SAFETY DATA SHEET


Product name: REFLEXOL
Date of issue: 17. 12. 2018 (version 1.0)
Revision date: -

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1 Product Identifier

   REFLEXOL

   Chemical name:
   Mixtures

   Registration No.:
   None

   Index No.:
   None

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

   Designated uses: Restoration paints for repair of cardboard coverings, insulating paints.
   Uses of the mixture not recommended: The product may not be used in any way other than those speci-
   fied in sections 1 and 7.

1.3 Details of the supplier of the safety data sheet

   Name: PARAMO, a. s.
   Place of business: Přerovská 560, 530 06 Pardubice, Czech Republic
   Phone: +420 466 810 111
   Fax: +420 466 335 019
   E-mail: paramo@paramo.cz
   Website: www.paramo.cz
   Person(s) responsible for this Safety Data Sheet: Ms. Marie Doleželová, bd@paramo.cz

1.4 Emergency telephone number

   Control Room of PARAMO, a. s.: +420 466 303 175
   Toxicological Information Centre at Na Bojišti 1, 128 08 Prague 2, phone (Czech Republic only) (24 hours,
   7 days a week): +420 224 919 293, 224 915 402, 224 914 575
   Transport Information & Accident System (TRINS), phone: +420 476 709 826

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

   According to the Regulation (EC) No. 1272/2008 (CLP), the product is classified as hazardous.
   Flam. Liq. 3, H226
   Skin Irrit. 2, H315
   STOT SE 3, H336
   STOT RE 1, H372
   Aquatic Chronic 2, H411

2.2 Label elements

   Pictogram:

   Warning description: Warning
   Dangerous substances: Low boiling hydrogenated petrol
   Standard phrases of hazard:
   H226 Flammable liquid and vapour
   H315 Causes skin irritation
   H335 May cause respiratory irritation
   H336 May cause drowsiness or dizziness
   H372 Causes damage to organs through prolonged or repeated exposure (CNS)
   H411 Toxic to aquatic life with long lasting effects
SAFE HANDLING INSTRUCTIONS

P102 Keep out of reach of children
P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking
P260 Do not breathe vapours and spray
P262 Do not get in eyes, on skin, or on clothing
P271 Use only outdoors or in a well-ventilated area
P280 Wear protective gloves, protective clothing and eye protection
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P331 Do NOT induce vomiting
P501 Dispose of contents/container as hazardous waste

TECHNICAL DATA

Categories and subcategories
<table>
<thead>
<tr>
<th>Solid content (% wt.)</th>
<th>51.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total VOC content (% wt.)</td>
<td>48.4</td>
</tr>
<tr>
<td>Volatile compounds (VOC) (g/l)</td>
<td>460</td>
</tr>
<tr>
<td>Maximum threshold of VOC (g/l)</td>
<td>500</td>
</tr>
</tbody>
</table>

OTHER REQUIREMENTS

Packaging intended for the general public must have a palpable alert for the blind and a childproof closure.

2.3 Other hazards

The product is not persistent, bioaccumulative and toxic chemical substance or very persistent and very bioaccumulative chemical substance according to the criteria set out in Annex XIII to the EC (PBT, vPvB).

Flammable liquid: The risk of fire occurs in the event of overheating above the temperature of the fire point. The product in contact with the air produces an explosive mixture (see article 9). Prolonged contact with the skin or mucosa may cause slight irritation. The inhalation of vapors may cause nausea to dizziness. The accidental release of this product causes the contamination of surface and underground water as well as of the soil. The evaporation of the organic solvent into the air.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

