

Materials List for:

Experimental Procedure for Laboratory Studies of *In Situ* Burning : Flammability and Burning Efficiency of Crude Oil

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Materials

Name	Company	Catalog Number	Comments
DUC Crude Oil	Maersk	N/A	Light crude oil with $r = 0.853$ g/ml and $h = 6.750$ mPa*s.
Grane Crude Oil	Statoil	N/A	Heavy crude oil with $r = 0.925$ g/ml and $h = 133.6$ mPa*s.
SVM 3000 Stabinger Viscometer	Anton Paar	C18IP007EN-P	Viscosity and density meter for the fresh and weathered crude oils.
Laboshake RO500	Gerhardt	11-0002	Rotary shaking table for emulsifying water and oil mixtures.
Jebao Wave Maker RW-4	Jebao	N/A	Propeller (flow of 500-4000 L/h) used in the COFA setup to generate a current.
Aquabee UP 3000	Aquabee	UP 3000	Aquarium pump for cooling of heat flux gauge.
Adventurer Precision Electronic Balance	OHAUS	AX5205	Load scale used to weigh the oil for the COFA experiments and in the custom-made cone sample holder for the cone setup.
3M Oil Sorbent Pads	VWR	MMMAHP156	Hydrophobic absorption pads used to collect oil residues to determine the burning efficiency of the fire.
Mass Loss Calorimeter	Fire Testing Technology (FTT)	B11325-650-1-1608	A custom-made, circular holder was used for the testing of crude oil rather than the standard square sample holder. Includes a heat flux gauge with a range up to 100 kW/m ² .
34972A Data Acquisition / Data Logger Switch Unit	RS Components Ltd.	702-7958	Produced by Keysight Technologies. Operated by Keysight benchLink data logger 3 software and equipped with a 20-channel multiplexer.
Keysight Technologies 34901A 20-channel multiplexer	RS Components Ltd.	702-7939	Produced by Keysight Technologies.
Bellows-Sealed Valve	Swagelok	SS-1GS6MM	Toggle valve to open/close the water in- and outlet of the custom-made cone sample holder for the cone setup.
Kronos 50 Peristaltic Pump	SEKO	KRFM0210M6000	Peristaltic pump used to cool the custom-made cone sample holder for the cone setup.
ARCTIC A28 Refrigerated Circulator	ThermoFisher Scientific	152-5281	Water cooling reservoir used to cool the cooling water that flows through the custom-made cone

			sample holder for the cone setup. Includes a SC 100 Immersion Circulator controller.
Gas Analysis Instrumentation Console with Duct Insert	Fire Testing Technology (FTT)	B11328-650-1-1609	Gas analyzer for O ₂ , CO ₂ and CO. Uses a 34972A Data Acquisition / Data Logger Switch Unit.
Ceramic & Stainless Steel 2.5mm Electrode	Fire Testing Technology (FTT)	M015-4	Spark igniter from the Mass Loss Calorimeter. Used in the COFA setup to measure the surface temperature upon ignition.
Infrared Emitter-Module M110/348	Heraeus	80046199	Original Infrared heaters on which the new design with a water-cooled holder for the heating elements was based. Includes two short wave twin tube emitters (09751751). Operated by a type CB1x25 P power controller.
Power Controller Heratron	Heraeus	80055836	Type CB1x25 P power controller for the infrared heaters.