



**Safety data sheet**  
**according to Regulation (EC) No 1907/2006, Article 31**

Printing date 20.07.2026

Version number 1.05 (replaces version 1.04)

Revision: 02.08.2024

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

### · 1.1 Product identifier

· **Trade name:** Grapefruit Terpenes (MCI Ref. 2026.1039)

· **Chemical Identification:** Grapefruit, ext. (grapefruit-oil, terpenes and terpenoids)

· **Article number:** 2006#0105

· **CAS Number:**

90045-43-5

· **EC number:**

289-904-6

· **Registration number** 01-2120119763-56-0015

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

No further relevant information available.

· **Application of the substance / the mixture**

Flavours/Fragrances

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

· **Manufacturer/Supplier:**

MCI Miritz Citrus Intercontinental GmbH & Co. KG

Citrusstr. 3

D-37318 Kirchgandern

Tel: 0049-36081-621-0

e-mail: info@miritz.de

MCI Miritz Citrus GmbH & Co. KG

Citrusstr. 3

D-37318 Kirchgandern

Tel: 0049-36081-621-0

e-mail: info@miritz.de

MCI Miritz Citrus Ingredients LLC

28 Railroad Avenue

Warwick, NY 10990

USA

· **Further information obtainable from:**

Department Regulatory Affairs

Tel.: 0049-36081-621-0

info@miritz.de

· **1.4 Emergency telephone number:**

MCI Miritz Germany: 0049-(0)-170-9131244

Chemtrec USA: 001-1-800-424-9300

Emergency Number China: 0086-532-8388-9090

## SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**

Flam. Liq. 3            H226 Flammable liquid and vapour.

Skin Irrit. 2            H315 Causes skin irritation.

Skin Sens. 1            H317 May cause an allergic skin reaction.

Asp. Tox. 1            H304 May be fatal if swallowed and enters airways.

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

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

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### Hazard pictograms



GHS02 GHS07 GHS08 GHS09

### Signal word Danger

### Hazard-determining components of labelling:

(R)-p-mentha-1,8-diene

Myrcene

alpha-Pinene

### Hazard statements

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H304 May be fatal if swallowed and enters airways.

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.

P241 Use explosion-proof [electrical/ventilating/lighting] equipment.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P321 Specific treatment (see on this label).

P331 Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3 Other hazards Can cause dry skin.

### Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

#### CAS No. / Description

90045-43-5 Grapefruit oil

#### Identification number(s)

EINECS CAS 90045-43-5

EINECS 289-904-6

TSCA CAS 68917-32-8

Grapefruit, ext. (grapefruit-oil, terpenes and terpenoids)

#### EC number: 289-904-6

Additional information: For the wording of the listed hazard phrases refer to section 16.

#### Dangerous components:

|                                     |                                                                                                                                                              |         |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| CAS: 5989-27-5<br>EINECS: 227-813-5 | (R)-p-mentha-1,8-diene<br>Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Acute 1, H400;<br>Skin Irrit. 2, H315; Skin Sens. 1B, H317; Aquatic Chronic 3, H412 | 50-100% |
| CAS: 123-35-3<br>EINECS: 204-622-5  | Myrcene<br>Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Acute 1, H400;<br>Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319                 | 1-2.5%  |

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CAS: 80-56-8

EINECS: 201-291-9

alpha-Pinene

≤1%

Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Skin Irrit. 2, H315; Skin Sens. 1B, H317

ATE: LD50 oral: 500 mg/kg

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General information:

If health disorder happens, call for medical help immediately.

Immediately remove any clothing soiled by the product.

##### After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

##### After skin contact: Immediately wash with water and soap and rinse thoroughly.

##### After eye contact: Rinse opened eye for several minutes under running water.

##### After swallowing: Do not induce vomiting; call for medical help immediately.

#### 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 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing agents: CO<sub>2</sub>, alcohol resistant foam, powder, water spray.

##### For safety reasons unsuitable extinguishing agents: Water with full jet

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

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO<sub>2</sub>)

Smoke and soot

Do not use water with full jet to prevent fire spreading.

