According to Regulation EC No 1907/2006 - REACH and Regulation EC No 1272/2008 - CLP

RECOFAL S-100 P

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

1.1 Product identifier

Commercial name	RECOFAL S-100 P
Chemical name	Synthetic binder pellet.
Synonyms	Synthetic pigmentable binder, albino bitumen, transparent bitumen.
CAS	N/A
EC (EINECS)	N/A
Index No (annex VI Regulation EC No 1272/2008)	N/A
Registration Number	N/A
Authoritation Number	N/A

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

CAS: 64742-10-5
- Manufacture of substances.
- Use as intermediate.
- Distribution of substances.
- Formulation & (re)packing of substances and mixtures.
- Uses in coatings.
- Metal working fluids.
- Use as release agents or binders.
- Road and construction applications.
- Rubber production and processing.
- Polymer processing.
- Use as a fuel.
- Lubricants.
- Functional fluids.

1.3 Details of the supplier of the safety data sheet

Company	REPSOL LUBRICANTES Y ESPECIALIDADES, S.A.

Address	Méndez Álvaro, 44 28045 - MADRID, Spain
Phone	+34 917538000 /+34 917538100
Fax	+34 902303145
e-mail address	FDSRLESA@repsol.com

1.4 Emergency telephone number

Carechem 24: +44 (0) 1235 239 670
Carechem 24: +1 215 207 0061
Carechem 24: 001866 928 0789

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture	**2.2 Label elements**	
CLASSIFICATION (Dir.67/548/CEE o Dir.1999/45/CE)	**LABELLING**	
N/A	**Symbols** N/A	N/A
	Phrases R	N/A
	Phrases S	N/A
CLASSIFICATION Reg.(CE)1272/2008(CLP)	**LABELLING**	
N/A	**Pictograms** N/A	N/A
	Signal word	N/A
	Hazard statements	N/A
	supplemental information	N/A
	Precautionary statements	N/A

2.3 Other hazards

Results of the assessment of PBT and vPvB in the product, in accordance with the criteria set out in Annex XIII of REACH, can be found in Section 12.5 of this MSDS.
Please refer to Sections 5, 6 and 7 of this MSDS for information on other dangers, different

from classification dangers but which may contribute to the overall hazards of the product.

SECTION 3. Composition/information on ingredients

Complex mixture of petroleum aromatic extract and resins, thermoplastic polymers, ultraviolet light stabilizers and antioxidants.

Dangerous components (Dir. 67/548/CEE)	Concentration (%)	CLASSIFICATION
N/A		
Dangerous components Reg. (CE) 1272/2008 (CLP)	**Concentration (%)**	**Hazard statements**
N/A		

SECTION 4. First aid measures

4.1. Description of first aid measures

Inhalation: Irritation of the respiratory tract due to excess fume, mists or vapour exposure.
In case of symptoms arising from inhalation of bitumen fumes, mists or vapour:
remove casualty to a quiet and well ventilated place if safe to do so
If casualty is unconscious and:
Not breathing – ensure that there is no obstruction to breathing and give artificial respiration by trained personnel.
If necessary, give external cardiac massage and obtain medical assistance.
Breathing – place in the recovery position.
Administer oxygen if necessary.
Obtain medical assistance if breathing remains difficult.
If there is any suspicion of inhalation of H2S:
Rescuers must wear breathing apparatus, belt and safety rope, and follow rescue procedures.
Remove casualty to fresh air as quickly as possible.
Immediately begin artificial respiration if breathing has ceased.
Provision of oxygen may help.
Obtain medical advice for further treatment.

Ingestion/Aspiration: Do not induce vomiting.
Seek medical care.