The product is not the substances

3.2 Mixtures

Chemical characteristics

A mixture of the following substances and admixtures

<table>
<thead>
<tr>
<th>Identification No.</th>
<th>Substance name</th>
<th>Subst. content in the product (%)</th>
<th>Classification according to 1272/2008 (CLP)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC: 918-668-5</td>
<td>Hydrocarbons, C9, aromatic</td>
<td>27.5</td>
<td>Flam. Liq. 3, H226, Asp. Tox. 1, H304, STOT SE 3, H335, STOT SE 3, H336, Aquatic Chronic 2, H411 EUH066</td>
<td></td>
</tr>
<tr>
<td>CAS: 64742-95-6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registration No:</td>
<td></td>
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<td></td>
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<tr>
<td>01-2119455851-35</td>
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<td></td>
</tr>
<tr>
<td>CAS: 64742-82-1</td>
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<td>Registration No:</td>
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<tr>
<td>01-2119490979-12</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC: 203-625-9</td>
<td>Toluene</td>
<td>&lt; 0.6</td>
<td>Flam. liq. 2, H225, Repr. 2, H361, Asp. Tox 1, H304, STOT RE 2, H373, Skin Irrit. 2, H315, STOT SE 3, H336</td>
<td></td>
</tr>
<tr>
<td>CAS: 108-88-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registration No:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>not available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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EC: 203-777-6
CAS: 110-54-3
Registration No: not available

<table>
<thead>
<tr>
<th>Substance</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Hexane</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td></td>
<td>Asp. Tox. 1, H304</td>
</tr>
<tr>
<td></td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td>STOT SE 3, H336</td>
</tr>
<tr>
<td></td>
<td>STOT RE 2, H373</td>
</tr>
<tr>
<td></td>
<td>Aquatic Chronic 2, H411</td>
</tr>
</tbody>
</table>

Full texts of H-phrases are quoted in Section 16

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

If the first aid treatment is to be administered, release tight clothing and keep the exposed person warm and at rest. If conscious, place the exposed person to the stabilised position and get prompt medical attention. If the exposed person is unconscious and not breathing, provide for free respiratory passages and artificial respiration. In case of cardiac arrest, apply cardiac massage and call medical assistance immediately. If unconscious but breathing, place the exposed person to the stabilised position and call medical assistance immediately.

The first aid instructions are structured according to separate exposure ways:

**Inhalation:** Move the exposed person to fresh air or to a well-ventilated place, keep the exposed person warm and at rest, do not leave the person unattended. Get prompt medical assistance.

**Skin contact:** Remove the contaminated clothes and footwear immediately. Keep washing the affected body parts with soap and warm water and treat them with a suitable cream. If any irritation, swelling or reddening occurs, get prompt medical assistance. Wash the contaminated clothes before re-use. Footwear and other leather clothing parts must be replaced with new.

**Contact with eyes:** Check for contact lenses and remove them, if present. Rinse the eyes thoroughly with ample quantity of clean (lukewarm, if possible) water for at least 15 minutes. If eye irritation persists, seek medical assistance.

**Ingestion:** Remove any artificial denture, if present. Rinse the mouth with water, but never induce vomiting - vomit should not get into the lungs. Get prompt medical attention. If nevertheless spontaneous vomiting occurs, place the exposed person to the stabilised position with his/her legs slightly elevated. Seek immediate medical assistance.

4.2 Most important symptoms and effects, both acute and delayed

The product has negative effects on the central nervous system. Upon inhalation, its narcotic effect in the concentration of 8 mg/l in air causes nausea to narcosis, while concentrations of 40 mg/l may be fatal after 5 to 10 minute inhalation. Repeated exposures may cause chronic neurologic effects.

4.3 Indication of any immediate medical attention and special treatment needed

**Inhalation:** The product has negative effects on the central nervous system. At higher concentrations, the product vapours have narcotic effects that may cause convulsions or even death. Check for breathing and pulse rate of the affected person.

**Ingestion and inhalation:** If swallowed or inhaled, the product may cause serious damage of lungs. Do not induce vomiting. Contraindications: induced vomiting and gastric irrigation. Administration of medicinal charcoal has no effect. The affected person must be monitored at least for the period of 48 to 72 hours. Monitoring for pulmonary oedema symptoms starts six hours after the ingestion/inhalation and it continues at least for the period of 48 to 72 hours.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

**Suitable extinguishing means:** Heavy, medium and light air-mechanical foam, type B or C fire-extinguishing powders.

**Unsuitable extinguishing means:** Water jet (for cooling only).

5.2 Special hazards arising from the substance or mixture

Combustion products and hazardous gases: smoke, carbon monoxide, carbon dioxide. Explosive mixtures with air are formed.
5.3 Advice for firefighting

Fire-fighting teams exposed to smoke or vapours must wear respiratory and eye protection. In confined spaces, the teams must use a self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Prevent the contamination of clothes and shoes with the product as well as contact with the skin and eyes. Use suitable protective clothes and if contaminated, replace the clothes as soon as possible.

