

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

1.1. Product identifier

| | |
|------------------------|--|
| Chemical type | : Substance |
| Substance name | : Paraffin waxes and Hydrocarbon waxes, microcryst |
| Trade name | : Paraffin 170 / 190-2 FG |
| EC no | : 264-038-1 |
| CAS No. | : 63231-60-7 |
| REACH registration No. | : 01-2119495561-32-0009 |
| Product code | : 81L, SDS # PbR0257 |
| Synonyms | : None known. |

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

1.2.1. Relevant identified uses

| | |
|----------------------------------|--|
| Use of the substance/preparation | : Manufacture of substances Intermediate Formulation [mixing] of preparations and/or re-packaging Coatings Release agent. Agrochemicals Building and construction work. Road work Manufacture of rubber products. Polymer preparations and compounds Fuels Lubricant Use as laboratory reagent. Functional fluids Consumer use Explosive Binding agent |
|----------------------------------|--|

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Petrobras International Braspetro B.V. – PIB BV
Prins Bernhardplein 200, 1097 – JB Amsterdam
The Netherlands

All communications shall be addressed exclusively to the following address:

Petrobras Europe Ltd
4th Floor, 20 North Audley Street
London W1K 6WL – United Kingdom
Fax number: +44(0) 20 7355 8750
E-mail: reach@petrobras.com.br

1.4. Emergency telephone number

| | |
|------------------|--|
| Emergency number | : For Chemical Emergency, Spill, Leak, Fire, Exposure or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada (collect calls accepted): 1-703-527-3887 |
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

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

Not classified

Adverse physicochemical, human health and environmental effects

High concentration of vapours may induce: headache, dizziness, drowsiness, nausea and vomiting.

2.2. Label elements

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

No labelling applicable

2.3. Other hazards

This substance/mixture does not meet the PBT/vPvB criteria of REACH, annex XIII.

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according to Regulation (EC) No. 453/2010

SECTION 3: Composition/information on ingredients

3.1. Substances

| Name | Product identifier | % | Classification according to Directive 67/548/EEC |
|--|---|-----|--|
| Paraffin waxes and Hydrocarbon waxes, microcryst | (CAS No.) 63231-60-7 (EC no) 264-038-1 | 100 | Not classified |

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|--|---|-----|---|
| Paraffin waxes and Hydrocarbon waxes, microcryst | (CAS No.) 63231-60-7 (EC no) 264-038-1 | 100 | Not classified |

Full text of R-, H- and EUH-phrases: see section 16.

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. In case of breathing difficulties administer oxygen. In case of irregular breathing or respiratory arrest provide artificial respiration. If medical advice is needed, have product container or label at hand.
- First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Rinse thoroughly with plenty of water for at least 20 minutes and take medical advice. If medical advice is needed, have product container or label at hand.
- First-aid measures after eye contact : Rinse immediately and plentifully with water, also under the eyelids, for at least 20 minutes. Seek immediate medical advice. If medical advice is needed, have product container or label at hand.
- First-aid measures after ingestion : If swallowed, do not induce vomiting: seek medical advice immediately and show this container label. If swallowed, rinse mouth with water (only if the person is conscious). Drink plenty of water.

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

- Symptoms/injuries after inhalation : High concentration of vapours may induce: headache, nausea, dizziness. Irritant effect on the respiratory tract:.
- Symptoms/injuries after skin contact : Slightly irritating to skin. Prolonged/repetitive skin contact may cause skin defatting or dermatitis. Heated product causes burns.
- Symptoms/injuries after eye contact : Slightly irritating to eyes.
- Symptoms/injuries after ingestion : Nausea.

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

Following contact with the melted product, quickly cool affected skin area with water.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: : carbon dioxide (CO₂), water, dry chemical powder. Water fog.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Apply aqueous extinguishing media carefully to prevent frothing/steam explosion.
- Reactivity : On combustion, forms. Carbon dioxide (CO₂). Sulphur dioxide (SO₂). Nitrogen oxides (NO_x). Carbon monoxide.

5.3. Advice for firefighters

- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety.
- Protective equipment for firefighters : In case of fire: Wear self-contained breathing apparatus. Refer to section 8.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use water spray/stream to protect personnel and to cool endangered containers. Emergency cooling must be provided for in case of fire. Remove product from area of fire.

6.1.1. For non-emergency personnel

- Protective equipment : Wear suitable protective clothing, gloves and eye/face protection. Refer to section 8.
- Emergency procedures : Remove all sources of ignition. Stop leak if safe to do so.

6.1.2. For emergency responders

- Protective equipment : In case of fire: Wear self-contained breathing apparatus. Wear suitable protective clothing, gloves and eye/face protection. Refer to section 8.
- Emergency procedures : Evacuate unnecessary personnel. Remove all sources of ignition. Stop leak if safe to do so.

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6.2. Environmental precautions

Avoid release to the environment. Contaminated fire-fighting water must be collected separately. Prevent spreading over great surfaces (e.g. by damming or installing oil booms).

6.3. Methods and material for containment and cleaning up

- For containment : Stop leak if safe to do so. Eliminate leaks immediately.
- Methods for cleaning up : Collect in closed containers for disposal. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). When in liquid state (heated) must be chilled with water to solidify.
- Other information : Relevant water authorities should be notified of any large spillage to water course or drain.