Contact skin: In the event of accidental skin contact with hot bitumen, the injured part should be immediately plunged under cold running water for at least 10 minutes.
No attempt must be made to remove the bitumen adherent to the skin at the worksite.
In the case of a circumferential burn with adhesion of the bitumen, the adhering material should be split to prevent a tourniquet effect as it cools.
Send patient for specialist care
For minor thermal burns:
Cool the burn.
Hold the burned area under cold running water for at least five minutes, or until the pain subsides.
However, body hypothermia must be avoided.
Do not put ice on the burn; Remove non-sticking garments carefully.
DO NOT attempt to remove portions of clothing glued to burnt skin but cut round them.
Seek medical assistance in all cases of serious burns
Never use gasoline, kerosene or other solvents for washing of contaminated skin

Contact eyes: If hot bitumen is splashed into the eye, it should be cooled immediately to dissipate heat, under cold running water for at least five minutes.
Immediately obtain specialist medical assessment and treatment for the casualty.
In the event of eye contact with cold bitumen, rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do so.
Continue rinsing.
If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist.

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

Inhalation: Symptoms: irritation of the respiratory tract due to excess fume, mists or vapour exposure.

Ingestion/Aspiration: Symptoms: few or no symptoms expected. If any, slight nausea might

occur.

Contact skin: Symptoms (product at ambient temperature): no effect. Contact with hot/molten product will cause severe burns.

Contact eyes: Symptoms: (product at ambient temperature): Contact with hot/molten product will cause severe burns.

4.3. Indication of any immediate medical attention and special treatment needed
No attempt should be made to remove firmly adhered product from the skin. Obtain medical attention.

SECTION 5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Foam. Water fog. Dry chemical powder. Carbon dioxide. Other inert gases (subject to regulations). Sand or earth.

Unsuitable extinguishing media: Do not use direct water jets on the burning product; they could cause splattering and spread the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

5.2. Special hazards arising from the substance or mixture

Combustion products: Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates and gases, including carbon monoxide, H2S, SOx (sulphur oxides) or sulphuric acid and unidentified organic and inorganic compounds.

Special measures: This substance will float and can be reignited on surface water

Special hazards: N/A

5.3. Advice for firefighters:
Fire-fighters' protective clothing. At high concentration of vapours and/or fumes, self-contained breathing apparatus will be needed.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Work gloves (preferably gauntlets) providing adequate chemical resistance.
Note:
gloves made of PVA are not water-resistant, and are not suitable for emergency use.
If contact with hot product is anticipated, gloves should be heat-resistant and thermally insulated.
Work helmet with neck cloth.
Antistatic non-skid safety shoes or boots, heat resistant.
Goggles and/or face shield, if contact with eyes or splashes are anticipated.
Respiratory protection:
a half or full-face respirator with filter(s) for organic vapours/H2S, or a Self-contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure.
If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

Personal protection: Small spillages:
normal working coveralls are usually adequate.
Large spillages:
full body suit of chemically resistant and thermal resistant material should be used.

6.2. Environmental precautions

Prevent spillage from entering drains or any place where accumulation may occur.

6.3. Methods and material for containment and cleaning up

Spillages onto land:
Leaks and spillages will consist of molten hot material..
Risk of severe burns.
Prevent product from entering sewers, rivers or other bodies of water.
Note:
solidified product may clog drains and sewers.
If necessary dike the product with earth, sand or similar non-combustible materials.
Let hot material cool naturally.
If necessary, cautiously use water fog to help the cooling.

Do not play direct jets of foam or water on the spilled molten product, as this may cause splattering.
When inside buildings or confined spaces, ensure adequate ventilation.
Collect solidified product with suitable mechanical means (e.g. shovels).
Transfer collected product to suitable containers for recycle, recovery or safe disposal.
Spillages in water or at sea:
In case of spillages in the water, the product will cool down rapidly and become solid.
The solid product is denser than water and will slowly sink to the bottom, and usually no intervention will be feasible.
If possible, contain the product.
Collect the product and contaminated materials with mechanical means.
Transfer recovered product and other materials to suitable tanks or containers and store/dispose of according to relevant regulations.

6.4. Reference to other sections

Section 8 contains more detailed advice on personal protective equipment and section 13 on waste disposal.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

General precautions: Ensure that all relevant regulations regarding handling and storage facilities for these products are followed.
Avoid contact of hot bitumen products with water.
Risk of splashing of hot material.
Avoid contact with the hot product.
A specific assessment of inhalation risks from the presence of H2S in tank headspaces, confined spaces, product residue, tank wasteand waste water, and unintentional releases must be made to help determine controls appropriate to local circumstances.
The maximum safe handling temperature for paving grade bitumen is 200 ºC and for hard industrial grades is 230 ºC.

