mg/l | 0,0010 mg/l | |
| | Sediment | 0,115 mg/kg | 0,0115 mg/kg | |
| | Intermittent water | | | 0,108 mg/l |
| | STP | | | 0,7 mg/l |
| | Soil | | | 0,0167 mg/kg |
| | | | | |

8.2. Exposure controls

Engineering measures : Comply with standard precautionary measures for working with chemicals.

Hygienic measures : When using do not eat, drink or smoke.

Personal protective equipment:

The efficiency of personal protective equipment depends among other things on temperature and degree of ventilation. Always get professional advice for the particular local situation.



- Body protection : Wear appropriate protective clothing, overalls or suit, and similar boots in accordance with EN 365/367 resp. 345. Suitable material: nitril. Indication of permeation breakthrough time: 4 hours.
- Respiratory protection : Take care of sufficient ventilation. Wear suitable respiratory protection in case of large scale exposure. Suitable: gas filter type A (brown), class I or higher on e.g. a facemask in accordance with EN 140.
- Hand protection : Wear appropriate safety gloves in accordance with EN 374. Suitable material: nitril. ± 0,5 mm. Indication of permeation breakthrough time: 4 hours.
- Eye protection : Wear appropriate safety glasses with side shields, in accordance with EN 166, when there is danger of possible eye contact.

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SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | | |
|--|------------------------|--|
| Appearance | : Aerosol. | |
| Colour | : Colourless. | |
| Odour | : Perfumed. | |
| Odour threshold | : Not known. | |
| pH | : Not applicable. | Almost waterfree product. |
| Solubility in water | : Soluble. | |
| Partition coefficient (n-octanol/water) | : Not known. | |
| Flash point | : Not applicable. | Not measurable. |
| Flammability (solid, gas) | : Extremely flammable. | |
| Auto ignition temperature | : Not applicable. | Aerosol container explodes before reaching the auto-ignition point. |
| Boiling point/boiling range | : Not known. | Not measurable. |
| Melting point/melting range | : < 0 °C | |
| Explosive properties | : | Pressurised container: May burst if heated. |
| Explosion limits (in air) | : Not known. | Lower explosion limit in air (%): 0,7 (d-Limonene) Upper explosion limit in air (%): 19 Ethanol |
| Oxidising properties | : Not applicable. | Does not contain oxidizing substances. |
| Decomposition temperature | : Not applicable. | |
| Viscosity (20°C) | : Not known. | |
| Viscosity (40°C) | : Not known. | |
| Vapour pressure (20°C) | : 360000 Pa | |
| Vapour density (20°C) | : > 1 | (air = 1) |
| Relative density (20°C) | : 0,634 g/ml | |
| Evaporation rate | : Not known. | (n-butyl acetate = 1) |

SECTION 10 STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity : See sub-sections below.

10.2. Chemical stability

Stability : Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reactivity : No other hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid : Keep away from sources of ignition and sources of heat. See section 7.

10.5. Incompatible materials

Materials to avoid : Not applicable.

10.6. Hazardous decomposition products

Hazardous decomposition products : Not known.

SECTION 11 TOXICOLOGICAL INFORMATION

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11.1. Information on toxicological effects

No toxicological research has been carried out on this product.

Inhalation

- Acute toxicity : Calculated LC50: > 10 mg/l. Ingredients of unknown toxicity: 7 %. ATE: > 5 mg/l. Low toxicity. Not classified - based on available data, the classification criteria are not met. May cause damage to organs. Target organ(s): Central nervous system. Effect(s): Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, lightheadedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.
- Corrosion/irritation : May cause irritation to respiratory airways and coughing. Not classified - based on available data, the classification criteria are not met.
- Sensitisation : Not classified - based on available data, the classification criteria are not met.
- Carcinogenicity : Not classified - based on available data, the classification criteria are not met.
- Mutagenicity : Does not contain mutagenic substances. Not classified - based on available data, the classification criteria are not met.

Skin contact

- Acute toxicity : Calculated LD50: > 5000 mg/kg.bw. Ingredients of unknown toxicity: < 1 %. ATE: > 2000 mg/kg.bw. Low toxicity. Not classified - based on available data, the classification criteria are not met.
- Corrosion/irritation : Irritant. May cause redness. Prolonged contact may dry out and defat the skin.
- Sensitisation : May cause sensitisation by skin contact. May produce an allergic reaction.
- Mutagenicity : Does not contain mutagenic substances. Not classified - based on available data, the classification criteria are not met.

