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MATERIAL SAFETY DATA SHEET

Edition: July 2014

Lukas Citrus Turps

(TNL 712500 - 712501)

1. Identification of the substance/preparation and of the company/undertaking

Product name:	Lukas Citrus Terpentine
Stock codes:	712500, 712501
Relevant identified uses of the substance or mixture:	
	Paints for Arts, Hobby & Craft Artists supply and hobby preparations Coatings and paints, thinners, paint removers
Company name:	LUKAS-NERCHAU GmbH Harffstrasse 40 D 40591 Duesseldorf
Tel:	+49 211 7813 0
Fax:	+49 211 7813 29
Email:	info@lukas.eu
Emergency Number:	+49 211 7813 0

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

Flam. Liq. 3 / H226	flammable liquids	Flammable liquid and vapour.
Skin Irrit. 2 / H315	skin corrosion/irritation	Causes skin irritation.
Skin Sens. 1 / H317	respiratory or skin sensitisation	May cause an allergic skin reaction.
Asp. Tox. 1 / H304	Aspiration hazard	May be fatal if swallowed and enters airways.
STOT SE 3 / H336	Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness.
Aquatic Chronic 2 / H411	Hazardous to the aquatic environment	Toxic to aquatic life with long lasting effects.

Classification according to Directive 67/548/EEC or 1999/45/EC

This mixture is classified as hazardous according to 1999/45/EC.

R10		Flammable
Xi; R38	Irritant	Irritating to skin.
R43		May cause sensitization by skin contact.
N; R51-53	Dangerous for the environment	Toxic to aquatic life. May cause long-term adverse effects in the aquatic environment.
Xn; R65	Harmful	Harmful: may cause lung damage if swallowed.
R67		Vapours may cause drowsiness and dizziness.

2.2. Label elements:

The product is classified and labelled according to EC directives or corresponding national laws.
Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms

Danger

Hazard Statements

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
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.
P261	Avoid breathing vapours.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331	Do NOT induce vomiting.
P102	Keep out of reach of children.
P262	Do not get in eyes, on skin, or on clothing.
Contains:	(R)-p-mentha-1,8-diene Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

Supplemental Hazard information (EU) N/A

Labelling (67/548/EEC or 1999/45/EC)

Xn Harmful

N Dangerous for the environment

Hazard statements

10	Flammable
38	Irritating to skin.
43	May cause sensitization by skin contact.
51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
65	Harmful: may cause lung damage if swallowed.
67	Vapours may cause drowsiness and dizziness. Precautionary statements 2 Keep out of reach of children.
29	Do not empty into drains.
62	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
Contains:	Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) (R)-p-mentha-1, 8-diene

Special provisions concerning the labelling of certain mixtures n.a

2.3. Other hazards

3. Composition/information on ingredients

3.2. Mixtures

Product description / chemical characterization

Description Solvents/Thinner

Hazardous ingredients

Classification according to Regulation (EC) No. 1272/2008 [CLP]

EC No CAS No INDEX No	REACH No. Chemical name classification:	Wt % Remark
227-813-5		
5989-27-5	(R)-p-mentha-1,8-diene	20 - 25
601-029-00-7	Flam. Liq. 3 H226 / Skin Irrit. 2 H315 / Skin Sens. 1 H317 / Aquatic Acute 1 H400 / Aquatic Chronic 1 H410	
919-446-0	01-2119458049-33	
64742-82-1	Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	50 - 100
649-330-00-2	Flam. Liq. 3 H226 / Asp. Tox. 1 H304 / STOT SE 3 H336 / Aquatic Chronic 2 H411	

Classification according to Directive 67/548/EEC or 1999/45/EC

EC No CAS No INDEX No	REACH No. Chemical name classification:	Wt % Remark
919-446-0	01-2119458049-33	
64742-82-1	Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	50 - 100
649-330-00-2	R10 / N; R51-53 / Xn; R65 / R66 / R67	
227-813-5		
5989-27-5	(R)-p-mentha-1,8-diene	20 - 25
601-029-00-7	R10 / Xi; R38 / R43 / N; R50-53	

Additional information

Full text of R-phrases: see section 16.

Full text of H-phrases: see section 16.

4. First aid measures

4.1. Description of first aid measures

General information: In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice

Inhalation: Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

Ingestion: If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

Skin contact: Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

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

In all cases of doubt, or when symptoms persist, seek medical advice.

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

5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: alcohol resistant foam, carbon dioxide, Powder, spray mist, (water)

Extinguishing media which must not be used for safety reasons:

strong water jet

5.2. Special hazards arising from the substance or mixture

Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage. Vapours form explosive mixtures with air.

5.3. Advice for fire-fighters

No one other than trained fire fighters should attempt to fight fires. Provide a conveniently located respiratory protective device. Do not allow water used to extinguish fire to enter drains, ground or waterways. Treat runoff as hazardous. Cool closed containers that are near the source of the fire.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep away from sources of ignition. Ventilate affected area. Do not breathe vapours.

6.2. Environmental precautions:

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations. Vapours form explosive mixtures with air.