Specific conditions: Ground/bond containers, tanks and transfer/receiving equipment
Do not breathe fumes from hot product.
Use adequate personal protective equipment as required.
For more information regarding protective equipment see section: "Exposure controls/personal protection".

7.2. Conditions for safe storage, including any incompatibilities

Temperature and decomposition products: When heated excessively it emits irritant and acrid fumes. Maximum safe storage temperature at least 30°C below flash point.

Dangerous reactions: May readily ignite when mixed with naphtha and other volatile solvents. Carbonaceous deposits may develop on walls and roofs of storage tanks, which may be pyrophoric and may self-ignite.
Hydrogen sulfide can accumulate on tanks at high temperatures when the storage time is long.

Storage conditions: Prevent water entry.
Hydrogen sulfide can accumulate in the head space of storage tanks containing bitumen and can reach potentially hazardous concentrations.
Proper ventilation (openings should not terminate near windows or air intakes).
Properly closed and labeled containers in cool and ventilated places.
The bitumens must be managed at the lowest temperature possible, taking into account its efficient use.
Where the product is being pumped from a storage tank care should be taken to avoid the risk of fire or explosion as a result of exposing heated tubes.
Bitumen tanks may be heated by hot oil, vapor, electricity or flame.
Under circumstances where bitumen is being pumped from a tank containing heater tubes, precautions should be taken to prevent the level dropping below 150 mm above the tubes unless the heat has been switched off for a period of sufficient cooling.
An inspection should be performed to ensure that the receiving tank has enough empty space to contain the load.
- The maximum safe storage temperature is 230 ºC.

Incompatible materials: Hot bitumens must never be placed into wet tanks; water vapor can cause violent eruptions when bitumen is heated.
Avoid direct contact with water.

7.3. Specific end use(s)

See section 1 or exposure scenario

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

TLV/TWA (ACGIH), VLA/ED (INSHT): 5 mg/m3 (oil mist)

DNEL N/A

PNEC N/A

8.2 Exposure controls

Individual protection measures, such as personal protective equipment

Respiratory protection: Efficient ventilation. It is usually not necessary under normal conditions of use and with adequate ventilation.

Skin protection: Suitable protective clothing.

Eye/face protection: Safety goggles or face-shield.

Other protective equipment: Showers and eye-washers in the work area.

Specific hygiene measures: Interim Risk Management Measures to account for any uncertainties arising from the current lack of a 2-generation reproductive toxicity study for this substance.
Good occupational hygiene practice is considered to constitute measures taht are routinely enconuntered and applied to meet the requierements of relevant workplace legislation such as laws supporting the EU Framework Directive. Thehe may include, but are not limited to:
- Risk assessment of local workplace activities in order to identified those activities where particular attention or adtional exposure control is required.
- Procedures supporting safe handling and maintenance of controls.
- Education and training of workers in understanding the hazards and control measuress relevant to their activities.
- Provision of general venyilation.
- Good housekeeping and prompt clearance of spillages.
- Appopiate selection, testing and maintenance of equipmet used to control exposure, e.g. Personal Protective Equipment, Local Exhaust Ventilation.
- Draining of equipment prior to maintenance; retention of drained materil in sealed storage pending disposal or recycling.
-Regular supply and laundering of work clothing; provision of washing and ghanging facilities; eating and smoking only in designated areas separate from the workplace.

Medical Conditions Aggravated by Exposure: Dermatological problems.

Environmental exposure controls:
Product should not reach the environment through wastewater or sewage. Measures to take in case of accidental release can be found in Section 6 of this MSDS.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Pellet solid
Odour: Characteristic.
Odour threshold: N/A
Colour: Honey
pH: N/A
Melting point/freezing point: N/A
Initial boiling point and boiling range: > 470°C
Flash point: >235°C
Evaporation rate: N/A
Flammability (solid, gas): Combustible.
Upper/lower flammability or explosive limits: N/A
Vapour pressure: N/A
Vapour density: 30 (air: 1)
Density: > 1 g/cm3 at 25°C
Solubility(ies: Trichloroethylene.
Partition coefficient: n-octanol/water: N/A
Auto-ignition temperature: 485°C
Decomposition temperature: N/A
Viscosity: N/A
Explosive properties: N/A
Oxidising properties: N/A

9.2 Other information

Water solubility: Insoluble.