6.2 Environmental precautions

Prevent the spread of the released substance as well as the contamination of the sewerage, underground and surface water and soil, ideally by marking off the possible spread area. In the case of release, notify relevant authorities.

6.3 Methods and material for containment and cleaning up

If possible, contain the spillage and pump off or remove the product mechanically or draw it off the water surface. Let absorb any residual or smaller quantities to a suitable sorbent (Vapex, Chezacarb, saw dust, sand) and place it into labelled containers for further disposal in accordance with the relevant waste disposal legislation.

6.4 Reference to other sections

Apart from the instruction set out in this Section, other important information is shown in section 8 - EXPOSURE CONTROLS AND SECTION 13 – DISPOSAL CONSIDERATIONS.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

The building must be equipped in accordance with the respective ČSN 75 3415 standard. When handling the product, all valid firefighting measures must be observed. Furthermore, it is necessary to prevent the possible inhalation of vapors or aerosol, skin or eye contamination. When handling heavy packaging, use appropriate handling means and exclude the possibility of slipping. Do not eat, drink or smoke when working.

7.2 Conditions for safe storage, including any incompatibilities

Storage must comply with the provisions according to ČSN 65 0201. Store in properly sealed tanks, or containers designed for the storage of asphalt lacquers placed in a properly ventilated place out of the reach of sources of ignition and of water penetration; such places must also be protected from sunshine and temperatures in excess of 30 °C. Electric equipment must be installed according to valid regulations. The storage temperature must not exceed an ignition point.

7.3 Specific end use(s)

Refresh paint on cardboard roofing repairs, insulation coatings.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

The mixture contains substances for which exposure limits are set for the working environment (according to Government Regulation 361/2007).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL</td>
<td>400 mg/m³</td>
</tr>
<tr>
<td>NPK-P</td>
<td>1000 mg/m³</td>
</tr>
<tr>
<td>DNEL workers (inhalation, acute toxicity)</td>
<td>1100 – 1300 mg/m³/15 min</td>
</tr>
<tr>
<td>DNEL workers (inhalation, chronic toxicity)</td>
<td>840 mg/m³/8 h</td>
</tr>
<tr>
<td>DNEL public (inhalation, acute toxicity)</td>
<td>640 – 1200 mg/m³/15 min</td>
</tr>
<tr>
<td>DNEL public (inhalation, chronic toxicity)</td>
<td>180 mg/m³/24 h</td>
</tr>
<tr>
<td>PNEC (water, sediment, soil, WWTP)</td>
<td>NA</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Observe general safety and hygienic measures; do not eat, drink and smoke at work. After washing the skin with warm water and soap, treat it preventively with a regeneration cream.
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**Eye/face protection:** Use protective goggles or safety eyewear (face shield).

**Skin protection:** Use protective gloves resistant against oil products and tested according to EN 374; best of all made of nitrile or neoprene rubber.

**Respiratory protection:** Not necessary, if the vapour concentration in air is less than the concentration limits. If the opposite is the case or aerosols are created, use emergency escape mask with A, AX (brown) filters or any other mask types suitable of protecting against organic gases and vapours.