6.4. Reference to other sections

Refer to sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Handle in accordance with good industrial hygiene and safety procedures. Use only in well-ventilated areas. Use personal protective equipment as required. The melted product can cause severe burns.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures: : Floors should be impenetrable, resistant to liquids and easy to clean. The floor should be leak tight, jointless and not absorbent.
- Incompatible materials : Oxidizing agents, strong.
- Storage area : Keep away from open flames, hot surfaces and sources of ignition. Keep away from: humid air. Store in a dark area. Only use anti-static equipped (spark-free) tools. Ensure the grounding of containers, apparatus, pumps and suction equipment. Floors should be impenetrable, resistant to liquids and easy to clean. The floor should be leak tight, jointless and not absorbent.
- Special rules on packaging : Portable Tanks/vessels.

7.3. Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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| EU | Notation | National occupational/ biological exposure limits: none known |
|----|----------|---|
| | | |

8.2. Exposure controls

- Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate ventilation.
- Personal protective equipment : Take off contaminated clothing and wash before reuse. Used working clothes should not be used outside the work area. Do not eat, drink or smoke when using this product. Wear protective gloves and eye/face protection.
- Hand protection : Protective gloves made of PVC.
- Eye protection : Wear eye protection/face protection.
- Respiratory protection : Wear respiratory protection. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, closed-circuit breathing apparatus must be used!. In case of fire: Wear self-contained breathing apparatus.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : clear.
- Colour : colourless.
- Odour : odourless.
- Odour threshold : No data available
- pH : No data available
- Melting point : 76.7-87.8 °C
- Solidification point : not applicable
- Boiling point : 240.2-720 °C
- Flash point : 238 °C ASTM D 92
- Relat. evapor. rate comp. to butylacetate : No data available
- Flammability (solid, gas) : not applicable

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| | |
|----------------------------------|--|
| Explosive limits | : not applicable |
| Vapour pressure | : not applicable |
| Relative vapour density at 20 °C | : No data available |
| Relative density | : 0.79 g/cm ³ @ 90°C |
| Solubility | : Soluble in toluene. 14.5g/100g @ 20°C. Water: insoluble |
| Log Pow | : not applicable |
| Self ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : 3-10 cSt at 100 °C |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

On combustion, forms. Carbon dioxide (CO₂). Sulphur dioxide (SO₂). Nitrogen oxides (NO_x). Carbon monoxide.

10.2. Chemical stability

Stable at normal conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Oxidizing agents, strong.

10.6. Hazardous decomposition products

No data available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Paraffin waxes and Hydrocarbon waxes, microcryst (63231-60-7)

| | |
|--------------------|--------------|
| LD50 oral rat | > 5000 mg/kg |
| LD50 dermal rabbit | > 2000 mg/kg |

| | |
|--|------------------|
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Not classified |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Not classified |

Paraffin waxes and Hydrocarbon waxes, microcryst (63231-60-7)

| | |
|-------------------------------------|---------------------------|
| LOAEL (oral, rat, 90 days) | 1500 mg/kg bodyweight/day |
| LOAEL (dermal, rat/rabbit, 90 days) | 2000 mg/kg bodyweight/day |

| | |
|---|---|
| Aspiration hazard | : Not classified |
| Potential Adverse human health effects and symptoms | : High concentration of vapours may induce: headache, nausea, dizziness. The melted product can cause severe burns. |

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

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| Paraffin waxes and Hydrocarbon waxes, microcryst (63231-60-7) | |
|--|--------------------------------|
| LC50 fishes | > 100 mg/l 96 hours |
| EC50 Daphnia | > 1000 mg/l 48 hours |
| NOEC (acute) | > 100 mg/l 96 hours (Fish) |
| NOEC (chronic) | > 1000 mg/l 96 hours (Daphnia) |
| ErC50 (other aquatic plants) | > 10000 mg/l 24 hours |

12.2. Persistence and degradability

| Paraffin 170 / 190-2 FG (63231-60-7) | |
|---|--------------------|
| Persistence and degradability | No available data. |

12.3. Bioaccumulative potential

| Paraffin 170 / 190-2 FG (63231-60-7) | |
|---|--------------------|
| Log Pow | not applicable |
| Bioaccumulative Potential | No data available. |

12.4. Mobility in soil

| Paraffin 170 / 190-2 FG (63231-60-7) | |
|---|--------------------|
| Ecology - soil | No data available. |

12.5. Results of PBT and vPvB assessment

| Paraffin 170 / 190-2 (63231-60-7) | |
|--|--|
| This substance/mixture does not meet the PBT/vPvB criteria of REACH, annex XIII. | |

12.6. Other adverse effects

Other adverse effects : No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Consult the local waste disposal expert about waste disposal. Dispose of this material and its container to hazardous or special waste collection point. Disposal must be done according to official regulations.

SECTION 14: Transport information

Not a dangerous good in sense of transport regulations.

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Other regulations, restrictions and prohibition regulations : Compliance with following regulations: Regulation (EC) 1907/2006 as amended. Regulation (EC) 1272/2008 as amended. Directive 67/548/EEC as amended. Directive 1999/45/EC as amended.

15.1.2. National regulations

Regional legislation : No data has been reported. In case of need contact our Product Safety office.

Not classified as dangerous according to the criteria of directive(s) 67/548/EEC and/or 1999/45/EC

15.2. Chemical safety assessment

CSA has not been established. The substance is not classified as dangerous.

SECTION 16: Other information

Sources of Key data : PETROBRAS. MSDS.
Abbreviations and acronyms : ASTM - American Society for Testing and Materials . CLP - Classification, Labelling and Packaging. CSR - Chemical Safety Report. EC - European Community. EEC - European Economic Community. SDS - Safety Data Sheet . REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals. GHS - Globally Harmonised System.

The information presented in this Safety Data Sheet is based on current knowledge and is believed to be complete and accurate. It describes the product for the purposes of health, safety and environment requirements only and shall, therefore, be used only as a guide. The data refers to a specific product and may not be valid for combined uses with other products. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. Petrobras shall not be responsible for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices.