



Safety data sheet according to 1907/2006/EC, Article 31

Printing date 07.01.2019

Version number 1

Revision: 20.12.2018

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

· 1.1 Product identifier

- **Trade name:** Orange Oil 1-fold (ref.-no. 2018.2206)
- **Chemical Identification:** Orange, sweet, ext., (orange oil)
- **Article number:** 2006#0001
- **CAS Number:**
8028-48-6
- **EC number:**
232-433-8
- **Registration number** 01-2119493353-35-0000

· 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
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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.

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- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
- **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 Chemical characterisation: Substances**
- **CAS No. / Description**
8028-48-6 Orange, sweet, extract
- **Identification number(s)**
EINECS CAS 8028-48-6
EINECS 232-433-8
TSCA CAS 8008-57-9
Orange, sweet, ext., (orange oil)
- **EC number:** 232-433-8

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

· **Dangerous components:**

CAS: 5989-27-5 EINECS: 227-813-5	(R)-p-mentha-1,8-diene Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Skin Sens. 1, H317	50-100%
CAS: 123-35-3 EINECS: 204-622-5	Myrcene Flam. Liq. 3, H226; Asp. Tox. 1, H304	1-2.5%
CAS: 80-56-8 EINECS: 201-291-9	alpha-Pinene Asp. Tox. 1, H304; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317	≤1%

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:** CO₂, 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 (CO₂)

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.

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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.
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

- **Additional information about design of technical facilities:** No further data; see item 7.

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· 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 ³ , 5 ppm 4(II);DFG, H, Sh, Y
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· **DNELs****8028-48-6 Orange, sweet, ext. (DNEL, PNEC)**

Oral	DNEL, acute / short term exp., systemic effects	mg/kg (human, general population) 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	92.9 µg/cm ² (human, general population) 185.8 µg/cm ² (human, worker)
	DNEL, acute / short term exp., systemic effects	mg/kg bw d (human, general population) No hazard identified mg/kg bw d (human, worker) No hazard identified
	DNEL, long term exp., local effects	µg/cm ² (human, general population) No hazard identified µg/cm ² (human, worker) No hazard identified
	DNEL, long term exp., systemic effects	4.44 mg/kg bw d (human, general population) 8.89 mg/kg bw d (human, worker)
Inhalative	DNEL, acute / short term exp., local effects	mg/m ³ (human, general population) No hazard identified mg/m ³ (human, worker) No hazard identified
	DNEL, acute / short term exp., systemic effects	mg/m ³ (human, general population) No hazard identified mg/m ³ (human, worker) No hazard identified
	DNEL, long term exp., local effects	mg/m ³ (human, general population) No hazard identified mg/m ³ (human, worker) No hazard identified
	DNEL, long term exp., systemic effects	7.78 mg/m ³ (human, general population) 31.1 mg/m ³ (human, worker)
Irritation of eyes	DNEL, eye exposure	(human, general population) No hazard identified (human, worker) No hazard identified

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· PNECs

8028-48-6 Orange, sweet, ext. (DNEL, PNEC)

Oral	PNEC, secondary poisoning	mg/kg food (predator) No potential to cause toxic effects if accumulated (in higher organisms) via the food chain
	PNEC, aqua (freshwater)	5.4 µg/l (aqua (freshwater))
	PNEC, aqua (marine water)	0.54 µg/l (aqua (marine water))
	PNEC, aqua (intermittent releases freshwater)	5.77 µg/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	0.261 mg/kg soil dw (soil)
	PNEC, STP	2.1 mg/l (sewage treatment plant)

· **Additional information:** The lists valid during the making were used as basis.· **8.2 Exposure controls**· **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.

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.

· **Protection of hands:**

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 trough 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.

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· **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

· **Eye 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**

· **Appearance:**

Form: Fluid

Colour: Orange

· **Odour:** Fruit specific

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point: -74.3 °C

Initial boiling point and boiling range: >35 °C

· **Flash point:** 51 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 255 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** 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).

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower: 0.7 Vol %

Upper: 6.1 Vol %

· **Vapour pressure at 20 °C:** 2.3 hPa

· **Density at 20 °C:** 0.84 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with water:** Not miscible or difficult to mix.

· **Partition coefficient: n-octanol/water:** Not determined.

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- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic at 20 °C:** 18 mm²/s
- **9.2 Other information** No further relevant information available.

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

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
 - **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)
- **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.
- **Acute effects (acute toxicity, irritation and corrosivity)** Aspiration may cause lung damages.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
 - **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.

SECTION 12: Ecological information

- **12.1 Toxicity**
 - **Aquatic toxicity:**
Limonene (CICAD05; www.inchem.org/documents/cicads/cicads/cicad05.htm):
- *Pimphales promelas* / LC50 (96h): 0.7 mg/L

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- *Daphnia magna* / EC50 (48h): 0.4 mg/L
- *Green algae* / NOEC (96h): 4 mg/L
- **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.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Remark:** Quantitative data according to the ecological effects are not available.
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Water hazard class 3 (German regulation) (VwVwS3824, CAS 8028-48-6): severe hazardous for water
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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.

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SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN1993
· 14.2 UN proper shipping name · ADR · IMDG · IATA	1993 FLAMMABLE LIQUID, N.O.S. (d-limonene), ENVIRONMENTALLY HAZARDOUS FLAMMABLE LIQUID, N.O.S. (d-limonene, alpha-PINENE), MARINE POLLUTANT FLAMMABLE LIQUID, N.O.S. (d-limonene)
· 14.3 Transport hazard class(es) · ADR	
 	
· Class · Label	3 (F1) Flammable liquids. 3
· IMDG	
 	
· Class · Label	3 Flammable liquids. 3
· IATA	
	
· Class · Label	3 Flammable liquids. 3
· 14.4 Packing group · ADR, IMDG, IATA	III
· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR):	Product contains environmentally hazardous substances: d-limonene Yes Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category	Warning: Flammable liquids. 30 F-E, S-E A
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.

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· Transport/Additional information:**· ADR****· Limited quantities (LQ)**

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· Transport category

3

· Tunnel restriction code

D/E

· IMDG**· Limited quantities (LQ)**

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· UN "Model Regulation":

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.**· 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**· 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) (VwVwS3824, CAS 8028-48-6): severe hazardous for 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.

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· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not 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.

· **Relevant phrases**

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.

H400 Very toxic to aquatic life.

H410 Very toxic 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

· **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 européen sur le transport 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

Flam. Liq. 3: Flammable liquids – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

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

· *** Data compared to the previous version altered.**