SECTION 10. Stability and reactivity

10.1. Reactivity: N/A

10.2. Chemical stability: Stable product at room temperature.

10.3. Possibility of hazardous reactions: Do not allow molten product to contact water or other liquid. Oil and bitumen contamination of thermal insulation near hot surfaces should be avoided and lagging should be replaced where necessary by a nonabsorbent type of insulation. Avoid contact with strong oxidizing agents.

10.4. Conditions to avoid: Excessive heating above the maximum recommended handling and storage temperatures will cause cracking and production of flammable vapors.

10.5. Incompatible materials: N/A

10.6. Hazardous decomposition products: Irritating or toxic substances may be emitted upon thermal decomposition.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

The provided toxicological information results from the application of Annexes VII to XI of Regulation 1907/2006 (REACH).

Acute toxicity: Bitumen do not meet the criteria for classification as acute oral, inhalation or dermal toxicants because the LD50/LC50 values are greater than the limits for classification defined in the criteria. Based on measured or calculated kinematic viscosities, bitumens are not classified for aspiration hazard. The oral LD50 was > 5000 mg/kg bw in male and female rats for two petroleum vacuum residues. The dermal LD50 was > 2000 mg/kg bw in male and female rabbits for two petroleum vacuum residues. The LC50 was > 94.4 mg/m3 in male and female rats for fumes from oxidised (semi-blown) bitumen.

Skin corrosion/irritation: not irritating

Serious eye damage/irritation: Not irritating

Respiratory or skin sensitisation: not sensitising

Germ cell mutagenicity: Genetic toxicity negative

Carcinogenicity: The carcinogenic potential of bitumen and bitumen fume has been investigated in animals following dermal and inhalation exposure. In addition epidemiological studies have been undertaken in exposed human populations. The data available do not

indicate that exposure to bitumen or fumes from bitumen present a carcinogenic hazard.
IARC Classification: Occupational exposure to hard bitumens and their emissions during mastic asphalt work: 2B

Product rating corresponds to the comparison of the results from the toxicological studies with the criteria set out in Regulation (EC) No 1272/2008 for CMR, categories 1A and 1B.

Reproductive toxicity: No developmental inhalation study on bitumen has been performed. There is a data gap with respect to the REACH Annex X (8.7.2) testing requirements for a developmental toxicity study with bitumen.The proposed study would be performed in accord with OECD Guideline 414(Prenatal Developmental Toxicity Study).No comprehensive guideline developmental or 2-generation reproductive toxicity studies were available for bitumen. A test proposal is included, but currently available data do not raise concern with regard to classification of bitumen as toxic for reproduction ordevelopment under CLP Regulation, (EC)1272/2008

STOT-single exposure: N/A

STOT-repeated exposure: The repeat dose toxicity of bitumen has been investigated by dermal and inhalation routes. Apart from mild irritation of the upper respiratory tract there is no evidence that exposure to bitumen or bitumen fume causes systemic toxicity.

Aspiration hazard: N/A

SECTION 12. Ecological information

12.1. **Toxicity:** The product is not classified as dangerous to the environment

12.2. **Persistence and degradability:** It is not likely to produce water soluble fractions. Spilled materials may sink to bottom causing mechanical damage to the fauna and flora contacted. The components of bitumen are not biodegraded to any significant extent in the environment. Under normal circumstances the product will remain in place.

12.3. **Bioaccumulative potential:** Bioaccumulation is unlikely because of very low water solubility.

12.4. **Mobility in soil:** According to its physical properties, bitumen is not mobile and will remain on the soil surface, or will settle to the water sediment surface due to it is insoluble, although some classes may float.

12.5. **Results of PBT and vPvB assessment:** The substance do not meet all the specific criteria

detailed in Annex XIII or do not allow a direct comparison with all the criteria in Annex XIII but nevertheless indicate that the substance would not have all these properties and the substance is not considereda PBT/vPvB."Antracene is not present in this substance at greater than 0.1%. No other representative hydrocarbon structures were found to meet the PBT/vPvB criteria

12.6. Other adverse effects: N/A

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Disposal: Recycling is recommended if possible. Should be done by burning in a special oven facility or by dumping in landfill.

