SAFETY DATA SHEET (SDS)
LPFO

1. Identification

SDS Record Number	:	PCS 95008	
Date of SDS	:	01 March 2014	
Identity of the substance	:	LPFO (Light Product Fuel Oil)	
Product Description	:	Product of Vacuum Tower distillate	
Name of the supplier	:	Petrochemical Corporation of Singapore (Private) Limited	
Recommended uses	:	Fuel	
Contact detail of the supplier	:	100 Ayer Merbau Road, Singapore 628277 +65 68672102	
24-Hour Emergency contact	:	Asia Pacific	+65 3158 1074 (Singapore)
		China	+86 10 5100 3039 (Beijing)
		Europe, Israel & Americas	+44 (0) 1235 239 670 (UK)
		Middle East & Africa	+44 (0) 1235 239 671 (UK)

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2. Hazard Identification

GHS Classification

Hazard Class	Hazard Category
• Flammable Liquid	3
• Acute Toxicity (Oral)	4
• Acute Toxicity (Inhalation)	4
• Skin Corrosion/Irritation	2
• Germ cell mutagenicity	1B
• Carcinogenicity	1B
• Toxic to reproduction	2
• STOST (Repeated exposure)	2
• Acute Hazards to Aquatic Environment	1
• Chronic Hazards to Aquatic Environment	1

Pictograms

Signal Word: Danger

Hazard Statements

- Flammable liquid and vapour
- Harmful if inhaled and swallowed
- Causes skin irritation
- May cause genetic defects
- May cause cancer
- Suspected of damaging fertility or the unborn child
- May cause damage to organs through prolonged or repeated exposure
- Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention

- Keep container tightly closed.
- Keep away from ignition sources such as heat/sparks/open flames/hot surfaces. – No smoking.
- Ground/Bond container and receiving equipment
- Use explosion-proof electrical/ventilating/lighting equipment.
- Use only non-sparaking tool.
- Take precautionary measures against static discharge.
- Do not eat, drink or smoke when using this product.
- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Use only outdoor or in a well-ventilated area.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash thoroughly after handling.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Avoid release to the environment

Response

- IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Wash before re-use. Rinse skin with water/ shower.
- Call a POISON CENTER/doctor/physician if you feel unwell.
- In case of fire: Use foam or dry chemical for extinction.
- IF ON SKIN: Wash with plenty of soap and water.
- IF skin irritation occurs: Get medical advice/attention.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- IF exposed or concerned: Get medical attention/advice.
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
- Collect spillage.

Storage

- Store in a well-ventilated place. Keep cool.
- Store locked up.

Disposal

- Dispose of the contents in accordance to the local mandatory rules and regulations

3. Composition/Information On Ingredients

Chemical identification	:	Complex mixture
CAS number / EC number	:	64742-90-1

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4. First-Aid Measures

Inhalation:
In emergency situations use proper respiratory protection to immediately remove the affected victim from exposure. Administer artificial respiration if breathing has stopped. Keep at rest. Call for prompt medical attention.

Eye Contact:
Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

Skin Contact: Flush with large amounts of water. Use soap if available. Remove severely contaminated clothing (including shoes) and launder before reuse.

Ingestion:
If swallowed, **do not** induce vomiting. Keep at rest. Get prompt medical attention. Do not give anything by mouth to an unconscious person. Guard against aspiration into lungs by having the individual turn on to their left side.

Notes To Physician:

The main hazards following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. If the more than 2.0 mL/kg has been ingested, vomiting should be induced with supervision.

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5. Fire-Fighting Measures

Extinguishing Media:
Use foam or dry chemical to extinguish fire.

Fire Fighting:
Use water spray to cool fire exposed surfaces and to protect personnel.
Shut off fuel to fire if possible to do so without hazard. If a leak or spill has not ignited use water spray to disperse the vapours.

Specific Hazards Arising From The Chemical:

General Hazards:
Flammable Liquid; may release vapours that form flammable mixtures at or above the flash point. Toxic gases will form upon combustion.
Avoid spraying water directly into storage containers due to danger of boilover.
This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode.

Hazardous Combustion Products:
Fumes, smoke, and Carbon monoxide.

Special Protective Equipment And Precautions For Fire Fighters:
Respiratory and eye protection required for fire fighting personnel.
A self-contained breathing apparatus (SCBA) is recommended for indoor fires and any significant outdoor fires. For small outdoor fires, which may easily be extinguished with a portable fire extinguisher, use of an SCBA is optional.