Eye contact

- Corrosion/irritation : Irritant.

Ingestion

- Acute toxicity : Aerosol/mist: Ingestion is unlikely to occur. Calculated LD50: > 1077 mg/kg.bw. Ingredients of unknown toxicity: < 1 %. ATE: > 2000 mg/kg.bw. Low toxicity. Not classified - based on available data, the classification criteria are not met. May cause hampered eyesight.
- Corrosion/irritation : Aerosol/mist: Ingestion is unlikely to occur. May cause a feeling of sickness, vomiting and diarrhoea. Not classified - based on available data, the classification criteria are not met.
- Carcinogenicity : Aerosol/mist: Ingestion is unlikely to occur. Not classified - based on available data, the classification criteria are not met.
- Mutagenicity : Aerosol/mist: Ingestion is unlikely to occur. Does not contain mutagenic substances. Not classified - based on available data, the classification criteria are not met.

Toxicological information:

| Chemical name | Property | | Method | Test animal |
|---------------|------------------------------|-------------------|----------|------------------------|
| Ethanol | Skin irritation | Non-irritant | ---- | Rabbit |
| | LD50 (dermal) | 15800 mg/kg bw | ---- | Rabbit |
| | NOAEL (inhalation) | 23000 mg/m3 | | Rat |
| | NOAEL (oral) | 2400 mg/kg bw/d | | Rat |
| | NOAEL (fertility, oral) | 20000 mg/kg bw/d | OECD 415 | Rat |
| | Skin sensitisation | Not sensitizing | OECD 406 | Guinea pig |
| | NOAEL (development, oral) | 6400 mg/kg bw/d | | |
| | LD50 (oral) | 10470 mg/kg bw | OECD 401 | Rat |
| | LC50 (inhalation) | > 99999 mg/m3 | OECD 403 | Rat |
| | Eye irritation | Irritant | OECD 405 | Rabbit |
| | NOEL (carcinogenicity, oral) | > 4400 mg/kg bw/d | | Mouse |
| | Genotoxicity - in vivo | Not genotoxic | OECD 478 | Mouse |
| | NOEL (carcinogenicity, inh.) | 13 mg/m3 | | |
| Propan-2-ol | Genotoxicity - in vitro | Not genotoxic | OECD 476 | |
| | Mutagenicity | Negative | OECD 471 | Salmonella typhimurium |
| | NOAEL (oral) | 870 mg/kg bw/d | ---- | Rat |

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| | | | | |
|------------------------------|--------------------------------|-------------------|-------------|------------------------|
| d-Limonene | LD50 (oral) | 4396 mg/kg bw | ----- | Rat |
| | LD50 (dermal) | 12800 mg/kg bw | ----- | Rat |
| | LC50 (inhalation) | 46600 mg/m3 | ----- | Rat |
| | Skin irritation | Slightly irritant | OECD 404 | Rabbit |
| | Eye irritation | Irritant | OECD 405 | Rabbit |
| | NOAEL (fertility, oral) | 407 mg/kg bw/d | | Rat |
| | NOAEL (development, oral) | 400 mg/kg bw/d | | Rat |
| | NOEL (carcinogenicity, oral) | Not carcinogenic | OECD 416 | Rat |
| | Skin sensitisation | Not sensitizing | OECD 406 | Guinea pig |
| | Mutagenicity | Negative | OECD 471 | |
| | NOAEL (inhalation) | 12500 mg/m3 | OECD 451 | Rat |
| | Genotoxicity - in vivo | Not genotoxic | OECD 474 | Mouse |
| | NOEL (carcinogenicity, inh.) | 12500 mg/m3 | | Mouse |
| | Genotoxicity - in vitro | Not genotoxic | OECD 476 | |
| | Genotoxicity - in vitro | Not genotoxic | | |
| | LD50 (oral) | 4400 mg/kg bw | ----- | Rat |
| | LD50 (dermal) | > 2000 mg/kg bw | ----- | Rabbit |
| | NOEL (oral) | 5 mg/kg bw/d | ----- | Rat |
| | NOAEL (oral) | 30 mg/kg bw/d | | Rat |
| | Skin irritation | Irritant | ----- | ----- |
| NOAEL (development, oral) | 600 mg/kg bw/d | | Rat | |
| Skin sensitisation | 10075 ug/cm2 | OECD 429 | Mouse | |
| Mutagenicity | Negative | OECD 471 | | |
| Eye irritation | Non-irritant | OECD 405 | Rabbit | |
| NOEL (carcinogenicity, oral) | > 300 mg/kg bw/d | OECD 451 | Rat | |
| Genotoxicity - in vivo | > 2000 mg/kg bw/d | | Rat | |
| p-Menth-1-en-8-ol | NOAEL (development) - estimate | 250 mg/kg.d | Read across | Rat |
| | Mutagenicity - estimate | Not mutagenic | Read across | Salmonella typhimurium |
| | Skin sensitisation - estimate | Not sensitizing | Read across | |
| | Genotoxicity - in vitro | Not genotoxic | | |
| | NOAEL (oral) - estimate | 250 mg/kg bw/d | Read across | Rat |
| | LD50 (oral) | 4300 mg/kg bw | | Rat |
| Linalool | LD50 (dermal) | > 3000 mg/kg bw | | Rabbit |
| | Skin irritation | Mildly irritant | ----- | Human |
| | LD50 (dermal) | 5610 mg/kg bw | ----- | Rabbit |
| | LD50 (oral) | 2790 mg/kg bw | ----- | Rat |
| | Genotoxicity - in vivo | Not genotoxic | OECD 475 | Mouse |
| | Skin irritation | Irritant | OECD 404 | Rabbit |
| | NOAEL (fertility, oral) | 500 mg/kg bw/d | | Rat |
| | Mutagenicity | Negative | OECD 471 | Salmonella typhimurium |
| | Skin sensitisation | 12650 ug/cm2 | OECD 429 | Mouse |
| | Eye irritation | Non-irritant | OECD 405 | Rabbit |
| Citral | NOAEL (oral) | 117 mg/kg bw/d | ----- | Rat |
| | NOAEL (development, oral) | 365 mg/kg bw/d | ----- | Rat |
| | NOAEL (development, oral) | 200 mg/kg bw/d | OECD 421 | Rat |
| | LD50 (dermal) | 2250 mg/kg bw | ----- | Rabbit |
| | NOAEL (oral) | 833 mg/kg bw/d | ----- | Rat |
| | Genotoxicity - in vitro | Not genotoxic | | |
| LD50 (oral) | 4960 mg/kg bw | ----- | Rat | |

