SAFETY DATA SHEET (SDS)

Essential Oil: Mandarin, Yellow
SDS Created: 2 June 2025
Revision Date: August 08, 2025

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

1.1 Globally Harmonized System (GHS) product identifier
Product name: Mandarin, Yellow
Latin name of botanical source: *Citrus reticulata* Blanco
INCI name: Citrus Reticulata (Mandarin) Peel Oil

1.2 Recommended use of the chemical and restrictions on use:
Aromatherapy, natural perfumery, as recommended.

1.3. Company name:
Company name: BIORUŽA s.r.o.
Company address: Laborecká 1, 01001 Žilina, Slovakia
Company contact: 00421 905
864 140
info@bioruza.sk
www.bioruza.sk

1.4. Emergency advice:

National Toxicology Information Center: Phone: 02/54774166

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture
Flammable Liquids, Category 3
Skin Corrosion/Irritation, Category 2
Skin Sensitization, Category 1
Aspiration Hazard, Category 1
Hazardous to aquatic environment Long term/Chronic, Category 1

2.2 GHS label elements, including precautionary statements

Signal Word	Hazardous Statement	Precautionary Statement	Hazard Pictograms

Danger	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 H410 – Very toxic to aquatic life with long-lasting effects	P102 – Keep out of reach of children. P210 – Keep away from flames and hot surfaces. No smoking. P233 – Keep container tightly closed. P240 – Ground/Bond container and receiving equipment. P241 – Use explosion-proof electrical/ventilating/lighting equipment. P242 – Use only non-sparking tools. P243 – Take precautionary measures against static discharge. P280 – Wear protective gloves/eye protection/face protection.	
		P303 + P361 + P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P370 + P378 – In case of fire: Use dry sand, dry chemical, or alcohol-resistant foam for extinction. P403 + P235 – Store in well-ventilated place. Keep cool. P501 – Dispose of contents/container to an approved waste disposal plant. P264 –Wash hands thoroughly after handling. P302 + P352 – IF ON SKIN: Wash with plenty of water/soap. P362 + P364 – Take off contaminated clothing and wash it before reuse. P261 –Avoid breathing dust/fume/gas/mist/vapours/spray. P272 –Contaminated work clothing should not be allowed out of the workplace. P333 + P313 –If skin irritation or rash occurs: Get medical advice/attention. P301 + P310 – IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician. P331 – Do NOT induce vomiting. P405 – Store locked up. P273 – Avoid release to the environment. P391 – Collect spillage.	

2.4 Other hazards that do not result in classification

Known photosensitizer. Remove contaminated clothing, wash skin thoroughly with soap and water. Avoid exposure to sun if mandarin oil has been applied to skin in pure or diluted amounts.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Composition

Chemical Name (common name)	CAS# TSCA	CAS# EINECS	ICSC#	RTECS#	UN#	EINECS#	% by weight
Mandarin Oil	8008-31-9	84929-38-4	N/A	N/A	1197	284-521-0	100%
EU Allergens:							
Citral (Geranial + Neral)	5392-40-5	N/A	N/A	N/A	N/A	N/A	0.05 – 0.15 %
Citronellol	106-22-9	N/A	N/A	N/A	N/A	N/A	0.004-0.02 %
Geraniol	106-24-1	N/A	N/A	N/A	N/A	N/A	0.002 – 0.01 %
Limonene	138-86-3	N/A	N/A	N/A	N/A	N/A	≤75 %
Linalool	78-70-6	N/A	N/A	N/A	N/A	N/A	0.05 – 0.20 %
Prop 65:							
Myrcene	123-35-3	N/A	N/A	N/A	N/A	N/A	≤1.8 %

SECTION 4: FIRST-AID MEASURES

4.1 Description of necessary first-aid measures (of Substance)

Eye contact:

Check for and remove any contact lenses. Immediately wash thoroughly with soft, clean water for 15 minutes while holding the eyelids open. Cold water may be used. If symptoms persist, seek medical attention.

Skin Contact:
Remove contaminated clothing and wash the skin thoroughly with soap and water. Watch out for any remaining product between skin and clothing, watches, shoes, etc. In the event of an allergic reaction, seek medical attention. If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to a hospital.
Inhalation:
If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
Ingestion:
Not an expected route of exposure. In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor. Keep the exposed person at rest. Do NOT force vomiting unless directed to do so by medical personnel. Seek immediate medical attention and show the Substance's label to medical personnel.