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6. Accidental Release Measures

Methods And Materials For Containment And Cleaning Up:
Consult an expert on the disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately.
Take all additional action necessary to prevent and remedy the adverse effects of the spill.

Land Spill:
Eliminate source of ignition. Keep public away. Prevent additional discharge of material, if possible to do so without hazard.
Prevent spills from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.
Recover by pumping (use a explosion proof motor or hand pump), or by using a suitable absorbent.

Water Spill:
Eliminate sources of ignition. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear.
Remove from surface by skimming or with suitable absorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in unconfined waters.

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7. Handling And Storage

Precautions For Safe Handling:
Keep container closed. Handle and open containers with care.
Store in a cool, well ventilated place away from incompatible materials.

Do not handle or store near an open flame, heat, or other sources of ignition. Protect material from direct sunlight.
Material will accumulate static charges, which may cause an electrical spark (ignition source). Use proper grounding procedures.

Do not pressurize, cut, heat, or weld containers.
Empty product containers may contain product residue. DO NOT reuse empty containers without commercial cleaning or reconditioning.

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8. Exposure Controls/Personal Protection

Appropriate Engineering Controls:
The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood.
Provide mechanical ventilation of confined spaces.
Use explosion-proof ventilation equipment.

Personal Protective Equipment (PPE)
The selection of personal protective equipment varies depending upon conditions of use.
Where prolonged and/or repeated skin and eye contact is likely to occur, wear safety glasses with side shields, long sleeves, and chemical resistant gloves.
Where eye contact is unlikely, but may occur as a result of short and/or periodic exposures, wear safety glasses with side shields.
Where concentrations in air may exceed the occupational exposure limits and where engineering, work practices or other means of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation.
When handling this material, impervious gloves should be worn at all times.
In confined spaces or where the risk of skin exposure is much higher, impervious clothing should be worn.

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9. Physical And Chemical Properties

Property	Value, Description
Appearance (physical state, colour etc);	Liquid, Colour (ASTM) : 1.5
Flash point;	25-30 deg C
Viscosity.	0.8-0.9 50 deg C CST
Spec. Gravity:	0.92 at 15 deg C
Sulphur:	0.01-0.05 wt%

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10. Stability And Reactivity

Reactivity/Chemical Stability:
This product is stable

Possibility Of Hazardous Reactions:
Hazardous polymerization will not occur.

Conditions To Avoid:
Temperatures above ambient.

Incompatible Materials:
Strong oxidizing agents, concentrated nitric and sulphuric acids, halogen, and molten sulphur.

Hazardous Decomposition Products:
None

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11. Toxicological Information

Inhalation: May produce airway irritation. Systemic effects include CNS (Central Nervous System) excitation and CNS depression characterised by dizziness, loss of coordination, cardiovascular collapse and death.

Eye Contact:
Direct contact may produce severe irritation. Vapour may be moderately irritating.

Skin Contact:
Brief contact with the liquid will not result in significant irritation unless evaporation is prevented. Skin contact may aggravate an existing dermatitis condition. Damaged skin may allow the absorption of material, producing systemic toxicity and possible death.

Ingestion:
Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause mild to severe pulmonary injury and possibly death.

Special Health Precautions:
Health studies have shown that many petroleum hydrocarbon pose potential human health risk which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

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12. Ecological Information

Environmental Effects And Hazards:
Do not allow product to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Government regulations may require that environment and/or other agencies be notified of a spill incident.
May be harmful to aquatic life.

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13. Disposal Considerations

Consult an expert on the disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately.
Take all additional action necessary to prevent and remedy the adverse effects of the spill.

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14. Transport Information

TDG Information (Rail/Road):

Shipping Name	:	Petroleum Distillates
Packing Group	:	III
Primary TDG	:	Class 3.3
UN Number	:	1202

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15. Regulatory Information

WHMIS Information:
Class B, Division 3: Flammable Liquids
Class D, Division 2, Subdivision B: Toxic Material

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16. Other Information

Prepared By: Material Safety Committee
SDS Prepared on: 1/6/2012

CAUTION: The information given above ("**the Information**") relates only to the substance or mixture listed herein. The Information may not be valid when used in combination with any other substance or mixture or in any process. If the substance or mixture is to be used for a purpose other than that stated herein or under conditions other than specified herein, the Information cannot be relied upon as being complete or accurate, and the user is advised to consult the supplier before using the substance or mixture for such other purpose or under such other conditions. The Information is given based on information available at the indicated date of preparation and no representation or warranty is given that it will be correct as of any time after the indicated date of preparation.