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|-------------------------|--|---------------------|------------------------|------------------------|
| Citronellol | Mutagenicity | Negative | OECD 471 | |
| | NOEL (carcinogenicity, oral) | > 100 mg/kg bw/d | OECD 453 | Rat |
| | NOAEL (developmental toxicity, inh.) | 423 mg/m3 | ----- | Rat |
| | Skin sensitisation | Sensitizing. | OECD 406 | Guinea pig |
| | Skin irritation | Irritant | | Human |
| | Skin irritation | Moderately irritant | | Rabbit |
| | Eye irritation | Slightly irritant | OECD 405 | Rabbit |
| | Genotoxicity - in vivo | Negative | OECD 474 | Mouse |
| | NOAEL (fertility, oral) | > 1000 mg/kg bw/d | OECD 421 | Rat |
| | Eye irritation | Moderately irritant | | Rabbit |
| | Skin irritation | Moderately irritant | Patch test | Human |
| | NOAEL (developmental toxicity, dermal) | > 300 mg/kg bw/d | OECD 421 | Rat |
| | NOAEL (fertility, dermal) | 300 mg/kg bw/d | OECD 421 | Rat |
| | LD50 (dermal) | 2650 mg/kg bw | | Rabbit |
| | LD50 (oral) | 3450 mg/kg bw | ----- | Rat |
| | Skin irritation | Moderately irritant | | Rabbit |
| | NOAEL (oral) | > 50 mg/kg bw/d | | Rat |
| Geraniol | Mutagenicity | Not mutagenic | OECD 471 | Salmonella typhimurium |
| | Skin sensitisation | 10875 ug/cm2 | OECD 429 | Mouse |
| | Genotoxicity - in vitro | Not genotoxic | | |
| | NOAEL (developmental toxicity, dermal) | > 300 mg/kg bw/d | OECD 421 | Rat |
| | NOAEL (fertility, dermal) | > 300 mg/kg bw/d | OECD 421 | Rat |
| | LD50 (oral) | 2100 mg/kg bw | ----- | Rat |
| | LD50 (dermal) | > 5000 mg/kg bw | ----- | Rabbit |
| | NOAEL (oral) | 1000 mg/kg bw/d | ----- | Rat |
| | Skin irritation | Irritant | ----- | Rabbit |
| | Eye irritation | Irritant | OECD 405 | Rabbit |
| | Genotoxicity - in vivo | Not genotoxic | | Mouse |
| | NOEL (oral) | > 550 mg/kg bw/d | ----- | Rat |
| | Skin sensitisation | 3525 ug/cm2 | OECD 429 | Mouse |
| Mutagenicity | Negative | OECD 471 | Salmonella typhimurium | |
| Genotoxicity - in vitro | Not genotoxic | OECD 476 | | |

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

No ecotoxicological research has been carried out on this product.

