

Safety Data Sheet

Red mandarin oil

Safety Data Sheet dated 27/9/2024, version 8

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

1.1. Product identifier

Identification of the substance:

Trade name: Red mandarin oil

Trade code: MANDR

CAS number: 84929-38-4

EC number: 284-521-0

REACH number: 01-2120074120-72-0016

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

Recommended use:

Raw material for the manufacture of fragrances and/or flavourings.

Uses advised against:

None known

1.3. Details of the supplier of the safety data sheet

Company:

Etja s.c. Ul. Łęczyska 29, 82-300 Elbląg

Poland Competent person responsible for the safety data sheet: etja@etja.pl

1.4. Emergency telephone number

Etja s.c. - Tel. + 48 (55) 233 09 87 / 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)

 Warning, Flam. Liq. 3, Flammable liquid and vapour.

 Warning, Skin Irrit. 2, Causes skin irritation.

 Warning, Eye Irrit. 2, Causes serious eye irritation.

 Warning, Skin Sens. 1A, May cause an allergic skin reaction.

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

 Warning, Aquatic Acute 1, Very toxic to aquatic life.

 Warning, Aquatic Chronic 1, Very toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Safety Data Sheet

Red mandarin oil

Danger

Hazard statements:

H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H304 May be fatal if swallowed and enters airways.
H410 Very 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.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
P331 Do NOT induce vomiting.
P391 Collect spillage.
P403+P235 Store in a well-ventilated place. Keep cool.

Special Provisions:

None

Contains

dl-limonene
gamma terpinene
alfa pinene
myrcene
beta pinene: May produce an allergic reaction.

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

vPvB Substances: None - PBT Substances: None

Other Hazards:

No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

Identification of the substance:

Chemical characterization: Red mandarin oil

Trade code: MANDR

Product type and use: Industrial uses. Raw material for manufacture of fragrances and/or flavors

CAS number: 8008-31-9

EC number: 284-521-0

REACH number: 01-2120074120-72-0016

Qty	Name	Ident. Number	Classification
65% - 75%	dl-limonene	CAS: 5989-27-5 EC: 227-813-5	 2.6/3 Flam. Liq. 3 H226
			 3.4.2/1A Skin Sens. 1A H317
			 4.1/A1 Aquatic Acute 1 H400
			 3.2/2 Skin Irrit. 2 H315
			 4.1/C1 Aquatic Chronic 1

Safety Data Sheet

Red mandarin oil

			H410
15% - 20%	gamma terpinene	CAS: 99-85-4 EC: 202-794-6	 2.6/3 Flam. Liq. 3 H226  3.10/1 Asp. Tox. 1 H304
1% - 3%	alfa pinene	CAS: 80-56-8	 2.6/3 Flam. Liq. 3 H226  3.10/1 Asp. Tox. 1 H304  3.3/2 Eye Irrit. 2 H319  3.4.2/1 Skin Sens. 1 H317
1% - 3%	myrcene	CAS: 123-35-3 EC: 204-622-5 REACH No.: 01-21195143 21-56-0000	 2.6/3 Flam. Liq. 3 H226  3.10/1 Asp. Tox. 1 H304  3.2/2 Skin Irrit. 2 H315  3.3/2 Eye Irrit. 2 H319  3.4.2/1B Skin Sens. 1B H317  4.1/C1 Aquatic Chronic 1 H410
1% - 3%	beta pinene	CAS: 127-91-3 EC: 204-872-5	 2.6/3 Flam. Liq. 3 H226  3.1/4/Dermal Acute Tox. 4 H312  3.1/4/Inhal Acute Tox. 4 H332  3.1/4/Oral Acute Tox. 4 H302  3.10/1 Asp. Tox. 1 H304  3.2/2 Skin Irrit. 2 H315  3.3/2 Eye Irrit. 2 H319  3.4.2/1 Skin Sens. 1 H317  3.8/3 STOT SE 3 H335

3.2. Mixtures

N.A.

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap. Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do NOT induce vomiting.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

Safety Data Sheet

Red mandarin oil

Irritating to skin or mucous membranes (inflammation). May produce an allergic reaction (rash, urticaria).

If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

In case of fire, use a foam fire extinguisher to extinguish.

CO2 or Dry chemical fire extinguisher.

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Keep containers cool with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove all sources of ignition.

Remove persons to safety.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Advice on general occupational hygiene:

Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Dry area, unopened containers, optimum temp. 11-18 °C

Always keep in a well ventilated place.

Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

None in particular

Safety Data Sheet

Red mandarin oil

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

alfa pinene - CAS: 80-56-8

- OEL Type: ACGIH - TWA(8h): 20 ppm - Notes: DSEN, A4 - Lung irr

beta pinene - CAS: 127-91-3

- OEL Type: ACGIH - TWA(8h): 20 ppm - Notes: DSEN, A4 - Lung irr

DNEL Exposure Limit Values

Red mandarin oil - CAS: 8008-31-9

Worker Industry: 23.3 mg/m³ - Worker Professional: 23.3 mg/m³ - Consumer: 5.8 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Industry: 6.67 mg/kg bw/day - Worker Professional: 6.67 mg/kg bw/day -

Consumer: 3.33 mg/kg bw/day - Exposure: Human Dermal - Frequency: Long Term (repeated)

Worker Industry: 185.8 µg/cm² - Worker Professional: 185.8 µg/cm² - Consumer: 92.9 µg/cm² - Exposure: Human Dermal - Frequency: Long Term, local effects

PNEC Exposure Limit Values

Red mandarin oil - CAS: 8008-31-9

Target: Fresh Water - Value: 5.4 µg/l

Target: Marine water - Value: 0.54 µg/l

Target: Marine water sediments - Value: 0.13 mg/kg

Target: Soil (agricultural) - Value: 0.29 mg/kg

8.2. Exposure controls

Eye protection:

Eye glasses.

Protection for skin:

Full protection suit.

Protection for hands:

NBR (nitrile rubber).

Respiratory protection:

Not needed for normal use.

Thermal Hazards:

None

Environmental exposure controls:

None

Appropriate engineering controls:

None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes
Appearance and colour:	Reddish to dark red liquid	--	--
Odour:	Fresh orange mandarin	--	--
Odour threshold:	Not Relevant	--	--
pH:	Not Relevant	--	--
Melting point / freezing point:	N.A.	--	--
Initial boiling point and boiling range:	160 °C	OECD 103	--
Flash point:	51 ° C	EN ISO 3680	--

Safety Data Sheet

Red mandarin oil

Evaporation rate:	Not Relevant	--	--
Solid/gas flammability:	Not Relevant	--	--
Upper/lower flammability or explosive limits:	Not Relevant	--	--
Vapour pressure:	280.7 Pa @ 25°C	ASTM D 323	--
Vapour density:	Not Relevant	--	--
Relative density:	0.84	OECD 109	--
Solubility in water:	Insoluble in water	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient (n-octanol/water):	4.38	--	--
Auto-ignition temperature:	Not Relevant	--	--
Decomposition temperature:	Not Relevant	--	--
Viscosity:	Not Relevant	--	--
Explosive properties:	Not Relevant	--	--
Oxidizing properties:	Not Relevant	--	--

9.2. Other information

Properties	Value	Method:	Notes
Miscibility:	Not Relevant	--	--
Fat Solubility:	Not Relevant	--	--
Conductivity:	Not Relevant	--	--
Substance Groups relevant properties	Not Relevant	--	--

SECTION 10: Stability and reactivity

- 10.1. Reactivity
 - None
- 10.2. Chemical stability
 - the product is stable
- 10.3. Possibility of hazardous reactions
 - It may catch fire on contact with oxidising mineral acids, and powerful oxidising agents.
- 10.4. Conditions to avoid
 - high temperatures, flames or other heat sources
- 10.5. Incompatible materials
 - No risk of reaction or danger in case of contact with other materials
- 10.6. Hazardous decomposition products
 - no risk of dangerous decomposition

SECTION 11: Toxicological information

- 11.1. Information on toxicological effects
 - Toxicological information of the product:
 - Red mandarin oil - CAS: 8008-31-9
 - a) acute toxicity:
 - Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg - Duration: 14 days - Source: Study report, 1974
 - Toxicological information of the main substances found in the product:
 - dl-limonene - CAS: 5989-27-5
 - a) acute toxicity:

Safety Data Sheet

Red mandarin oil

Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg - Duration: 14 days

Test: LD50 - Route: Dermal - Species: Rabbit > 5000 mg/kg - Duration: 14 days

b) skin corrosion/irritation:

Route: Dermal - Species: Rabbit = 1.33 ml/kg - Duration: 72h

c) serious eye damage/irritation:

Route: Eyes - Species: Rabbit = 0.1 ml/kg - Duration: 72h

If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.:

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Red mandarin oil - CAS: 8008-31-9

a) Aquatic acute toxicity:

Endpoint: LL50 - Species: Oncorhynchus mykiss > 100 mg/l - Duration h: 96 - Notes: OECD guideline 203

Endpoint: EL50 - Species: Daphnia = 8.9 mg/l - Duration h: 48 - Notes: OECD guideline 202

12.2. Persistence and degradability

Red mandarin oil - CAS: 8008-31-9

Biodegradability: Readily biodegradable

12.3. Bioaccumulative potential

Red mandarin oil - CAS: 8008-31-9

Not bioaccumulative

12.4. Mobility in soil

Red mandarin oil - CAS: 8008-31-9

Not mobile

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

Additional disposal information:

Dispose this product responsibly after use, in accordance with international standards, national and local laws.

