

## Section 1. Identification

**Product name** : Esso PG 82E-10  
**Product description** : Asphalt/Bitumen  
**Other means of identification** : Esso PG82

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

**Identified uses** : Mainly used for road paving, Miscellaneous industrial applications  
**Uses advised against** : This product is not recommended for any industrial, professional or consumer use other than the Identified Uses above.

**Supplier** : ExxonMobil Asia Pacific Pte.Ltd. (Company No.: 196800312N)  
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**Supplier General Contact** : (65) 6885 8000  
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## Section 2. Hazards identification

**Classification of the substance or mixture** : Not classified.

This material is considered to be NON-HAZARDOUS according to regulatory guidelines.

**Other hazards which do not result in classification** : None known.

**Nota** : This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

## Section 4. First-aid measures

### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

## Section 4. First-aid measures

- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, carbon dioxide (CO<sub>2</sub>), or a dry, noncombustible material such as dry sand or earth to extinguish.
- Unsuitable extinguishing media** : Do not use water.

- Specific hazards arising from the chemical** : No specific fire or explosion hazard.

- Hazardous combustion products** : Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, sulfur oxides

- Special protective actions for fire-fighters** : Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Assure an extended cooling down period to prevent re-ignition. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and material for containment and cleaning up

**Small spill** : Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor. Material will sink. Seek advice of a specialist. No immediate action required. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Thermal burn hazard - contact with hot material may cause thermal burns. Put on appropriate personal protective equipment (see Section 8). Non-absorbent insulation such as foam glass is recommended for tankage and piping.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Static Accumulator** : This material is not a static accumulator.

**Loading/Unloading Temperature** : >140 °C

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**Storage Temperature** : 200 °C

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
oxidized asphalt (petroleum)	<b>ACGIH TLV (United States, 1/2024) [Asphalt fumes]</b> TWA 8 hours: 0.5 mg/m <sup>3</sup> (as benzene soluble aerosol). Form: Inhalable fraction.
hydrogen sulphide	<b>[Air contaminant - Decomposition product(s)]</b> <b>Workplace Safety and Health Act (Singapore, 6/2024)</b> PEL (long term) 8 hours: 10 ppm. PEL (long term) 8 hours: 14 mg/m <sup>3</sup> . PEL (short term) 15 minutes: 21 mg/m <sup>3</sup> . PEL (short term) 15 minutes: 15 ppm. <b>ACGIH TLV (United States, 1/2024)</b> TWA 8 hours: 1 ppm. STEL 15 minutes: 5 ppm. <b>ExxonMobil (COMPANY)</b> STEL 15 minutes: 10 ppm. STEL 15 minutes: 14 mg/m <sup>3</sup> . TWA 8 hours: 5 ppm. TWA 8 hours: 7 mg/m <sup>3</sup> .

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Face shield.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

**Note:** Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

<b>Physical state</b>	: Solid.
<b>Colour</b>	: Black
<b>Odour</b>	: Petroleum/Solvent
<b>Odour threshold</b>	: Not available.
<b>pH</b>	: Not applicable.
<b>Melting point/freezing point</b>	: Not available.
<b>Boiling point or initial boiling point and boiling range</b>	: >400°C (>752°F) [Estimated]
<b>Flash point</b>	: Open cup: >230°C (>446°F) [ASTM D 92]
<b>Evaporation rate</b>	: Not applicable.
<b>Flammability</b>	: Ignitable
<b>Lower and upper explosion limit/flammability limit</b>	: Lower: 0.5% [Estimated] Upper: 5% [Estimated]
<b>Vapour pressure</b>	: <0.1 mm Hg [20 °C] [Estimated]
<b>Relative vapour density</b>	: >1 [Air = 1] [Estimated]
<b>Relative density</b>	: 1 to 1.1
<b>Solubility in water</b>	: Negligible
<b>Partition coefficient: n-octanol/water</b>	: >6 [Estimated]
<b>Auto-ignition temperature</b>	: Not applicable.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Not applicable.
<b><u>Particle characteristics</u></b>	
<b>Median particle size</b>	: Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: Contact of hot product with water., Overheating. Excessive heat.
<b>Incompatible materials</b>	: Alkalies, strong acids, Strong oxidisers, Halogens
<b>Hazardous decomposition products</b>	: Hydrogen sulfide

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

##### **Conclusion/Summary**

- Inhalation** : Minimally Toxic. Data available. Based on assessment of the components.
- Dermal** : Minimally Toxic. Data available. Based on assessment of the components.
- Oral** : Minimally Toxic. Data available. Based on assessment of the components.

#### Irritation/Corrosion

##### **Conclusion/Summary**

- Skin** : Negligible irritation to skin at ambient temperatures. Data available. Based on assessment of the components.
- Eyes** : May cause mild, short-lasting discomfort to eyes. Data available. Based on assessment of the components.
- Respiratory** : Negligible hazard at ambient/normal handling temperatures. Data available. Based on assessment of the components.

#### Respiratory or skin sensitization

##### **Conclusion/Summary**

- Skin** : Not expected to be a skin sensitizer. Data available. Based on assessment of the components.
- Respiratory** : Not expected to be a respiratory sensitizer. No end point data for material.

#### Mutagenicity

##### **Conclusion/Summary**

- : Not expected to be a germ cell mutagen. Data available. Based on assessment of the components.

#### Carcinogenicity

##### **Conclusion/Summary**

- : Not expected to cause cancer. Data available. Based on assessment of the components.

#### Reproductive toxicity

##### **Conclusion/Summary**

- : Not expected to be a reproductive toxicant. Data available. Based on assessment of the components.

#### Specific target organ toxicity (single exposure)

##### **Conclusion/Summary**

- : Not expected to cause organ damage from a single exposure. No end point data for material.

#### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Target organs
Esso PG 82E-10	Not applicable.	-

##### **Conclusion/Summary**

- : Not expected to cause organ damage from prolonged or repeated exposure. Data available. Based on assessment of the components.

#### Aspiration hazard

##### **Conclusion/Summary**

- : Not expected to be an aspiration hazard. Based on physico-chemical properties of the material. Data available.

#### Other information

##### **Contains**

- : EMISSIONS (generated from heated bitumen product): According to The International Agency for Research on Cancer (IARC), certain specific occupational uses of bitumen products may result in carcinogenic hazards, as follows: (a) Occupational exposures to oxidized bitumens and their emissions during roofing are 'probably carcinogenic to humans' (Group 2A), (b) occupational exposures to hard bitumens and their emissions during mastic asphalt work are 'possibly carcinogenic to humans' (Group 2B), and (c) occupational exposures to straight-run bitumens and their emissions during road paving are 'possibly carcinogenic to humans' (Group 2B). These levels of hazard identified by IARC are associated with the specified occupational uses which require heating. Oxidized asphalts have been defined as having a Penetration Index (PI) of > 2.0. HYDROGEN SULPHIDE: Chronic health effects due to repeated exposures to low levels of H<sub>2</sub>S have not been established. High level (700 ppm) acute

## Section 11. Toxicological information

exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of overexposure to H<sub>2</sub>S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucous membranes and the respiratory system and have been implicated in some eye damage. HYDROGEN SULPHIDE: Chronic health effects due to repeated exposures to low levels of H<sub>2</sub>S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of overexposure to H<sub>2</sub>S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucous membranes and the respiratory system and have been implicated in some eye damage.

**Product** : Asphalt (bitumen): May contain low levels of polycyclic aromatic compounds (PACs), some of which are suspected of causing cancer under conditions of poor industrial hygiene and prolonged repeated contact. These PACs may also be inhaled. Inhalation studies at high concentrations of fumes resulted in bronchitis, pneumonitis, fibrosis and cell damage. Avoid contact with the asphalt emissions.

## Section 12. Ecological information

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

### Toxicity

#### Conclusion/Summary

**Acute toxicity** : Not expected to be harmful to aquatic organisms.  
**Chronic toxicity** : Not expected to demonstrate chronic toxicity to aquatic organisms

### Persistence and degradability

**Biodegradability** : Material -- Expected to be persistent.

### Bioaccumulative potential

**Conclusion/Summary** : Material -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

### Mobility in soil

**Mobility** : Majority of components -- Low water solubility, expected to sink and migrate into the sediment. Expected to partition to sediment and wastewater solids. Material -- Low potential to migrate through soil.

### Other ecological information

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.




Empty Container Warning (where applicable): Empty containers may contain



## Section 13. Disposal considerations

residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

## Section 14. Transport information

	ADR	IMDG	IATA
UN number	UN3257	UN3257	UN3257
UN proper shipping name	ELEVATED TEMPERATURE LIQUID, N.O.S.	ELEVATED TEMPERATURE LIQUID, N.O.S.	Elevated temperature liquid, n. o.s.
Transport hazard class(es)	9	9	9
Label(s) / Mark(s)			
Packing group	III	III	III
Environmental hazards	No.	No.	No.

### Additional information

ADR	: <b>Hazard identification number</b> 99 <b>Limited quantity</b> 0 <b>Special provisions</b> 274, 643, 668 <b>Tunnel code</b> (D)
IMDG	: <b>Emergency schedules</b> F-A, _S-P_ <b>Special provisions</b> 232, 274
IATA	: <b>Quantity limitation</b> Passenger and Cargo Aircraft: Forbidden. Packaging instructions: Forbidden. Cargo Aircraft Only: Forbidden. Packaging instructions: Forbidden. Limited Quantities - Passenger Aircraft: Forbidden. Packaging instructions: Forbidden. <b>Remarks</b> Product classified as UN 3257 is forbidden by air transport but the product may be transported by air if its temperature is less than 100 deg. C (212 deg. F).

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not applicable.

## Section 15. Regulatory information

Material is not hazardous as defined by Specification for hazard communication for hazardous chemicals and dangerous goods (Singapore Standard SS586) Part 2:2014 - Globally harmonised system of classification and labelling of chemicals - Singapore's adaptations.

Singapore – hazardous chemical under government control, Second Schedule of the Environmental Protection And Management Act S 436, National Environment Agency

None.

### Inventory list



## Section 15. Regulatory information

<b>Australia inventory (AIIC)</b>	: All components are listed or exempted.
<b>Canada inventory (DSL-NDSL)</b>	: All components are listed or exempted.
<b>China inventory (IECSC)</b>	: All components are listed or exempted.
<b>Japan inventory (CSCL)</b>	: All components are listed or exempted.
<b>Japan inventory (Industrial Safety and Health Act)</b>	: All components are listed or exempted.
<b>New Zealand Inventory of Chemicals (NZIoC)</b>	: All components are listed or exempted.
<b>Philippines inventory (PICCS)</b>	: All components are listed or exempted.
<b>Korea inventory (KECI)</b>	: All components are listed or exempted.
<b>Taiwan Chemical Substances Inventory (TCSI)</b>	: All components are listed or exempted.
<b>United States inventory (TSCA 8b)</b>	: All components are active or exempted.

## Section 16. Other information

### History

**Date of issue/Date of revision** : 21 May 2025

**Date of previous issue** : 24 April 2025

**Version** : 2.03

**Key to abbreviations** :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- SGG = Segregation Group
- UN = United Nations

**References** : Not available.

Indicates information that has changed from previously issued version.

**Product code** : 101090202515\_P000003945

### Notice to reader

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