Ecotoxicity : Harmful to aquatic life with long lasting effects. Calculated LC50 (fish): 23 mg/l. Calculated EC50 (waterflea): 13 mg/l. Contains < 1 % of components with unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence – degradability : May cause long-term adverse effects in the aquatic environment.

12.3. Bioaccumulative potential

Bioaccumulative potential : No specific information known.

12.4. Mobility in soil

Mobility : Not applicable.

12.5. Results of PBT and vPvB ass

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PBT/vPvB assessment : Does not contain PBT or vPvB substances in concentrations higher than 0,1%.

12.6. Other adverse effects

Other information : Not applicable.

Ecological information:

| Chemical name | Property | | Method | Test animal |
|------------------------|---|-----------------------------|-------------|--------------------------------|
| d-Limonene | NOEC (waterflea) - chronic | 0,15 mg/l.d | | Daphnia magna |
| | Ultimate aerobic biodegradation (%) | > 92 % | | |
| | EC50 (waterflea) | 0,36 mg/l | OECD 202 | Daphnia magna |
| | LC50 (fish) | 0,720 mg/l | OECD 203 | Pimephales promelas |
| | Log P(ow) | 4,38 | | |
| | 3a,4,5,6,7,7a-Hexahydro-4,7-methanoinden-6-yl acetate | EC50 (waterflea) - estimate | 54 mg/l | ----- |
| LC50 (fish) - estimate | | 16 mg/l | ----- | Lepomis macrochirus |
| Log P(ow) | | 3,1 | | |
| Citronellol | EC50 (waterflea) | 17,48 mg/l | | |
| | Ultimate aerobic biodegradation (%) | 100 % | OECD 301 B | |
| | IC50 (alga) | 2,38 mg/l | ----- | ----- |
| | LC50 (fish) | 10 mg/l | ----- | ----- |
| | Log P(ow) | 3,1000 | | |
| | BCF | 204 | | |
| Geranyl acetate | EC50 (waterflea) | 14,1 mg/l | | Daphnia magna |
| | LC50 (fish) - estimate | 68 mg/l | | Leuciscus idus |
| | IC50 (alga) | 3,72 mg/l | OECD 201 | Desmodesmus subspicatus |
| | Log P(ow) | 4,3 | | |
| Decanal | BCF | 235 | | |
| | IC50 (alga) - estimate | 4,5 mg/l | | Pseudokirchnerella subcapitata |
| | NOEC (waterflea) - acute | 0,588 mg/l | OECD 202 | Daphnia magna |
| | Ultimate aerobic biodegradation (%) | 82 % | OECD 301 F | |
| | Primary aerobic biodegradation (%) | 78 % | OECD 301 C | |
| | EC50 (waterflea) | 1,17 mg/l | OECD 202 | Daphnia magna |
| | LC50 (fish) | 1,45 mg/l | OECD 203 | Oncorhynchus mykiss |
| | Log P(ow) | 4,09 | | |
| | BCF | 149 | | |
| | Primary aerobic biodegradation (%) | 77 % | OECD 302 C | |
| Octanal | Ultimate aerobic biodegradation (%) | 46 % | Read across | |
| | EC50 (waterflea) - estimate | 1,23 mg/l | ----- | Daphnia magna |
| | LC50 (fish) | 7,9 mg/l | OECD 204 | Poecilia reticulata |
| | Log P(ow) | 2,8 | | |
| Nonanal | Primary aerobic biodegradation (%) | 84 % | OECD 302 C | |
| | Ultimate aerobic biodegradation (%) | 83 % | OECD 301 F | |
| | IC50 (alga) | 4,5 mg/l | OECD 201 | Pseudokirchnerella subcapitata |
| | NOEC (waterflea) - acute | 2,14 mg/l | OECD 202 | Daphnia magna |
| | EC50 (waterflea) | 1,23 mg/l | OECD 202 | Daphnia magna |

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| | | | | |
|--|------------------------|-----------|--|---------------------|
| | LC50 (fish) - estimate | 1,45 mg/l | | Oncorhynchus mykiss |
| | Log P(ow) | 3,4 | | |
| | BCF | 81 | | |