SECTION 14: Transport information

14.1. UN number

Safety Data Sheet

Red mandarin oil

ADR-UN number:	1169
IATA-Un number:	1169
IMDG-Un number:	1169
14.2. UN proper shipping name	
ADR-Shipping Name:	EXTRACTS, AROMATIC, LIQUID
IATA-Technical name:	EXTRACTS, AROMATIC, LIQUID
IMDG-Technical name:	EXTRACTS, AROMATIC, LIQUID
14.3. Transport hazard class(es)	
ADR-Class:	3
ADR-Label:	flame
IATA-Class:	3
IATA-Label:	flame
IMDG-Class:	3
14.4. Packing group	
ADR-Packing Group:	III
IATA-Packing group:	III
IMDG-Packing group:	III
14.5. Environmental hazards	
Marine pollutant:	Marine pollutant
Most important toxic component:	
14.6. Special precautions for user	
ADR-Transport category (Tunnel restriction code):	D/E
Rail (RID):	3
IATA-Passenger Aircraft:	355
IATA-Cargo Aircraft:	366
IMDG-Technical name:	EXTRACTS, AROMATIC, LIQUID
IMDG-EMS:	F-E
IMDG-MFAG:	S-D
14.7. Transport in bulk according to Annex II of Marpol and the IBC Code	
N.A.	

SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
- Dir. 98/24/EC (Risks related to chemical agents at work)
 - Dir. 2000/39/EC (Occupational exposure limit values)
 - Regulation (EC) n. 1907/2006 (REACH)
 - Regulation (EC) n. 1272/2008 (CLP)
 - Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
 - Regulation (EU) 2015/830
 - Regulation (EU) n. 286/2011 (ATP 2 CLP)
 - Regulation (EU) n. 618/2012 (ATP 3 CLP)
 - Regulation (EU) n. 487/2013 (ATP 4 CLP)
 - Regulation (EU) n. 944/2013 (ATP 5 CLP)
 - Regulation (EU) n. 605/2014 (ATP 6 CLP)
 - Regulation (EU) n. 2015/1221 (ATP 7 CLP)
 - Regulation (EU) n. 2016/918 (ATP 8 CLP)
 - Regulation (EU) n. 2016/1179 (ATP 9 CLP)
 - Regulation (EU) n. 2017/776 (ATP 10 CLP)
 - Regulation (EU) n. 2018/669 (ATP 11 CLP)
 - Regulation (EU) n. 2018/1480 (ATP 13 CLP)
 - Regulation (EU) n. 2019/521 (ATP 12 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

Safety Data Sheet

Red mandarin oil

Restriction 3

Restriction 40

Restrictions related to the substances contained:

No restriction.

Volatile Organic compounds - VOCs = 630.00 g/l

Volatile CMR substances = 0.00 %

Halogenated VOCs which are assigned the risk phrase R40 = 0.00 %

Organic Carbon - C = 0.00

Where applicable, refer to the following regulatory provisions :

Directive 2012/18/EU (Seveso III)

Regulation (EC) nr 648/2004 (detergents).

Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1

Product belongs to category: P5c, E1

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Full text of phrases referred to in Section 3:

H226 Flammable liquid and vapour.

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

H315 Causes skin irritation.

H410 Very toxic to aquatic life with long lasting effects.

H304 May be fatal if swallowed and enters airways.

H319 Causes serious eye irritation.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H302 Harmful if swallowed.

H335 May cause respiratory irritation.

Hazard class and hazard category	Code	Description
Flam. Liq. 3	2.6/3	Flammable liquid, Category 3
Acute Tox. 4	3.1/4/Dermal	Acute toxicity (dermal), Category 4
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Asp. Tox. 1	3.10/1	Aspiration hazard, Category 1
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Skin Sens. 1	3.4.2/1	Skin Sensitisation, Category 1
Skin Sens. 1A	3.4.2/1A	Skin Sensitisation, Category 1A
Skin Sens. 1B	3.4.2/1B	Skin Sensitisation, Category 1B
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 1	4.1/C1	Chronic (long term) aquatic hazard, category 1

Paragraphs modified from the previous revision:

Safety Data Sheet

Red mandarin oil

SECTION 1: Identification of the substance/mixture and of the company/undertaking
SECTION 2: Hazards identification
SECTION 3: Composition/information on ingredients
SECTION 16: Other information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Flam. Liq. 3, H226	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1A, H317	Calculation method
Asp. Tox. 1, H304	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,
Commission of the European Communities
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van
Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
PNEC:	Predicted No Effect Concentration.

Safety Data Sheet

Red mandarin oil

RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class