4.2 Most important symptoms and effects, both acute and delayed (of Substance)
Eye contact:
May cause eye irritation and corneal damage if not immediately rinsed out.
Skin Contact:
Known photosensitizer.
Inhalation:
Not specified
Ingestion:
Not specified

4.3 Indication of any immediate medical attention and special treatment needed (of Substance)
No data available.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Flash point (Celsius/Fahrenheit)
51˚C

5.2 Extinguishing media
Keep packages near the fire cool, to prevent pressurized containers from bursting.
Suitable extinguishing media: sprayed water or water mist, alcohol-resistant foam, multipurpose ABC powder, BC powder, carbon dioxide (CO2)
Unsuitable extinguishing media: water jet (straight stream).

5.3 Specific hazards arising from the chemical
A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health. In the event of a fire, the following may be formed: carbon monoxide (CO) and carbon dioxide (CO2).

5.4 Special protective actions for firefighters
Use self-contained breathing apparatus and protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Stop leak if you can do so without risk. Consult safety measures listed under Sections 7 and 8.
For non-firefighters:
Avoid any contact with the skin and eyes.
For firefighters:
Fire-fighters will be equipped with suitable personal protective equipment (See Section 8).

6.2 Environmental precautions
Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, or diatomaceous earth in drums for waste disposal. Avoid allowing product to reach sewage system or any waterways. Inform respective authorities in case of seepage into sewage system or waterways.

6.3 Methods and material for containment and cleaning up
Absorb spill with non-combustible matter (such as detergent--do not use solvents) and transfer to containers.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Handle in accordance with good industrial hygiene and safety practice. Avoid unintentional contact with skin surfaces. Wear suitable protective clothing. Ensure good ventilation or exhaust in workplace. Do not allow contact with eyes. Always wash hands after handling. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

Fire prevention: Handle in well-ventilated areas. Vapors are heavier than air. They can spread along the ground and form mixtures that are explosive with air. Prevent the formation of flammable or explosive concentrations in air and avoid vapor concentrations higher than the occupational exposure limits. Prevent the accumulation of electrostatic charges with connections to earth. Use the mixture in premises free of naked flames or other sources of ignition and ensure that electrical equipment is suitably protected. Keep packages tightly closed and away from sources of heat, sparks and naked flames. Do not use tools which may produce sparks. Do not smoke.

7.2 Conditions for safe storage, including any incompatibilities
Store in tight glass, aluminum, or double-lined containers in a dark, cool, or refrigerated area away from direct heat. Always keep in packaging made of an identical material to the original. The floor must be impermeable and form a collecting basin so that, in the event of an accidental spillage, the liquid cannot spread beyond this area.

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters
OSHA TWA: None established
OSHA STEL: None established
ACGIH TWA: None established
ACGIH STEL: None established
NOHSC TWA: None established
NOHSC STEL: None established

8.2 Appropriate engineering controls
General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

8.3 Individual protection measures
Personal protective equipment:
Use personal protective equipment that is clean and has been properly maintained. Store personal protective equipment in a clean place away from the work area. Never eat, drink, or smoke during use. Remove and wash contaminated clothing before re-using.
Eye/face protection:
Avoid contact with eyes. Use eye protectors (safety goggles in accordance with standard EN166) designed to protect against liquid splashes.
Hand protection:
Wear suitable protective gloves (resistant to chemical agents in accordance with standard EN374) in the event of prolonged or repeated skin contact.
Type of gloves recommended: Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR)) or PVA (Polyvinyl alcohol).
Body protection: Flame-retardant, antistatic protective clothing.
Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate, use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as back-up to engineering controls.



SECTION 9: PHYSICAL CHEMICAL PROPERTIES

Physical state: Liquid. May be prone to turbidity due to naturally occurring waxes.
Color: Yellow to yellow-orange
Odor: Light, tart, zesty and refreshing citrus aroma with lemony, tangy-sweet top notes.
Miscibility in water: Insoluble
Miscibility in alcohol: Soluble
Miscibility in essential oil: Soluble
Lipsolubility: Soluble
pH: Not applicable

Boiling point/boiling range: +177˚C
Flash Point: 51°C
Vapor pressure: Not specified
Evaporation rate: Not specified
Density: 0.8486 – 0.8531
Water solubility: Insoluble
Melting point/melting range: Not specified
Self-ignition temperature: Not specified
Decomposition point/decomposition range: Not specified
Refractive index @ 20˚C: 1.474 – 1.478
Partition coefficient: Not specified
Specific gravity @ 20 ˚C: 0.8450 – 0.8550
Viscosity: 1.010 ÷ 1.043

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
Presents no significant reactivity hazard by itself or in contact with water.

10.2 Chemical stability
This substance is stable under the recommended handling and storage conditions in Section 7.

10.3 Possibility of hazardous reactions
Oxidizing agent acid alkali light and air condition to avoid under nitrogen surface.

10.4. Conditions to avoid
Heat, flames, and sparks

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Other decomposition products – No data available
In the event of fire: See Section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity:
Oral route: LD50 > 5 gr/kg (rat)
Dermal route: LD50 > 5 gr/kg (rabbit)
Skin corrosion/irritation:
Known Photosensitizer. May cause irreversible damage to the skin; namely inflammation of the skin or the formation of erythema and eschar or oedema following exposure up to four hours. May cause an allergic reaction by skin contact. See Section 3.
Serious eye damage/irritation:
Eye exposure to essential oils may irritate the eyes. Prompt rinsing and removal of the substance will avoid damage.
Respiratory or skin sensitization:
Exposure to vapors from this solvent in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system. See EU allergen list in Section 3.
Germ cell mutagenicity:
Not specified
Carcinogenicity:
IARH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as

probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity:
Not specified
STOT-single exposure:
Not specified
STOT-related exposure:
Not specified
Aspiration hazard:
May be fatal if swallowed and enters airways. Aspiration toxicity includes severe acute effects such as chemical pneumonia, varying degrees of pulmonary injury or death following aspiration.

11.2 Information on the likely routes of exposure
Skin/scalp contact

11.3 Symptoms related to the physical, chemical, and toxicological characteristics
None known. Irritation of the eye if exposed. Redness of the skin if acting as a photosensitizer.

11.4 Delayed and immediate effects and also chronic effects from short-term and long-term exposure
Exposure to vapors from this solvent in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver, and central nervous system.
Repeated or prolonged contact with the substance may cause removal of natural oil from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. Splashes in the eyes may cause irritation and reversible damage.

11.6 Interactive effects
Not specified

11.7 Other information
RTECS: OO6100000

SECTION 12: ECOLOGICAL INFORMATION

12.1 Info summery of Ecological information
Balance of data on substance as a whole, not determined.

12.2 Eco toxicological properties of specific substances
See each category below for specific substances

12.3 Toxicity
Acute fish toxicity:
LC50 / 96 HOUR – No data available
Toxicity to aquatic plants – No data available
Toxicity to microorganisms – No data available
Toxicity threshold – No data available

12.4 Persistence and degradability
Biodegradation is expected

12.5 Bio-accumulative potential
Bioaccumulation is unlikely

12.6 Mobility in soil
Unknown

12.7 Other adverse effect
Avoid exposure to marine environments and waterways

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Do not pour into drains or waterways. Observe all federal, state, and local environmental regulations. Member State-specific and Community-

specific provisions must be considered. Considering the relevant known environmental and human health hazards of the materials, review and implement appropriate technical and procedural wastewater and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental release. This may include destructive techniques for waste and wastewater. In extreme situations, contact a licensed professional waste disposal service to dispose of this material.

Waste:
Proper waste management of the substance and/or its container must be determined in accordance with Directive 2008/98/EC. Do not pour into drains or waterways. Waste management is carried out without endangering human health, without harming the environment, and in particular without risk to water, air, soil, plants, or animals. Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Soiled packaging:
Empty all containers completely. Keep label(s) on every container. Give to a certified disposal contractor.

SECTION 14: TRANSPORT INFORMATION

14.1 UN Number
UN 1197

14.2 UN Proper shipping name
Extracts, liquid

14.3 Transportation hazard classes



Class 3

14.4 Packing group, if applicable
PG III

14.4.1 Marking requirements
Not required for retail packages

14.5 Environmental hazards


Environmentally hazardous material

14.6 Special precautions for user
N/A

14.7 Transport in bulk according to Annex II of MARPOL 73/78˚ and IBC Code
Not applicable

14.8 Additional transport information
Exceptions for class 3 CFR 49 173.150 (b) (c) (g) (Packaged for retail sale.)

SECTION 15: REGULATORY INFORMATION

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

Country	Notification
EU	See EU Allergens in Section 3

SECTION 16: OTHER INFORMATION

Additional Information
This essential oil is phototoxic and may cause skin irritation if skin is exposed to sun after application of the oil in pure or dilute forms. Patch test is recommended.

Disclaimer
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