**Thermal hazard:** None

**Environmental exposure controls:** It is necessary to prevent leakage into the environment by all available means.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

9.1 Information on basic physical and chemical properties

**Appearance**
- **State:** liquid
- **Colour:** silver-gray
- **Odour:** of kerosene
- **Odour threshold value:** not determined
- **pH:** no determination necessary
- **Pour point:** < 0 °C
- **Initial boiling point and boiling range:** not determined

**Flash point PM:** > 31 °C

**Vapourisation rate:** not determined

**Flammability (solids, gases):** II. Class

**Upper/lower explosion or flammability limits:** Upper limit: 6.5 % of volume, lower limit: 1.0 % of volume

**Vapour pressure:** 100 Pa at 20 °C

**Vapour density:** not determined

**Relative density:** 950 kg/m³ at 15 °C

**Solubility:** insoluble in water

**Separation factor:** n-octanol/water: not determined

**Self-ignition temperature:** > 260 °C

**Decomposition temperature:** not determined

**Viscosity/40 °C:** 20.6 mm²/s

**Explosive properties:** Limit experimental safe joint: > 0.9 mm

**Oxidation properties:** not oxidising

9.2 Other information

**Combustion point:** > 36 °C

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**SECTION 10: STABILITY AND REACTIVITY**

10.1 Reactivity:** No reactivity danger exists.

10.2 Chemical stability:** Stable under recommended storage and handling conditions.

10.3 Possibility of hazardous reactions:** No dangerous reactions are possible.

10.4 Conditions to avoid:** Creation of concentrations within the explosion limits, presence of ignition sources and contact with a naked flame.

10.5 Incompatible materials:** Strong oxidisers.

10.6 Hazardous decomposition products:** Under normal conditions: none; if burning under deficiency of air, carbon monoxide may be formed.
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SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:
- Oral toxicity (rat) LD$_{50}$ > 5 000 mg/kg (OECD TG 401)
- Dermal toxicity (rabbit) LD$_{50}$ > 2 000 mg/kg (OECD TG 402)
- Inhalation toxicity (rabbit) LC$_{50}$ > 5 610 mg/m$^3$ (OECD TG 403)

Chronic toxicity: chronic inhalation toxicity NOAEC > 1 400 mg/m$^3$ (OECD TG 453)

Skin corrosion/irritation: OECD TG 404 test results proved the skin irritation.

Serious eye damage/irritation: OECD TG 405 test results proved no eye irritation.

Respiratory or skin sensitization: the respiratory organ sensitisation data are missing, but no such sensitisation is expected. As regards the sensitisation by skin contact, OECD TG 406 tests were made and no sensitisation proved.

Germ cell mutagenicity: In vitro genetic toxicity tests (OECD TG 471 and OECD TG 476) or in vivo (OECD TG 474 and OECD TG 475) did not show germ cell mutagenicity.

Carcinogenicity: rat NOAEL = 292 ppm (1400 mg / m3), OECD TG 453, not expected (benzene content <0.1%)

Reproduction toxicity: The substance is not toxic for reproduction

STOT – single exposure: not determined

STOT – repeated exposure: not determined

Aspiration hazards: May be fatal if swallowed and enters airways.

SECTION 12: ECOLOGICAL INFORMATION

Based on acute toxicity of invertebrates and algae, the product is classified as toxic to the environment with H411.

12.1 Toxicity

Data for low-boiling hydrogenated gasoline:

Acute toxicity for aquatic environment: fish - LL$_{50}$ (96 hrs) 8.2 mg/l
- Algae EL$_{50}$ (72 hrs) 3.1 mg/l, NOELR (72 h) 0.5 mg/l
- Invertebrates EL$_{50}$ (48 hrs) 4.5 mg/l

Chronic toxicity for aquatic environment: not determined

12.2 Persistence and degradability: Not expected - the substance is not soluble in water.

12.3 Bio accumulative potential: Not expected - the substance is biodegradable.

12.4 Mobility in soil: Not expected - the substance is biodegradable.

12.5 Results of PBT and vPvB assessment: The product does not contain substances meeting the criteria for PBT or vPvB in accordance with Annex XIII, Regulation (EC) No 1907/2006 (REACH), as amended.

12.6 Other adverse effects: The formation of product layers on water surfaces prevents the access of oxygen.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Substance disposal procedures: Waste, impaired product or unused/surplus product must be handed over to the person authorised for waste disposal according to the provisions of Act No. 185/2001 Coll., on Waste, as amended later, for the purposes of further use or disposal (according to the manufacturer’s recommendations).

