



SAFETY DATA SHEET

Safety data sheet according to (EC) No. 1907/2006

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier:**

Retrolak® - category 1

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

Floor varnish.

1.3. Details of the supplier of the safety data sheet:

Linolie & Pigment

Øsbygade 46

Phone: +45 7575 2382

DK-6100 Haderslev

Responsible person for the safety data sheet (e-mail): info@linolie.dk**1.4. Emergency telephone number:**

NHS (England or Wales): Dial 111 or 0845 4647 NHS 24 (Scotland): Dial 111

National Poisons Information Centre (Ireland): +353 (1) 809 2166 (8.00 a.m. to 10.00 p.m. 7 days a week)

Healthcare Professionals: +353 (1) 809 2566 (24-hour service)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture:**

CLP (1272/2008): None

2.2. Label elements:

EUH210: Safety data sheet available on request.

P102: Keep out of reach of children.

2.2. Other hazards:

Rags soaked with the product may cause spontaneous combustion.

Risk of slipping accidents as a result of spills.

PBT/vPvB: No ingredients are PBT/vPvB, according to the criteria in REACH Annex XIII.

Endocrine disrupting properties: The substances are not identified as having endocrine disrupting properties in accordance with the criteria set out in Regulation 2017/2100 or Regulation 2018/605.

SECTION 3: Composition/information on ingredients**3.2. Mixtures:** Alkyd varnish.

% w/w	Substance name	CAS-no.	EC-no.	Index-no.	REACH reg.-no.	Classification	Note
25-<50	Hydrocarbons C ₁₀₋₁₃ , n-alkanes, isoalkanes, cyclics, <2% aromatics	-	918-481-9	649-327-00-6	01-2119457273-39	Asp. Tox. 1;H304 EUH066	-
10-<25	Hydrocarbons C ₁₁₋₁₂ , isoalkanes, <2% aromatics	-	918-167-1	649-327-00-6	01-2119472146-39	Flam. Liq. 3;H226 EUH066 Asp. Tox. 1;H304	-
<1	2-Ethylhexanoic acid, zirconium salt	22464-99-9	245-018-1	-	01-2119979088-21	Repr. 2;H361f	1
<0.5	2-Methylpentane- 2,4-diol (Hexylene glycol)	107-41-5	203-489-0	603-053-00-3	-	Skin Irrit. 2;H315 Eye Irrit. 2;H319	1

1) The substance has an occupational exposure limit.

Wording of hazard statements - see section 16.



Retrolak® - category 1

SECTION 4: First-aid measures

4.1. Description of first aid measures:

- General: Remove clothing soiled with varnish and dispose of it safely. Never put soiled cloths in the pockets.
- Inhalation: Move the affected person to fresh air. Keep at rest. If symptoms persist: Seek medical advice.
- Skin contact: Remove all contaminated clothing. Wash skin with water and mild soap.
- Eye contact: Flush with water or physiological salt water, holding eyelids open; remember to remove contact lenses, if any. If irritation persist: Seek medical advice.
- Ingestion: Rinse mouth and drink plenty of water. **Do not induce vomiting.** If vomiting occurs keep head down to avoid vomit in the lungs. Seek medical advice.

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

May cause discomfort and slight irritation of skin and eyes. Repeated exposure may cause skin dryness or cracking. Prolonged or frequent exposure to vapours of volatile organic compounds may result in damage on liver, kidneys, blood or central nervous system (including brain damage).

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

Show this safety data sheet to a physician or emergency ward.

SECTION 5: Firefighting measures

5.1. Extinguishing media:

Use water fog, carbon dioxide, dry chemical or foam.

5.2. Special hazards arising from the substance or mixture:

Do not inhale smoke fumes. In case of fire, the substance may form hazardous decomposition products: Primarily oxides of carbon.

5.3. Advice for firefighters:

Remove containers if possible or keep containers cool by spraying with water. Wear self-contained breathing apparatus when generation of smoke is vigorous.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

Use gloves of rubber when spill is wiped up – see section 8. Avoid further spreading. Ventilate area of spill.

6.2. Environmental precautions:

Do not empty into drains – see section 12. Inform appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up:

Spills form a slippery surface when in contact with water (risk of slipping accidents). Take up with absorbent material (e.g. general-purpose binder) and place in marked container for disposal. All contaminated rags, paper etc. may be subject to spontaneous combustion under certain conditions. Place all contaminated material in a metal container, which contains water, with a tight fitting lid. Remove from premises immediately. Clean with water. Dispose of in accordance with local regulations or burn under controlled conditions. Further handling of spillage - see section 13.