SECTION 13 DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- Product residues : Recyclable metal container. Do not puncture or burn even after use. Do not dispose empty pack with waste produced by households. Containers may be recycled. Treat product residues and non-empty pack as hazardous waste.
- Additional warning : Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums.
- European waste catalogue : Dispose hazardous waste in accordance with Directive 91/689/EEC under acknowledgement of a waste code according to Commission Decision 2000/532/EC to an official chemical waste depot.
- Local legislation : Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

SECTION 14 TRANSPORT INFORMATION

14.1. UN number

UN nr. : UN 1950

14.2. UN proper shipping name

Transport name : AEROSOLS

14.3/14.4/14.5. Transport hazard class(es)/Packing group/Environmental hazards

ADR/RID (road / railway)

Class : 2
Classification code : 5F
Packaging group : -
Danger label : 2,1



IMDG (sea)

Class : 2
Packaging group : -
EmS (fire / spill) : F - D / S - U
Marine pollutant : No

IATA (air)

Class : 2

14.6. Special precautions for user

Other information : Country specific variations may apply. It is possible that a "Limited Quantity" exemption applies to the transport of this product.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Marpol : Not intended to be carried in bulk according to International Maritime Organisation (IMO) instruments. Packaged liquids are not considered bulk.

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SECTION 15 REGULATORY INFORMATION

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

Community regulations : Regulation (EC) No 453/2010 (REACH), Regulation (EC) No 1272/2008 (CLP), 75/324/EEC (aerosols) and other regulations.

In the UK it is recommended that all aerosols should be labelled on the back with the warning about the dangers of volatile solvent abuse. The label should contain the badge 'Solvent Abuse Can Kill Instantly' accompanied by the phrase 'Use only as directed'.

15.2. Chemical safety assessment

Chemical safety assessment : Not applicable.

SECTION 16 OTHER INFORMATION

16.1. Other information

The information in this safety data sheet is compiled in compliance with Regulation (EC) No 453/2010 dated 20 May 2010 and accurate to the best of our knowledge and experience at the date of issue specified. It is the user's obligation to use this product safely and to comply with all applicable laws and regulations concerning the use of the product. This safety data sheet complements the technical information sheets but does not replace them and offers no warranty with regard to product properties.

Users are also forewarned for any hazards involved when the product is used for other purposes than those for which it is designed.

Changed or new information with regard to the previous release is indicated with an asterisk (*).

Full text of R-phrases mentioned in section 3:

| | |
|--------|--|
| R10 | Flammable. |
| R11 | Highly flammable. |
| R12 | Extremely flammable. |
| R36 | Irritating to eyes. |
| R36/38 | Irritating to eyes and skin. |
| R38 | Irritating to skin. |
| R41 | Risk of serious damage to eyes. |
| R43 | May cause sensitisation by skin contact. |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R52/53 | Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R65 | Harmful: may cause lung damage if swallowed. |
| R67 | Vapours may cause drowsiness and dizziness. |

Full text of H-phrases mentioned in section 3:

| | |
|------|---|
| H220 | Extremely flammable gas. |
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H280 | Contains gas under pressure; may explode if heated. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| 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. |

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road

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| | |
|---------------|--|
| ATE | : Acute Toxicity Estimate |
| CLP | : Classification, Labeling & Packaging |
| CMR | : Carcinogenic, Mutagenic or toxic for Reproduction |
| EEC | : European Economic Community |
| IATA | : International Air Transport Association |
| IBC code | : International Bulk Chemical Code |
| IMDG | : International Maritime Dangerous Goods Code |
| LD50/LC50 | : Lethal Dose/Concentration for 50% of a population |
| MAC | : Maximum Allowable Concentration |
| MARPOL | : International Convention for the Prevention of Pollution From Ships |
| NO(A)EL | : No Observed (Adverse) Effect Level |
| OECD | : Organisation for Economic Co-operation and Development |
| PBT | : Persistent, Bioaccumulative and Toxic |
| PC | : Chemical product category |
| PT | : Product type |
| REACH | : Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | : Regulations concerning the International Carriage of Dangerous Goods by Rail |
| STP | : Sewage Treatment Plant |
| SU | : Sector of Use |
| TWA/STEL | : Time-Weighted Average/Short Term Exposure Limit |
| UN | : United Nations |
| VOC | : Volatile Organic Compounds |
| vPvB | : Very Persistent and Very Bioaccumulative |
| Number format | : "," used as decimal separator. |

History

Date of first issue : 20-01-2015