Waste Code: N 05 01 17, in sorbent: N 15 02 02

Contaminated packaging disposal procedures: Base oil is supplied in rail tanks and tank trucks. If repumped into drums, these must be handed over – properly emptied – to the collection yard for hazardous waste. The containers with product residua must be placed on the place specified by the municipal authorities or handed over to the person authorised for waste disposal.

SECTION 14: TRANSPORT INFORMATION

Nomenclature and labelling according to the European Agreement concerning the International Carriage of Dangerous Goods, Road (ADR)/Rail (RID)

14.1 UN Number: 1139

14.2 UN proper shipping name: PROTECTIVE COATING SOLUTION

14.3 Transport hazard class: 3
   Classification code: F1
   Danger identification No.: 30
   Safety mark: 3

14.4 Packing group: III

14.5 Environmental hazard: yes

14.6 Special precautions for user:
   Transport category: 3
   Limited quantity: 5 L

   Petroleum liquids under the Act on the waters, as amended, considered dangerous because of the requirements of the quality of surface and groundwater when transporting large volumes necessary to follow the advice of Standard 75 3418.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code: not applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
✓ Act on Clean Air Protection, as amended later, incl. connected regulations and rules. Art. 2.2.
✓ ČSN 65 0201 Flammable Liquids – manufacturing, storage and handling premises
   According to ČSN 65 0201, the product is classified in the II Flammability Class.
✓ ČSN 33 0371 In explosive electrical installation – Explosive mixtures – Classification and methods of testing
   According to ČSN 33 077, the product is classified in the T3 Thermal Class.
✓ Government Regulation No. 361/2007 Coll., by which the conditions of occupational health and safety are stipulated, as amended later.
✓ ČSN 75 3415 Protection of water against oil products. Premises for oil product handling and storage.
✓ Act No. 350/2011 Coll., on chemical substances and chemical mixtures, and on amendments of some acts.
✓ Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances andmixtures

15.2 Chemical safety assessment
The chemical safety assessment has been made.
Restrictions on toluene: Marketing and use restricted - Annex XVII 48 of the REACH Regulation. May not be placed on the market or used as a substance or in mixtures at a concentration of 0,1% by weight or more when the substance or mixture is used in adhesives or in spray paints intended for sale to the general public.
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SECTION 16: OTHER INFORMATION

Standard safety phrases: H-phrases
H225 Highly flammable liquid and vapour
H226 Flammable liquid and vapour
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child
H372 Causes damage to organs through prolonged or repeated exposure
H373 May cause damage to organs through prolonged or repeated exposure
H411 Toxic to aquatic life with long lasting effects
EUH066 Repeated exposure may cause skin dryness or cracking

Safe handling instructions: P-phrases
P102 Keep out of reach of children
P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking
P260 Do not breathe vapours and spray
P262 Do not get in eyes, on skin, or on clothing
P271 Use only outdoors or in a well-ventilated area
P280 Wear protective gloves, protective clothing and eye protection
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P331 Do NOT induce vomiting
P501 Dispose of contents/container as hazardous waste

Other information important for the safety and health of humans
The product must not be used for any purpose other than those specified in sections 1 and 7 without the manufacturer's / importer's specific consent. The user is responsible for compliance with all relevant health protection regulations.

Training
The user is obliged to get acquainted with the safety precautions relating to the product handling / treatment and complete applicable trainings at the workplace before he/she starts to work with the product.

Information on changes

✓ New SDS.

Statement: The Safety Data Sheet has been prepared in accordance with REACH Regulation (EC) No 1907/2006. It contains the data that are needed to ensure safety and health at work and environmental protection. These data do not replace the quality specification and cannot be considered as a guarantee of the suitability and usability of this product for a specific application. These data correspond to the current state of knowledge and experience and are in accordance with our valid legal regulations. The customer is responsible for compliance with the applicable regional legislation.