6.3. Methods and material for containment and cleaning up

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see chapter 13). Clean using cleansing agents. Do not use solvents.

6.4. Reference to other sections

Observe protective provisions (see chapter 7 and 8).

7. Handling and storage

7.1. Precautions for safe handling:

Advices on safe handling
Avoid formation of flammable and explosive vapour concentrations in the air and exceeding the exposure limit values. Only use the material in places where open light, fire and other flammable sources can be kept away. Electrical equipment must be protected meeting the accepted standard. Product may become electrostatically charged. Provide earthing of containers, equipment, pumps and ventilation facilities. Anti-static clothing including shoes are recommended. Floors must be electrically conductive. Keep away from heat sources, sparks and open flames. Use only spark proof tools. Avoid contact with skin, eyes and clothes. Do not inhale dusts, particulates and spray mist when using this preparation. Avoid respiration of swarf. When using do not eat, drink or smoke. Personal protection equipment: refer to chapter 8. Do not empty containers with pressure - no pressure vessel! Always keep in containers that correspond to the material of the original container. Follow the legal protection and safety regulations.

Precautions against fire and explosion:
Vapours are heavier than air. Vapours form explosive mixtures with air.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Keep container tightly closed. Do not empty containers with pressure - no pressure vessel! Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (BGR 132)".

Hints on joint storage

Keep away from strongly acidic and alkaline materials as well as oxidizers.

Further information on storage conditions

Take care of instructions on label. Store in a well-ventilated and dry room at temperatures between 15 °C and 30 °C. Protect from heat and direct sunlight. Keep container tightly closed. Remove all sources of ignition. Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks.

7.3. Specific end use(s)

Observe technical data sheet. Observe instructions for use.

8. Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit values: n.a.

8.2 Exposure controls:

Provide good ventilation. This can be achieved with local or room suction. If this should not be sufficient to keep aerosol and solvent vapour concentration below the exposure limit values, a suitable respiratory protection must be used.

Occupational exposure controls

Respiratory protection:	If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be used. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190). Use only respiratory protection equipment with CE-symbol including four digit test number.
Hand protection:	For prolonged or repeated handling the following glove material must be used: NBR (Nitrile rubber) Thickness of the glove material > 0,4 mm ; Breakthrough time (maximum wearing time) > 480 min. Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles DIN EN 374 Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.
Eye protection:	Wear closely fitting protective glasses in case of splashes.
Body protection:	Wear antistatic clothing of natural fibres (cotton) or heat resistant synthetic fibres.
Protective measures:	After contact clean skin thoroughly with water and soap or use appropriate cleanser.
Environmental exposure controls:	Do not allow to enter into surface water or drains. See chapter 7. No additional measures necessary

9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Liquid
Colour	Clear
Odour	Lemon
pH value:	-
Boiling point (°C) at 101,3 kPa	162 °C
Ignition Temperature:	235 °C
Flash point	43 °C
Lower explosion limit:	0,6 Vol-%
Upper explosion limit:	6,4 Vol-%
Vapour pressure at 20 °C	0,43 mbar
Density at 20 °C	0,79 g/cm³
Relative Vapour density(air)	Not relevant (non volatile solid)
Water Solubility (g/L)	insoluble
Solvent separation test (%):	< 3 %

10.Stability and reactivity

10.1. Reactivity

Vapours can form explosive mixtures with air.

10.2. Chemical stability

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to chapter 7.

10.3. Possibility of hazardous reactions

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions. Vapours form explosive mixtures with air.

10.4. Conditions to avoid

Hazardous decomposition by-products may form with exposure to high temperatures

10.5. Incompatible materials

10.6. Hazardous decomposition products

Hazardous decomposition by-products may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, nitrogen oxides.

11. Toxicological information

No data on preparation itself available.

11.1. Information on toxicological effects

Acute toxicity

(R)-p-mentha-1,8-diene
oral, LD50, Rat: 4400 mg/kg
dermal, LD50, Rabbit: 5000 mg/kg

Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
oral, LD50, Rat: > 15000 mg/kg Methode: OECD 401
dermal, LD50, Rat: 3400 mg/kg
inhalative (vapours), LC50, Rat: 13100 mg/L (4 h)
Vapours may cause drowsiness and dizziness.

Irritant and corrosive effects

Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
Skin (4 h)
Repeated exposure may cause skin dryness or cracking.

Sensitisation

Toxicological data are not available.

Specific target organ toxicity

Toxicological data are not available.

Aspiration hazard

Toxicological data are not available.

Practical experience/human evidence

Other observations: Inhaling of solvent components above the MWC-value can lead to health damage, e.g. irritation of the mucous membrane and respiratory organs, as well as damage to the liver, kidneys and the central nerve system. Indications for this are: headache, dizziness, fatigue, amyosthenia, drowsiness, in serious cases: unconsciousness. Solvents may cause some of the aforementioned effects through skin resorption. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and/or absorption through skin. Splashing may cause eye irritation and reversible damage.

Overall Assessment on CMR properties

The ingredients in this preparation do not meet the criteria for classification as CMR category 1 or 2 according to 67/548/EEC. The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified according to the toxicological dangers. See chapters 2 and 15 for details.