6.4. Reference to other sections:

See references above.

SECTION 7: Handling and storage

7.1. Precautions for safe handling:

Avoid contact with skin, eyes and clothing. Wash contaminated skin immediately with water and mild soap. Contaminated clothes or absorbent material is kept under water until disposal or cleaning. Moisturisers prevents drying of the skin and may be used with great advantage after work.

7.2. Conditions for safe storage, including any incompatibilities:

Store in a tightly closed original container of metal. Keep in a dry and well-ventilated place. Storage must be in compliance with all regulatory requirements pertaining to flammable liquids.

7.3. Specific end use(s):

See section 1.

**Retrolak® - category 1****SECTION 8: Exposure controls/personal protection****8.1. Control parameters:**

Occupational exposure limits, UK (EH40/ed.2020):

Substance	8-hour TWA	15-min STEL	Comments
Zirconium compounds (as Zr)	5 mg/m ³	10 mg/m ³	-
2-Methylpentane-2,4-diol	25 ppm = 123 mg/m ³	25 ppm = 123 mg/m ³	-

Occupational exposure limit values, Ireland (2021):

Substance	8-hour TWA	15-min STEL	Notes
Zirconium compounds (as Zr)	5 mg/m ³	10 mg/m ³	-
Hexylene glycol	-	25 ppm = 125 mg/m ³	-

DNEL:	Exposure	Value	Population	Effects
2-Ethylhexanoic acid, zirconium salt	Long term, dermal	6.49 mg/kg/d	Worker	Systemic
	Long term, inhalation	32.97 mg/m ³	Worker	Systemic
	Long term, dermal	3.25 mg/kg/d	Consumer	Systemic
	Long term, inhalation	8.13 mg/m ³	Consumer	Systemic
	Short term, oral	4.51 mg/kg/d	Consumer	Systemic

PNEC:	Medium	Value
2-Ethylhexanoic acid, zirconium salt	Fresh water	0.36 mg/l
	Sea water	0.036 mg/l
	Fresh water sediment	6.37 mg/kg
	Sea water sediment	0.637 mg/kg
	Soil	1.06 mg/kg
	Sewage treatment plant	71.7 mg/l

The hydrocarbons are REACH registered, but no DNEL/PNEC are available for the substances.

8.2. Exposure controls:

Appropriate engineering controls: Provide sufficient ventilation.

Personal protective equipment:

Inhalation: Normally not required. In case of working in not adequate ventilated areas, use an approved mask with a gas filter: A (EN 140). The filter has a limited lifetime and must be changed. Read the instruction.

Skin: Wear protective gloves of nitrile rubber (> 0.3 mm) (EN 374). It has not been possible to find data for breakthrough time. In case of spill on the glove, it is recommended to change it after use.

Eyes: Wear tight fitting safety goggles (EN 166) when there is risk of splashes.

Environmental exposure controls: None particular.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties:**

Physical state:	Liquid
Colour:	Colourless
Odour:	Hydrocarbon
Melting point/freezing point (°C):	Not determined
Boiling point or initial boiling point and boiling range (°C):	Not determined
Flammability (solid, gas):	Not relevant
Lower and upper explosion limit (vol-%):	0.6-7 (for hydrocarbons)
Flash point (°C):	> 60
Auto-ignition temperature (°C):	> 200
Decomposition temperature (°C):	Not determined
pH:	Not determined
Kinematic viscosity (mm ² /s, 40°C):	> 20.5
Solubility:	Insoluble in water
Partition coefficient n-octanol/water (log value):	Not relevant for mixtures
Vapour pressure (mmHg, 20°C):	< 0.75 (for hydrocarbons)
Density and/or relative density (g/ml):	App. 0.9
Relative vapour density:	> 1 (for hydrocarbons)
Particle characteristics:	Not relevant for liquids

9.2. Other information: None relevant.



SECTION 10: Stability and reactivity

10.1. Reactivity:

No available data.

10.2. Chemical stability:

Combustible. Vapours can be set on fire by a spark, a hot surface or an ember. The vapors may form explosive mixtures with air.

10.3. Possibility of hazardous reactions:

Warning: Combustible materials such as rags, paper or cloths soaked with the product may cause spontaneous combustion

10.4. Conditions to avoid:

Avoid formation of sparks, glows and strong heat.