#### 5.3 Advice for firefighters

##### Protective equipment: Wear self-contained respiratory protective device.

##### Additional information

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### SECTION 6: Accidental release measures

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

Follow safety measures in chapter 7 and 8.

Wear protective equipment. Keep unprotected persons away.

#### 6.2 Environmental precautions:

Do not allow to penetrate the ground/soil.

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.

Do not allow to enter sewers/ surface or ground water.

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

Wipe up little amounts with absorbent material like cloth or pulp.

Water and cleansing agent

Absorb with incombustible liquid-binding material (sand, diatomite, universal binders).

Dispose of contaminated material as waste according to item 13.

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Ensure adequate ventilation.

**6.4 Reference to other sections**

Keep ignition source away, do not smoke and avoid flames.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### SECTION 7: Handling and storage

**7.1 Precautions for safe handling**

personal protection equipment see point 8.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

**Information about fire - and explosion protection:**

Fumes can combine with air to form an explosive mixture.

Moistened solids (e.g. cloth, pulp, filter panel, binder) has to be stored hermetically sealed and/or watered and proper disposed (see chapter 9 and 13).

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

**7.2 Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:**

Store only in unopened original receptacles.

Provide solvent resistant, sealed floor.

**Information about storage in one common storage facility:** Store away from oxidising agents.

**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

**Storage class: 3**

**Classification according to Betriebssicherheitsverordnung (BetrSichV)** Flammable liquid

**7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

**8.1 Control parameters****Ingredients with limit values that require monitoring at the workplace:****5989-27-5 (R)-p-mentha-1,8-diene**

|               |                                                                      |
|---------------|----------------------------------------------------------------------|
| AGW (Germany) | Long-term value: 28 mg/m <sup>3</sup> , 5 ppm<br>4(II);DFG, H, Sh, Y |
|---------------|----------------------------------------------------------------------|

**DNELs****90045-43-5 Grapefruit, ext. (REACH)**

|        |                                                 |                                                                                         |
|--------|-------------------------------------------------|-----------------------------------------------------------------------------------------|
| Oral   | DNEL, acute / short term exp., systemic effects | mg/kg (human, general population)<br>No hazard identified.                              |
|        | DNEL, long term exp., systemic effects          | 4.44 mg/kg bw d (human, general population)                                             |
| Dermal | DNEL, acute / short term exp., local effects    | µg/cm <sup>2</sup> (human, general population)<br>Medium hazard (no threshold derived). |
|        |                                                 | µg/cm <sup>2</sup> (human, worker)<br>Medium hazard (no threshold derived).             |
|        | DNEL, acute / short term exp., systemic effects | mg/kg bw d (human, general population)<br>No hazard identified.                         |

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|                    |                                                 |                                                                                                                                                                                                             |
|--------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalative         | DNEL, long term exp., local effects             | mg/kg bw d (human, worker)<br>No hazard identified.<br>$\mu\text{g}/\text{cm}^2$ (human, general population)<br>No hazard identified.<br>$\mu\text{g}/\text{cm}^2$ (human, worker)<br>No hazard identified. |
|                    | DNEL, long term exp., systemic effects          | 4.44 mg/kg bw d (human, general population)<br>8.89 mg/kg bw d (human, worker)                                                                                                                              |
|                    | DNEL, acute / short term exp., local effects    | $\text{mg}/\text{m}^3$ (human, general population)<br>No hazard identified.<br>$\text{mg}/\text{m}^3$ (human, worker)<br>No hazard identified.                                                              |
|                    | DNEL, acute / short term exp., systemic effects | $\text{mg}/\text{m}^3$ (human, general population)<br>No hazard identified.<br>$\text{mg}/\text{m}^3$ (human, worker)<br>No hazard identified.                                                              |
|                    | DNEL, long term exp., local effects             | $\text{mg}/\text{m}^3$ (human, general population)<br>No hazard identified.<br>$\text{mg}/\text{m}^3$ (human, worker)<br>No hazard identified.                                                              |
|                    | DNEL, long term exp., systemic effects          | 7.78 $\text{mg}/\text{m}^3$ (human, general population)<br>31.1 $\text{mg}/\text{m}^3$ (human, worker)                                                                                                      |
| Irritation of eyes | DNEL, eye exposure                              | (human, general population)<br>No hazard identified<br>(human, worker)<br>No hazard identified                                                                                                              |

**· PNECs****90045-43-5 Grapefruit, ext. (REACH)**

|                                               |                                                                                                                      |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| PNEC, aqua (freshwater)                       | 5.4 $\mu\text{g}/\text{l}$ (aqua (freshwater))                                                                       |
| PNEC, aqua (marine water)                     | 0.54 $\mu\text{g}/\text{l}$ (aqua (marine water))                                                                    |
| PNEC, aqua (intermittent releases freshwater) | 5.77 $\mu\text{g}/\text{l}$ (aqua (freshwater))                                                                      |
| PNEC, sediment (freshwater)                   | 1.3 mg/kg sedim. dw (sediment (freshwater))                                                                          |
| PNEC, sediment (marine water)                 | 0.13 mg/kg sedim. dw (sediment (marine water))                                                                       |
| PNEC, soil                                    | 0.29 mg/kg soil dw (soil)                                                                                            |
| PNEC, secondary poisoning                     | mg/kg food (predator)<br>No potential to cause toxic effects if accumulated (in higher organisms) via the food chain |
| PNEC, STP                                     | 2.1 mg/l (sewage treatment plant)                                                                                    |
| PNEC, air                                     | (air)<br>No hazard identified                                                                                        |

**· Additional information:** The lists valid during the making were used as basis.**· 8.2 Exposure controls****· Appropriate engineering controls** No further data; see section 7.**· Individual protection measures, such as personal protective equipment****· General protective and hygienic measures:**

Use personal protective equipment depending on concentration and amount of hazardous substance.

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 skin.

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*Avoid contact with the eyes and skin.*

· **Respiratory protection:**

*Suitable respiratory protection: filter class A2 (brown colour).*

*Use the rules for application of respiratory protection systems.*

*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.*

· **Hand protection**

*Preventive skin protection by use of skin-protecting agents is recommended.*



*Protective gloves*

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*

*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**

*> 480 minutes at layerthickness of 0,425 millimeter (Sol-Vex 37-695/Ansell).*

*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*

· **For the permanent contact gloves made of the following materials are suitable:**

*Nitrile rubber, NBR*

*E.g. following product: Sol-Vex (37-695) from Ansell.*

· **As protection from splashes gloves made of the following materials are suitable: Nitrile rubber, NBR**