Handling: Minimize contact with skin. Avoid proximity to thermal reservoirs.

Provisions: Establishments and companies which recover, dispose, store, transport or handle waste should comply with Dir. 2008/98/EC on waste, or other local, national or community provisions.

SECTION 14. Transport information

14.1. UN number: NP

14.2. UN proper shipping name: N/A

14.3. Transport hazard class(es): N/A

14.4. Packing group

ADR/RID: N/A

IATA-DGR: N/A

IMDG: N/A

14.5. Environmental hazards

ADR/RID: N/A

IATA-DGR: N/A

IMDG: N/A

14.6. Transport in bulk in accordance with appendix II of the Marpol agreement 73/78 and the IBC code
No category assigned for the IBC code.

14.7. Special precautions for user
N/A

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
COMMISSION REGULATION (EU) No 453/2010 : REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS
Globally Harmonized System of Classification and Labelling of Chemicals (GHS).
Regulation (EC) No 1272/2008 of the European Parliament and the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures (CLP).
Regulation (EC) No 1907/2006 concerning Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).
Dir.67/548/EEC on classification, packaging and labeling of dangerous substances (including amendments and adaptations in force).
Dir.1999/45/EEC on classification, packaging and labeling of dangerous substances (including amendments and adaptations in force).
Dir.91/689/EEC on hazardous waste/Dir.2008/98/CE waste management.
Royal Decree 363/95: Regulation about notification of new substances and classification, packaging and labelling of dangerous substances.
Royal Decree 255/2003: Regulation about classification, packaging and labelling of dangerous preparations.
European Agreement concerning the international carriage of dangerous goods by road (ADR).
Regulation on the international transport of dangerous goods on the railway. (RID)
International maritime code of dangerous goods. (IMDG)
International Air Transport Association (IATA) regulation pertaining to air shipment.
International Bulk Chemical Code (IBC Code), MARPOL 73/78.

Commission Regulation Other hazards
N/A

15.2. Chemical safety assessment
A chemical safety assessment has not been carried out.

SECTION 16. Other information

Glossary
CAS: Chemical Abstract Service
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists.
TLV: Threshold Limit Value
TWA: Time Weighted Average
STEL: Short-term Exposure Level
REL: Recommendable Exposure Limit
PEL: Permissible Exposure Limit
INSHT: Instituto Nacional de Seguridad e Higiene en el Trabajo.
VLA-ED: Environmental limit value - daily exposure
VLA-EC: Limit environmental value - short exposure
DNEL/DMEL: Derived no-effect level / Derivation of minimal effects levels
PNEC: Predicted No Effect Concentration
LD50: Lethal Dose Medium
LC50: Lethal Concentration Medium
EC50: Effective Concentration Medium
IC50: Inhibitory Concentration Medium
BOD: Biological Oxygen Demand.
NOAEL: No observable adverse effect level
NOEL: No observed effect level
NOAEC: No observed adverse effect concentration
NOEC: No observed effect concentration
N/A: Not applicable
| : Changes from the last revision

Data Bases consulted
EINECS: European Inventory of Existing Commercial Substances.
TSCA: Toxic Substances Control Act, US Environmental Protection Agency.
HSDB: US National Library of Medicine.
RTECS: US Dept. of Health & Human Services.

R phrases/Hazard Class-and-Category shown in the document

N/A

Purchasing companies have an obligation to ensure that their employees are properly trained on the safe handling and use of the product in accordance with the guidelines contained in this MSDS.

Furthermore, companies purchasing this product are required to inform their employees, and individuals who could manipulate or use it within their facilities, about all indications included in the MSDS, in particular those relating to the product's risks to the health and safety of people and to the environment.

The information given in this document has been compiled based on the best existing information sources, latest available knowledge and according to the current requirements on classification, packaging and labelling of hazardous substances. It does not imply the information is exhaustive or accurate in all cases. It is the user’s responsibility to determine the validity of the information contained in this Material Safety Data Sheet to apply depending on the case.