10.5. Incompatible materials:

Avoid contact with oxidizing materials.

10.6. Hazardous decomposition products:

In case of extensive heating, the mixture may form hazardous decomposition product such as oxides of carbon.

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.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

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

Respiratory or skin sensitization: Based on available data, the classification criteria are not met.

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: Based on available data, the classification criteria are not met.

Hazard class	Data	Test	Data source
Acute toxicity:			
Inhalation	LC ₅₀ (rat) > 4951 mg/l (Hydrocarbons C ₁₀₋₁₃)	OECD 403	ECHA
Dermal	LC ₅₀ (rat) > 5000 mg/kg (Hydrocarbons C ₁₁₋₁₂)	OECD 403	Supplier
	LD ₅₀ (rabbit) > 5000 mg/kg (Hydrocarbons C ₁₀₋₁₃)	OECD 402	ECHA
	LD ₅₀ (rabbit) > 5000 mg/kg (Hydrocarbons C ₁₁₋₁₂)	OECD 402	Supplier
Oral	LD ₅₀ (rat) > 2000 mg/kg (Hexylene glycol)	OECD 402	ECHA
	LD ₅₀ (rat) > 5000 mg/kg (Hydrocarbons C ₁₀₋₁₃)	OECD 401	ECHA
	LD ₅₀ (rat) > 5000 mg/kg (Hydrocarbons C ₁₁₋₁₂)	OECD 401	Supplier
	LD ₅₀ (rat) > 5000 mg/kg (2-Ethylhexanoic acid, zirconium salt)	No data	Supplier
	LD ₅₀ (rat) > 4000 mg/kg (Hexylene glycol)	OECD 401	ECHA
Corrosion/irritation:	Skin irritation, no eye irritation, rabbit (Hydrocarbons C ₁₀₋₁₃)	OECD 404, 405	ECHA
	No skin and eye irritation, rabbit (Hydrocarbons C ₁₁₋₁₂)	OECD 404, 405	Supplier
	Skin irritation, rabbit (Hexylene glycol)	OECD 404	ECHA
	Eye irritation (based on skin irritation test) (Hexylene glycol)	Read-across	ECHA
Sensitization:	No skin sensitization, guinea pig (Hydrocarbons C ₁₀₋₁₃)	OECD 406	ECHA
	No skin sensitization, guinea pig (Hydrocarbons C ₁₁₋₁₂)	OECD 406	Supplier
	No skin sensitization, guinea pig (Hexylene glycol)	OECD 406	ECHA
CMR:	No CMR effects (Hydrocarbons C ₁₀₋₁₃)	Different	ECHA
	No CMR effects (Hydrocarbons C ₁₁₋₁₂)	Different	Supplier
	NOAEL, rat: 300 mg/kg/d reduced fertility (2-Ethylhexanoic acid, zirconium salt)	No data	ECHA
Other chronic:	NOAEL (90 d) = 450 mg/kg/bw/d (Hexylene glycol)	OECD 408	ECHA

Information on likely routes of exposure: Inhalation, ingestion and by skin contact.



SECTION 11: Toxicological information (continued)

Symptoms:

- Inhalation:** Vapours may cause irritation to the airways. Inhalation of larger amounts may induce discomfort and headache.
- Skin:** May cause irritation with redness by prolonged contact with skin. Repeated exposure may cause skin dryness or cracking.
- Eyes:** May cause irritation with redness and pain.
- Ingestion:** May cause irritation of the gastrointestinal tract and discomfort, nausea and diarrhea.
- Chronic effects:** Prolonged or frequent exposure to vapours of volatile organic compounds may result in damage on liver, kidneys, blood or central nervous system (including brain damage). The zirconium-compound is suspected of damaging fertility or the unborn child.

11.2. Information on other hazards: None known.

SECTION 12: Ecological information

12.1. Toxicity:

Aquatic	Data	Test (Media)	Data source
Fish	LC ₅₀ (Oncorhynchus mykiss, 96h) = 1000 mg/l (Hydrocarbons C ₁₀₋₁₃) LL ₀ (Oncorhynchus mykiss, 96h) = 1000 mg/l (Hydrocarbons C ₁₁₋₁₂) LC ₅₀ (Cyprinus carpio, 96h) = 8690 mg/l (Hexylene glycol)	OECD 203 (FW) No data (FW) OECD 203 (FW)	Supplier Supplier ECHA
Daphnia	EC ₅₀ (Daphnia magna, 48h) = 1000 mg/l (Hydrocarbons C ₁₀₋₁₃) EL ₀ (Daphnia magna, 48h) = 1000 mg/l (Hydrocarbons C ₁₁₋₁₂) NOELR (Daphnia magna, 21d) > 1 mg/l (Hydrocarbons C ₁₁₋₁₂) EC ₅₀ (Daphnia magna, 48h) = 5410 mg/l (Hexylene glycol)	OECD 202 (FW) No data (FW) No data (FW) OECD 202 (FW)	Supplier Supplier Supplier ECHA
Algae	EC ₅₀ (Pseudokirchnerella subcapitata, 72h) = 1000 mg/l (Hydrocarbons C ₁₀₋₁₃) EL ₀ (Pseudokirchnerella subcapitata, 72h) = 1000 mg/l (Hydrocarbons C ₁₁₋₁₂) NOELR (Pseudokirchnerella subcap., 72h) = 1000 mg/l (Hydrocarbons C ₁₁₋₁₂) EC ₅₀ (Desmodesmus sub., 72h) > 429 mg/l (Hexylene glycol)	OECD 201 (FW) No data (FW) No data (FW) OECD 201 (FW)	Supplier Supplier Supplier ECHA

12.2. Persistence and degradability:

Hydrocarbons C₁₀₋₁₃ are degraded 80% in 28 days at OECD 301F test and are therefore considered readily biodegradable.
Hydrocarbons C₁₁₋₁₂ are degraded 31,3% in 28 days at OECD 301 test and are therefore considered readily biodegradable.
Hexylene glycol is readily biodegradable (>70%, 28d (OECD 301)).
Methods are missing for determining the biodegradability for inorganic substances.

12.3. Bioaccumulative potential:

Hexylene glycol: Log K_{ow} = -0,14 (no bioaccumulation) (OECD 107).

12.4. Mobility in soil:

No data available.

12.5. Results of PBT and vPvB assessment:

No ingredients are PBT/vPvB, according to the criteria in REACH Annex XIII.

12.6. Endocrine disrupting properties:

None known.

12.7. Other adverse effects:

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods:

The mixture is not considered as hazardous waste. Disposal should be according to local, state or national legislation. Dispose of through authority facilities or pass to chemical disposal company.

EWC-code:

08 01 12 (mixture itself) and 15 02 03 (Paper towel, inert material etc. contaminated with the mixture)



Retrolak® - category 1

SECTION 14: Transport information

Not dangerous goods according to ADR/RID.

14.1. UN number or ID number: None.

14.2. UN proper shipping name: None.

14.3. Transport hazard class(es): None.

14.4. Packing group: None.

14.5. Environmental hazards: No.

14.6. Special precautions for user: None.

14.7. Maritime transport in bulk according to IMO instruments: Not relevant.

SECTION 15: Regulatory information

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

Special labelling:

VOC subcategory: A/e

VOC limit value (g/l): 400

VOC content (g/l): 393

Danish 1993-Code no.: 2-1

15.2. Chemical safety assessment:

No CSR.

SECTION 16: Other information

Hazard statements mentioned in section 3:

EUH066: Repeated exposure may cause skin dryness or cracking.

H226: Flammable liquid and vapour.

H304: May be fatal if swallowed and enters airways.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H361d: Suspected of damaging the unborn child.

Abbreviations:

CMR = Carcinogenicity, mutagenicity and reproductive toxicity.

CSR = Chemical Safety Report

DNEL = Derived No-Effect Level

EC₅₀ = Effect Concentration 50%

EL₅₀ = Effect Loading 50%

FW = Fresh Water

LC₅₀ = Lethal Concentration 50%

LD₅₀ = Lethal Dose 50%

PBT = Persistent, Bioaccumulative, Toxic

PNEC = Predicted No-Effect Concentration

vPvB = very Persistent, very Bioaccumulative

Literature:

ECHA = European Chemical Agency Registration dossier

Supplier's safety data sheet

Training advice:

No special training is required. However, the user should be well instructed in the execution of his/her task, be familiar with this Safety Data Sheet and have normal training in the use of personal protective equipment.

Other information:

The product does not fulfill the criteria for classification as Asp. Tox. 1;H304 due to the relatively high viscosity.

Changes since the previous edition:

Not relevant

Prepared by: Altos a/s – Tonsbakken 16-18 - 2740 Skovlunde - Phone +45 - 38 34 77 98 / PH - Quality control: PW