· **Eye/face protection**



*Tightly sealed goggles according to EN 166:2001*

· **Body protection: Protective work clothing**

## SECTION 9: Physical and chemical properties

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

· **General Information**

· **Physical state**

*Liquid*

· **Colour:**

*Colourless*

· **Odour:**

*Characteristic*

· **Odour threshold:**

*Not determined*

· **Melting point/freezing point:**

*-74.3 °C*

· **Boiling point or initial boiling point and boiling range**

*>35 °C*

· **Flammability**

*Flammable.*

· **Lower and upper explosion limit**

· **Lower:**

*0.7 Vol %*

· **Upper:**

*6.1 Vol %*

· **Flash point:**

*48 °C (ASTM D7094)*

· **Auto-ignition temperature:**

*255 °C*

· **Decomposition temperature:**

*Not determined*

· **pH**

*Not determined*

· **Viscosity:**

· **Kinematic viscosity at 40 °C**

*<18 mm²/s*

· **Dynamic:**

*Not determined*

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|                                                                                        |                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| · <b>Solubility</b>                                                                    |                                                                                                                                                                                                         |
| · <b>water:</b>                                                                        | Not miscible or difficult to mix.                                                                                                                                                                       |
| · <b>Partition coefficient n-octanol/water (log value)</b>                             | Not determined                                                                                                                                                                                          |
| · <b>Vapour pressure at 20 °C:</b>                                                     | 2.3 hPa                                                                                                                                                                                                 |
| · <b>Density and/or relative density</b>                                               |                                                                                                                                                                                                         |
| · <b>Density at 20 °C:</b>                                                             | 0.841 g/cm <sup>3</sup>                                                                                                                                                                                 |
| · <b>Relative density</b>                                                              | Not determined                                                                                                                                                                                          |
| · <b>Vapour density</b>                                                                | Not determined                                                                                                                                                                                          |
| · <b>9.2 Other information</b>                                                         |                                                                                                                                                                                                         |
| · <b>Appearance:</b>                                                                   |                                                                                                                                                                                                         |
| · <b>Form:</b>                                                                         | Fluid                                                                                                                                                                                                   |
| · <b>Important information on protection of health and environment, and on safety.</b> |                                                                                                                                                                                                         |
| · <b>Ignition temperature:</b>                                                         | Product is not selfigniting; but in case of unpropitious storing conditions (air admission, heat accumulation) selfignition is possible for moistened solids (e.g. cloth, pulp, filter panels, binder). |
| · <b>Explosive properties:</b>                                                         | Product is not explosive. However, formation of explosive air/vapour mixtures are possible.                                                                                                             |
| · <b>Molecular weight</b>                                                              | 136.24 g/mol                                                                                                                                                                                            |
| · <b>Change in condition</b>                                                           |                                                                                                                                                                                                         |
| · <b>Evaporation rate</b>                                                              | Not determined                                                                                                                                                                                          |
| · <b>Information with regard to physical hazard classes</b>                            |                                                                                                                                                                                                         |
| · <b>Explosives</b>                                                                    | Void                                                                                                                                                                                                    |
| · <b>Flammable gases</b>                                                               | Void                                                                                                                                                                                                    |
| · <b>Aerosols</b>                                                                      | Void                                                                                                                                                                                                    |
| · <b>Oxidising gases</b>                                                               | Void                                                                                                                                                                                                    |
| · <b>Gases under pressure</b>                                                          | Void                                                                                                                                                                                                    |
| · <b>Flammable liquids</b>                                                             | Flammable liquid and vapour.                                                                                                                                                                            |
| · <b>Flammable solids</b>                                                              | Void                                                                                                                                                                                                    |
| · <b>Self-reactive substances and mixtures</b>                                         | Void                                                                                                                                                                                                    |
| · <b>Pyrophoric liquids</b>                                                            | Void                                                                                                                                                                                                    |
| · <b>Pyrophoric solids</b>                                                             | Void                                                                                                                                                                                                    |
| · <b>Self-heating substances and mixtures</b>                                          | Void                                                                                                                                                                                                    |
| · <b>Substances and mixtures, which emit flammable gases in contact with water</b>     | Void                                                                                                                                                                                                    |
| · <b>Oxidising liquids</b>                                                             | Void                                                                                                                                                                                                    |
| · <b>Oxidising solids</b>                                                              | Void                                                                                                                                                                                                    |
| · <b>Organic peroxides</b>                                                             | Void                                                                                                                                                                                                    |
| · <b>Corrosive to metals</b>                                                           | Void                                                                                                                                                                                                    |
| · <b>Desensitised explosives</b>                                                       | Void                                                                                                                                                                                                    |

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
Heating causes vaporisation and formation of ignitable atmosphere is possible.
- **10.3 Possibility of hazardous reactions**  
Formation of explosive gas mixture with air possible.  
Product is not selfigniting; but in case of unpropitious storing conditions (air admission, heat accumulation) selfignition is possible for moistened solids (e.g. cloth, pulp, filter panels, binder).  
Reacts violently with oxidising agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.

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· **10.6 Hazardous decomposition products:** No dangerous decomposition products expected by intended use.

### SECTION 11: Toxicological information

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

· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**

**5989-27-5 (R)-p-mentha-1,8-diene**

|      |      |                   |
|------|------|-------------------|
| Oral | LD50 | 4,400 mg/kg (rat) |
|------|------|-------------------|

**80-56-8 alpha-Pinene**

|      |      |                 |
|------|------|-----------------|
| Oral | LD50 | 500 mg/kg (ATE) |
|------|------|-----------------|

**124-13-0 Octanal**

|      |      |                   |
|------|------|-------------------|
| Oral | LD50 | 5,630 mg/kg (rat) |
|------|------|-------------------|

|            |      |                      |
|------------|------|----------------------|
| Inhalative | LD50 | 6,350 mg/kg (rabbit) |
|------------|------|----------------------|

· **Primary irritant effect:**

· **Skin corrosion/irritation** Causes skin irritation.

· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.

· **Sensitisation:** May cause an allergic skin reaction.

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

· **Carcinogenicity** Based on available data, the classification criteria are not met.

· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· **STOT-single exposure** Based on available data, the classification criteria are not met.

· **STOT-repeated exposure** Based on available data, the classification criteria are not met.

· **Aspiration hazard** May be fatal if swallowed and enters airways.

· **Additional toxicological information:**

· **Acute effects (acute toxicity, irritation and corrosivity)** Aspiration may cause lung damages.

· **11.2 Information on other hazards**

· **Endocrine disrupting properties**

None of the ingredients is listed.

### SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

**90045-43-5 Grapefruit, ext. (REACH)**

|            |                  |
|------------|------------------|
| LC50 (4 d) | 5.65 mg/L (fish) |
|------------|------------------|

|            |                    |
|------------|--------------------|
| EC50 (48h) | 1.1 mg/L (daphnia) |
|------------|--------------------|

|            |                |
|------------|----------------|
| EC50 (72h) | 8 mg/L (algae) |
|------------|----------------|

|            |                  |
|------------|------------------|
| EC10 (72h) | 5.1 mg/L (algae) |
|------------|------------------|

· **12.2 Persistence and degradability** No further relevant information available.

· **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:** Not applicable

· **vPvB:** Not applicable

· **12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

· **12.7 Other adverse effects**

· **Remark:** Toxic for fish

· **Remark:** Quantitative data according to the ecological effects are not available.

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**· Additional ecological information:****· General notes:***Danger to drinking water if even small quantities leak into the ground.**Do not allow product to reach ground water, water course or sewage system.**Also poisonous for fish and plankton in water bodies.**Water hazard class 3 (German regulation) (AwSV 3816; CAS 90045-43-5): highly hazardous to water.**Toxic for aquatic organisms***SECTION 13: Disposal considerations****· 13.1 Waste treatment methods****· Recommendation***Recycling is preferred to disposal or burning.**Disposal must be made according to official regulations.**Must not be disposed together with household garbage. Do not allow product to reach sewage system.***· European waste catalogue**

|          |                                                                                                                                                                                                                |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02 00 00 | WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING                                                                                             |
| 02 03 00 | wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation |
| 02 03 03 | wastes from solvent extraction                                                                                                                                                                                 |

**· Uncleaned packaging:****· Recommendation:***Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.**Packagings that may not be cleansed are to be disposed of in the same manner as the product.**Moistened solids (e.g. cloth, pulp, filter panels, binder) can be burnt after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.**15 02 02: Filter and absorption materials contaminated with hazardous agents.***SECTION 14: Transport information****· 14.1 UN number or ID number****· ADR, IMDG, IATA**

UN1993

**· 14.2 UN proper shipping name****· ADR**

1993 FLAMMABLE LIQUID, N.O.S. (d-limonene), ENVIRONMENTALLY HAZARDOUS

**· IMDG**

FLAMMABLE LIQUID, N.O.S. (d-limonene, Myrcene), MARINE POLLUTANT

**· IATA**

FLAMMABLE LIQUID, N.O.S. (d-limonene mixture)

**· 14.3 Transport hazard class(es)****· ADR****· Class**

3 (F1) Flammable liquids.

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**Safety data sheet**  
according to Regulation (EC) No 1907/2006, Article 31

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Version number 1.05 (replaces version 1.04)