12. Ecological information

overall evaluation

There is no information available on the preparation itself. Do not allow to enter into surface water or drains.

12.1 Toxicity

(R)-p-mentha-1,8-diene
Fish toxicity, LC50, Pimephales promelas (fathead minnow): 0,72 mg/L (96 h)
Methode: OECD 203
Algae toxicity, ErC50, Desmodesmus subspicatus.: 150 mg/L
Methode: OECD 201

Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
Daphnia toxicity, EC50, Daphnia magna (Big water flea): 10 - 22 mg/L (48 h)
Methode: OECD 202

Algae toxicity, ErC50, Pseudokirchneriella subcapitata: 4,6 - 10 mg/L
Methode: OECD 201

Long-term Ecotoxicity

Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
Fish toxicity, LC50, Oncorhynchus mykiss: 10 mg/L (96 h)

12.2. Persistence and degradability

(R)-p-mentha-1,8-diene — Biodegradation: 80 % (28 d)
Methode: OECD 301D / EEC 92/69 annex V, C.4-E

Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
Biodegradation: 75 % (28 d)
Methode: OECD 301 F

12.3. Bioaccumulative potential

Toxicological data are not available.

Bioconcentration factor (BCF) — (R)-p-mentha-1,8-diene
Bioconcentration factor (BCF): 683,1

12.4. Mobility in soil

Toxicological data are not available.

12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and is classified for eco-toxicological properties accordingly. See Sections 2 and 15 for details.

13. Disposal considerations

13.1. Waste treatment methods

Appropriate disposal/Product

Recommendation — Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

List of proposed waste codes/waste designations in accordance with EWC

140603 — other solvents and solvent mixtures

Packaging Recommendation

Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

14. Transport information

14.1. UN Number

1993

14.2. UN proper shipping name

Land transport (ADR/RID): Flammable liquid, n.o.s.
(Kohlenwasserstoffe, C9-C12, n-Alkane, iso-Alkane, cyclische Verbindungen, Aromaten (2 - 25 %))

Sea transport (IMDG):	FLAMMABLE LIQUID, N.O.S. (Kohlenwasserstoffe, C9-C12, n-Alkane, iso-Alkane, cyclische Verbindungen, Aromaten (2 - 25 %))
Air transport (ICAO-TI / IATA-DGR):	Flammable liquid, n.o.s. (Kohlenwasserstoffe, C9-C12, n-Alkane, iso-Alkane, cyclische Verbindungen, Aromaten (2 - 25 %))

14.3. Transport hazard class(es)

3

14.4. Packing group

III

14.5. Environmental hazards

Land transport (ADR/RID)	UMWELTGEFÄHRDEND
Marine pollutant	p / Kohlenwasserstoffe, C9-C12, n-Alkane, iso-Alkane, cyclische Verbindungen, Aromaten (2 - 25 %)

14.6. Special precautions for user

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.
Advice on safe handling: see parts 6 - 8

Additional information

Land transport (ADR/RID)

tunnel restriction code	D/E

Sea transport (IMDG)

EmS-No.	F-E, S-E

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

not applicable

15. Regulatory information

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

EU legislation

Information according to 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline).

VOC-value (in g/L) ISO 11890-2:	792
VOC-value (in g/L) ASTM D 2369:	792

National regulations

Restrictions of occupation	Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

15.2. Chemical safety assessment

For the following substances of this preparation a chemical safety assessment has been carried out:

EC No CAS No	Chemical Name	REACH No
919-446-0 64742-82-1	Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	01-2119458049-33

16. Other information

Relevant R-and H-phrases (Number and full text):

Flam. Liq. 3 / H226	flammable liquids	Flammable liquid and vapour.
Skin Irrit. 2 / H315	skin corrosion/irritation	Causes skin irritation.
Skin Sens. 1 / H317	respiratory or skin sensitisation	May cause an allergic skin reaction.
Aquatic Acute 1 / H400	Hazardous to the aquatic environment	Very toxic to aquatic life.
Aquatic Chronic 1 / H410	Hazardous to the aquatic environment	Very toxic to aquatic life with long lasting effects.
Asp. Tox. 1 / H304	Aspiration hazard	May be fatal if swallowed and enters airways.
STOT SE 3 / H336	Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness.
Aquatic Chronic 2 / H411	Hazardous to the aquatic environment	Toxic to aquatic life with long lasting effects.
R10		Flammable
Xi; R38	Irritant	Irritating to skin.
R43		May cause sensitization by skin contact.
N; R50-53	Dangerous for the environment	Very toxic to aquatic life. May cause long-term adverse effects in the aquatic environment.
N; R51-53	Dangerous for the environment	Toxic to aquatic life. May cause long-term adverse effects in the aquatic environment.
Xn; R65	Harmful	Harmful: may cause lung damage if swallowed.
R66		Repeated exposure may cause skin dryness or cracking.
R67		Vapours may cause drowsiness and dizziness.

Abbreviations and acronyms

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

Additional information

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in chapter 1. It is always the user's duty to take any necessary measures for meeting the requirements laid down by local rules and regulations. The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.