



Visakh Refinery

MATERIAL SAFETY DATA SHEET

Fuel Oil

1. Chemical identity

<i>Chemical name:</i> Fuel Oil		<i>Chemical classification:</i> Flammable liquid
<i>Synonyms:</i>	Residual Fuels, Furnace Oil, LSHS, CLO, IFO, SR, VR, VBU Feed, BBU Feed, VB Tar	<i>Trade name:</i> FO(180 CST), FO(380 CST), LSFO, LSHSFO, CLO, VLSFO
<i>C.A.S. NO.</i> 68476 – 33-5		<i>U.N.NO.</i> 1223
<i>Regulated identification Codes/Label:</i> Shipping name: Class C Flammable Liquid.		
<i>Hazchem code class</i> 3		<i>Hazardous waste :</i> N.A.
<i>Hazardous ingredients</i>	<i>C.A.S.NO.</i>	<i>Hazardous ingredients</i> <i>C.A.S.NO.</i>
<i>Fuel Oil</i>	68476-33-5	<i>Sulphur Trace</i> 7704-34-9
Fuel Oil is complex mixture of hydrocarbons .It's exact composition depends on the source of crude oil from which it is produced and the refining methods used		

2. Physical and chemical data

<i>Boiling point/Range (deg.C) :</i> 185 - 500. <i>Physical state:</i> Liquid. <i>Appearance:</i> brown to black		
<i>Melting/freezing point (deg.C) :</i> N. A.		
<i>Vapour pressure:</i> <1 mm Hg at 20 deg C.		
<i>Odour:</i> Perceptible odour		
<i>Vapour density:</i> 3.0 -5.0.		
<i>Solubility in water @ 30 deg.C:</i> Insoluble		
<i>Specific gravity:</i> 0.90	at 20 deg C	
<i>Others:</i> P ^H Neutral		

3. Fire and explosion Hazard data

<i>Flammability:</i> Yes	<i>LEL:</i> 1%	<i>Flash point(deg C) :</i> 66 (OC)
<i>TDG Flammability:</i> class 3 .	<i>UEL:</i> 5%	<i>Flash point(deg C) :</i> N.A. (CC)
<i>Auto Ignition Temp:</i> 263-407 deg. C		
<i>Explosion sensitivity to impact:</i> not sensitive to Mechanical Impact.		
<i>Explosion sensitivity to static electricity:</i> For vapors sensitivity exist		
<i>Hazardous Combustion Products:</i> carbon monoxide, Nitrogen oxide. and other aromatic hydrocarbons		
<i>Hazardous Polymerization:</i> May not occur		

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<i>Combustible liquid:</i> Yes	<i>Explosive material:</i> No	<i>Corrosive material:</i> No
<i>Flammable material ; yes</i>	<i>Oxidiser:</i> N.A.	
<i>Pyrophoric material:</i> N.A.	<i>Organic peroxide:</i> N.A.	

4. Reactivity data

<i>Chemical stability:</i> Stable
<i>Incompatibility with other material:</i> oxidizers such Peroxides ,Nitric acid and Perchlorates
<i>Hazardous reaction products:</i> on fire it will liberate some amount of carbon monoxide, sulphur dioxide Nitrogen oxide. and other aromatic hydrocarbons

5. Health Hazard data

<i>Routes of entry:</i> : Inhalation, Skin, Mucous Membranes, Eye Contact and Ingestion				
<i>Effects of Exposure / symptoms:</i> Spontaneous Vomiting, Oil Acne.				
<i>Emergency treatment:</i> Do Not Induce Vomiting If Ingested. Affected Body Parts Should Thoroughly Be Washed With Water And Soap.				
<i>L.D₅₀ (Oral-Rat) :</i> --g/kg	<i>L.C₅₀ (rat 4hrs) --g/m³</i>			
<i>Permissible Exposure limit:</i> 5mg/m ³ .	<i>Odour threshold:</i> N.A.			
<i>TLV (ACGIH) :</i> 10mg/m ³	<i>STEL:</i> N.A.			
<i>NFPA Hazard signals</i>	<i>Health</i>	<i>Flammability</i>	<i>Reactivity/Stability</i>	<i>Special</i>
	2	2	0	-

6. Preventive measures

<i>Personal Protective equipment:</i> Canister type gas mask. PVC or Asbestos Gloves. Goggles/Face shield giving complete protection to eyes. Boiler Suit
<i>Handling and storage precautions:</i> Store At Cool, Ventilated & Specified Area.

7. Emergency and first aid measures

Fire:
<i>Fire extinguishing media:</i> Foam, Carbon dioxide, Dry Chemical Powder. Water may be used to cool fire-exposed containers.
Exposure:
First Aid Measures : Do Not Induce Vomiting If Ingested. Affected Body Parts To Be Washed With

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Water And Soap. Wash Eyes Thoroughly With Water, Seek Medical Help.
Spills: <i>Steps to be taken</i> Recover Spillage Using Absorbent Material Like Sawdust, Sand, Do Not Push in to Drainage. <i>Waste Disposal method:</i> Recover Spillage Using Absorbent Material Like Sawdust, Sand & Land Fill.

8 . Additional Information /reference

9 . Manufacture/Suppliers Data

Firm's Name: Hindustan Petroleum Corporation Ltd. Visakh Refinery	Emergency Telephone During Transit :(0891)2894444,2894445
Mailing Address: Malkapuram, Visakhapatnam-530011	
Telephone Number: (0891)2895000	
Contact Persons In Case of Emergency:	
Head(Operations) TEL: :(0891)2894400	
Head-Fire & Safety TEL: :(0891)2894843	
Fire & Safety Control Room TEL: :(0891) 2894848, 2894849	

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