



PRODUCT SUMMARY

Innospec IMO 2020 VLSFO Additives

Octamar™	HF10 Plus	Ultra HF
Product Highlights	Strong fuel dispersant, stabilizer and combustion improver for VLSFO	Strong fuel dispersant, stabilizer, soot dispersant, ignition improver & combustion catalyst for VLSFO
Benefits	<ul style="list-style-type: none"> Improves stability of a single VLSFO for storage Improves compatibility of different VLSFO blends from different origin Reduces issues related to fuel commingling during fuel batch switching or change-over for ECA Reduces sludge formation and filter clogging Renders fuel homogenous Keeps fuel purification system on-board clean for optimum efficiency 	<ul style="list-style-type: none"> Improves stability of a single VLSFO for storage Improves compatibility of different VLSFO blends from different origin Reduces issues related to fuel commingling during fuel batch switching or change-over for ECA Reduces sludge formation and filter clogging Renders fuel homogenous Keeps fuel purification system on-board clean for optimum efficiency Ensures maximum burnout of hydrocarbon & improves fuel economy-Reduction of SFOC Reduces ignition delay of fuel Disperse soot Keep combustion and post combustion components clean Reduce PM
Application	<ul style="list-style-type: none"> All types of VLSFO(RMB,RMD,RME & RMG) with Kinematic Viscosity of between 20-300mm²/s Fuels with potential High Reserve Stability Number, RSN(ASTM D7061)) Fuels with potential Poor Spot Test Stability Number(ASTM D4740) Bad bunker with excessive sludge & filter clogging 	<ul style="list-style-type: none"> All types of VLSFO(RMB,RMD,RME & RMG) with Kinematic Viscosity of between 20-300mm²/s Fuels with potential High Reserve Stability Number, RSN(ASTM D7061)) Fuels with potential Poor Spot Test Stability Number(ASTM D4740) Fuels with high MCR or CCAI Vessel on slow steaming
Frequency	Continuous	Continuous or problem fuels
Treat Rate	1:10,000-1:15,000	1:6,000
Dosing Method	Direct to Storage Tanks	Direct to Storage Tanks, Serv. & Sett. Tanks or Dosing pump
Packaging	25 ltrs	25 ltrs



PRODUCT SUMMARY

Innospec Marine Heavy Fuel Oil Additives

Octamar™	BT - 25	F35C	Complete	MP4
Product Highlights	Totally organic strong fuel dispersant, stabilizer and combustion improver	Light dispersant, soot dispersant, ignition delay improver and strong combustion catalyst	Fuel dispersant, stabilizer, soot dispersant, ignition improver & strong combustion catalyst	Ash inhibitor & combustion catalyst
Benefits	<ul style="list-style-type: none"> Reduces sludge formation Renders fuel homogenous Keeps fuel purification system on-board clean for optimum efficiency Reduces ignition delay of fuel Leaves soot dry and soft 	<ul style="list-style-type: none"> Ensures maximum burnout of hydrocarbon & improves fuel economy Reduces ignition delay of fuel Disperse soot Keep combustion and post combustion components clean Reduce PM 	<ul style="list-style-type: none"> Ensures maximum burnout of hydrocarbon & improves fuel economy Reduces ignition delay of fuel Disperse soot Keep combustion and post combustion components clean Reduce PM Reduces sludge formation Renders fuel homogenous 	<ul style="list-style-type: none"> Significantly reduces or eliminates ash deposits Prevents hot corrosion Assist in better combustion
Application	<ul style="list-style-type: none"> Bad bunker with excessive sludge & filter clogging High Reserve Stability Number(RSN) Lay up of vessel. Delays aging of fuels. 	<ul style="list-style-type: none"> Excessive carbon deposits in engine & turbo charger components Excessive soot in waste heat recovery system Fuels with high MCR or CCAI Vessel on slow steaming 	<ul style="list-style-type: none"> Excessive carbon deposits in engine & turbo charger components Excessive soot in waste heat recovery system Fuels with high MCR or CCAI Vessel on slow steaming Bad bunker with excessive sludge & filter clogging High Reserve Stability Number(RSN) 	<ul style="list-style-type: none"> For fuels with high Vanadium & Sodium content Vanadium > 200mg/kg Sodium > 80mg/kg
Frequency	Continuous or problem fuels	Continuous or problem fuels	Continuous or problem fuels	Problem fuels
Treat Rate	1:15,000-1:25,000	1:6,000	1:6,000	1:3,000
Dosing Method	Direct to storage tank or settling tank	Direct to storage tank or Dosing pump	Direct to storage tank or Dosing pump	Direct to storage tank or settling tank
Packaging	25 & 200 ltrs	200 ltrs	200 ltrs	200 ltrs



PRODUCT SUMMARY

Innospec Marine Distillate Additives

Octamar™	LI5	LI5 Plus	Winterflow	Grotamar 71	Premium NF
Product Highlights	Pure Lubricity Improver	Lubricity Improver with Stabilizer	Cold Flow Improver & Pour Point Depressant	Biocides	Organic Combustion Improver & antifoulant
Benefits	<ul style="list-style-type: none"> Improves Lubricity of LSMGO Reduces the Wear Scar of MDO/MGO. 	<ul style="list-style-type: none"> Improves Lubricity of LSMGO Reduces the Wear Scar of MDO/MGO Prevent oxidation of LSMGO during prolonged storage Prevent injector fouling 	<ul style="list-style-type: none"> Improves cold flow properties of LGMGO Protects against paraffin waxes that causes filter clogging Keeps LSMGO flowable & pumpable 	<ul style="list-style-type: none"> Protection against microbial activities To kill the microbes in heavily contaminated fuels 	<ul style="list-style-type: none"> Promotes fuel economy Engine cleanliness and reduce soot & carbon deposits Prevents injection fouling. Reduce emission
Application	<ul style="list-style-type: none"> For LSMGO HFRR or above 520 microns 	<ul style="list-style-type: none"> For LSMGO HFRR or above 520 microns Prolong storage of LSMGO of over 60 days Lay up of vessel. Delays oxidation of LSMGO 	<ul style="list-style-type: none"> Extreme cold climates 	<ul style="list-style-type: none"> For LSMGO & VLSFO Present of FAME in fuel 	<ul style="list-style-type: none"> Fuels with low cetane index Fouling of engine Poor emission
Frequency	Continuous	Continuous	When operating in extreme Winter conditions	Continuous or as required	Continuous
Treat Rate	1:10,000	1:4,000	1: 1,000	1:1,000- 1:20,000	1:3,000-1:5,000
Dosing Method	Direct to storage tank	Direct to storage tank	Direct to storage tank	Direct to storage tank	Direct to storage tank
Packaging	25 ltrs	25 ltrs	25 ltrs	25 ltrs	25 ltrs