Revision: 02.08.2024

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|                                                                                                                                                                     |                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| · <b>Label</b>                                                                                                                                                      | 3                                                                                                                |
| · <b>IMDG</b>                                                                                                                                                       |                                                                                                                  |
|   |                                                                                                                  |
| · <b>Class</b>                                                                                                                                                      | 3 Flammable liquids.                                                                                             |
| · <b>Label</b>                                                                                                                                                      | 3                                                                                                                |
| · <b>IATA</b>                                                                                                                                                       |                                                                                                                  |
|                                                                                    |                                                                                                                  |
| · <b>Class</b>                                                                                                                                                      | 3 Flammable liquids.                                                                                             |
| · <b>Label</b>                                                                                                                                                      | 3                                                                                                                |
| · <b>14.4 Packing group</b>                                                                                                                                         |                                                                                                                  |
| · <b>ADR, IMDG, IATA</b>                                                                                                                                            | III                                                                                                              |
| · <b>14.5 Environmental hazards:</b>                                                                                                                                | Product contains environmentally hazardous substances:<br>d-limonene                                             |
| · <b>Marine pollutant:</b>                                                                                                                                          | Yes<br>Symbol (fish and tree)                                                                                    |
| · <b>Special marking (ADR):</b>                                                                                                                                     | Symbol (fish and tree)                                                                                           |
| · <b>14.6 Special precautions for user</b>                                                                                                                          | Warning: Flammable liquids.                                                                                      |
| · <b>Hazard identification number (Kemler code):</b>                                                                                                                | 30                                                                                                               |
| · <b>EMS Number:</b>                                                                                                                                                | F-E, S-E                                                                                                         |
| · <b>Stowage Category</b>                                                                                                                                           | A                                                                                                                |
| · <b>14.7 Maritime transport in bulk according to IMO instruments</b>                                                                                               | Not applicable                                                                                                   |
| · <b>Transport/Additional information:</b>                                                                                                                          |                                                                                                                  |
| · <b>ADR</b>                                                                                                                                                        |                                                                                                                  |
| · <b>Limited quantities (LQ)</b>                                                                                                                                    | 5L                                                                                                               |
| · <b>Excepted quantities (EQ)</b>                                                                                                                                   | Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml |
| · <b>Transport category</b>                                                                                                                                         | 3                                                                                                                |
| · <b>Tunnel restriction code</b>                                                                                                                                    | D/E                                                                                                              |
| · <b>IMDG</b>                                                                                                                                                       |                                                                                                                  |
| · <b>Limited quantities (LQ)</b>                                                                                                                                    | 5L                                                                                                               |
| · <b>Excepted quantities (EQ)</b>                                                                                                                                   | Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml |
| · <b>UN "Model Regulation":</b>                                                                                                                                     | UN 1993 FLAMMABLE LIQUID, N.O.S. (D-LIMONENE), 3, III, ENVIRONMENTALLY HAZARDOUS                                 |

**SECTION 15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.

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- **Seveso category**

E2 Hazardous to the Aquatic Environment

P5c FLAMMABLE LIQUIDS

- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t

- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

- **REGULATION (EU) 2019/1148**

- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

- **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

- **National regulations:**

- **Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

- **Breakdown regulations:**

Critical quantity values according to the regulations on accidents should be adhered to.

- **Technical instructions (air):**

| Class | Share in % |
|-------|------------|
| NK    | 50-100     |

- **Waterhazard class:**

Water hazard class 3 (German regulation) (AwSV 3816; CAS 90045-43-5): highly hazardous to water.

- **Other regulations, limitations and prohibitive regulations**

Comply with the rules and regulations of skin protection.

Comply with the rules and regulations of respiratory protection.

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

- **Relevant phrases**

H226 Flammable liquid and vapour.

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.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

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*H411 Toxic to aquatic life with long lasting effects.**H412 Harmful to aquatic life with long lasting effects.***· Recommended restriction of use** *For industrial application only.***· Department issuing SDS:** *Regulatory Affairs***· Contact:***Department Regulatory Affairs**Tel.: 0049-36081-621-0**info@miritz.de***· Date of previous version:** *31.01.2024***· Version number of previous version:** *1.04***· Abbreviations and acronyms:***RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)**ICAO: International Civil Aviation Organisation**ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**DNEL: Derived No-Effect Level (REACH)**PNEC: Predicted No-Effect Concentration (REACH)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**ATE: Acute toxicity estimate values**Flam. Liq. 3: Flammable liquids – Category 3**Acute Tox. 4: Acute toxicity – Category 4**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Irrit. 2: Serious eye damage/eye irritation – Category 2**Skin Sens. 1: Skin sensitisation – Category 1**Skin Sens. 1B: Skin sensitisation – Category 1B**Asp. Tox. 1: Aspiration hazard – Category 1**Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1**Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1**Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2**Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3***· \* Data compared to the previous version altered.**

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