Green FUEL MAX Marine

New Generation
Green Fuel Additive

Beyond Additives – Fuel & System Optimization

- Derived from Organic Australian Ingredients – Non-Hazardous and Eco-Safe Additive
- Cleaning, Lubricating, Biocidal, and Anti-Corrosive Multi-Functional Additive
- Improve Efficiency and Reduce Emissions by 5%–10%
- Certified by ISO, SGS, Intertek, and Approved for Both Vehicle and Marine Engines
- Covered by AUD 10 Million Product Liability Insurance

Green FUEL MAX Marine

Derived from Native Australian Hardwood Species and Produced via a Unique Extraction Technology-GFX

Jointly Developed with Major Shipowners — GFX MARINE Fuel Additive

1988yr

2019yr

2021yr

2025yr

AUSTRALIAN MADE AND OWNED

GFX-Achieved Great Success with Land-Based Applications in Australia

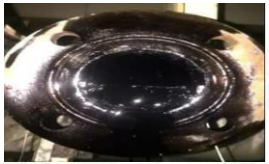
Production & Validation Finalized – February
Achieved Optimal Level across all tested parameters.

New Strategy
New Partnerships
New Ambitions

Common Issues and Hazards of Fuel Oil

Fuel Sludge Contamination

Fuel Line Blockage



Increased Separator Load; Frequent Discharge; Potential Damage

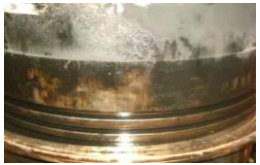
Daily Service Tank Outlet Blockage

High-Pressure Fuel Pump Plunger Sticking and Damage

Fuel Injector Corrosion, Coking, and Poor Atomization

Exhaust Valve Carbon Buildup

Piston Crown Carboning and Localized Overheating



Generator Fuel Pump Failure

Boiler Ignition Difficulty

Incomplete Combustion: Excessive Black Smoke, Emission of Harmful Gases (COx, NOx)

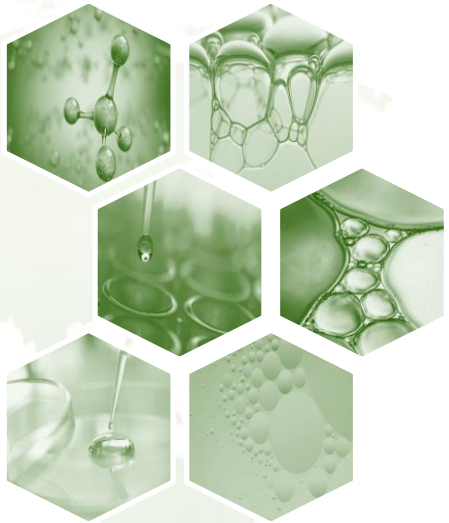
Whether for marine or automotive use, fuel oil is refined from crude oil and inevitably contains asphalt, wax, moisture, residual carbon, ash, and both biological and mechanical impurities. Over time, microbial growth (“fuel bugs”) can form, creating sludge and wax deposits that harm the fuel system.

During operation, these impurities infiltrate the fuel system, increasing the load on purifiers and causing blockages in pipelines, filters, fuel pumps, and injectors. This results in poor atomization, incomplete combustion, carbon buildup in combustion chambers, elevated exhaust temperatures, and excessive black smoke. In severe cases, this can result in boiler ignition failure, generator outages, or main engine shutdowns, posing serious safety risks and potential equipment damage.

Types of Fuel Additives

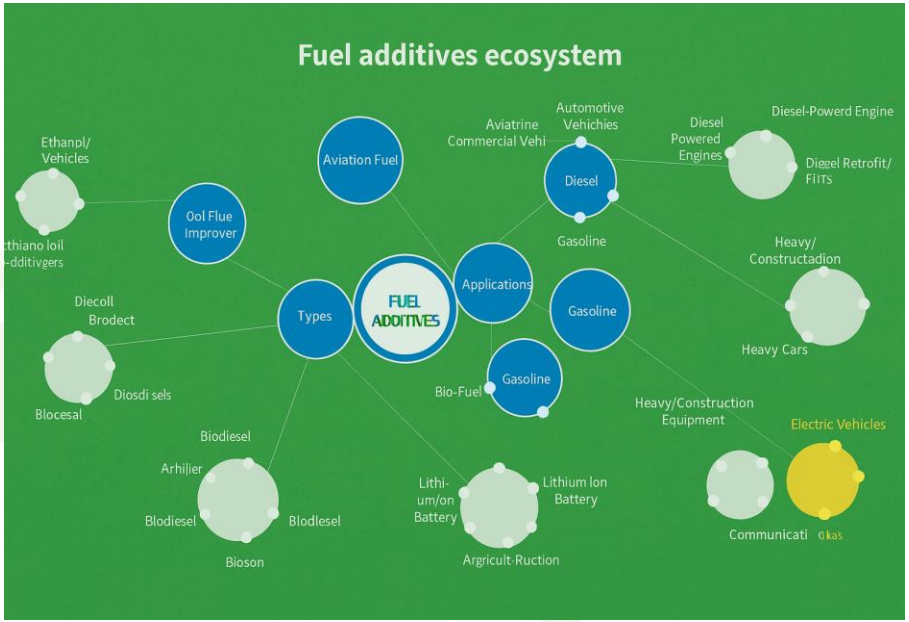
Fuel additives have emerged in response to various fuel-related issues. Traditional additives primarily address single problems or limited combinations of issues. Based on their functions, the fuel additive market can be categorized as follows:

- Carbon Deposit Control Additive
- Thermal Conductivity Enhancer
- Lubricity Improver
- Cold Flow Improver
- Cetane Number Improver (CNI)
- Corrosion Inhibitor
- Stability Enhancer
- Dye Additive
- Anti-freeze Agent
- Suppressor Additive
- CN16 Improver (Cetane Number 16 Enhancer)



Fuel Additives Market

The global fuel additives market is projected to grow at a compound annual growth rate (CAGR) of 3.6% from 2025 to 2029. Market size (USD billions): From $6.8 billion in 2025 to $8.0 billion by 2029.



Information source : Secondary Research, Expert Interviews and Markets and Markets Analysis

GFX's Function and Mechanism

Combustion Optimization

Principles	Effects
☐ Reduces surface tension by lowering interfacial pressure via non-ionic surfactants, enhancing fuel atomization ☐ Micro-explosion effect: polyol absorbs moisture and forms micro water droplets to promote flame propagation ☐ Improves oxidative stability of fuel	✓ Finer atomization and more uniform combustion; reduces incomplete combustion ✓ Enhances ignition rate and combustion completeness, improving energy conversion efficiency ✓ Lowers combustion residue and reduces emissions of pollutants such as PM, NOx, etc.

Actual Result: Fuel savings of 5–10%, faster flame propagation, improved engine power, cleaner exhaust

System Cleaning & Impurity Management

Principles	Effects
☐ Disperses asphaltenes, sludge, and gums into nano-scale particles ☐ Inhibits microbial growth by disrupting biofilm structures ☐ Improves water separation efficiency (via polyol-based moisture absorption and pre-separation treatment)	✓ Reduces carbon buildup and injector fouling, improving combustion chamber cleanliness ✓ Prevents microbial contamination (e.g. "fuel bugs"), maintaining long-term storage stability ✓ Inhibits emulsification, cold corrosion, and cold-start anomalies such as “cold explosion”

Actual Result: Reduces failure rates and maintenance costs, while improving system reliability

GFX's Function and Mechanism

Lubricity Enhancer

Principles	Effects
☐ Uses plant-based lubricating agents combined with polyol ☐ Reduces the risk of lubricity degradation in low-sulfur fuels	✓ Reduces wear and component damage ✓ Extends the service life of injectors, pumps, and valves ✓ Protects critical engine components

Actual Result: Longer maintenance intervals, extended equipment lifespan, and reduced costs

Low-Temperature & Anti-Waxing Performance

Principles	Effects
☐ Surfactants disrupt wax crystal structures ☐ Polyol absorbs moisture and lowers viscosity	✓ Lowers pour point and prevents wax blockage in fuel lines ✓ Enhances fluidity and cold-start reliability

Actual Result: Improves winter/cold-region fuel system stability for ships and vehicles

Economic and Environmental Dual Value

Principles	Effects
☐ Reduces residual carbon, NOx, and particulate emissions ☐ Lowers fuel viscosity and improves atomization	✓ Helps comply with IMO/MARPOL regulations and qualify for green taxation standards ✓ Promotes more complete combustion and reduces fuel costs

Actual Result: Energy savings + emission reduction; boosts carbon credit ratings and bidding competitiveness

Test Reports for Various Fuel Types

Accredited Laboratory
SAC - SINGLAS
LA-2012-0506-A
LA-2012-0506-A-1
LA-1999-0164-F-1

Green FUEL MAX Marine

Gasoline (95 Octane) Test

Certificate of Analysis: SG21-01373.001

LOCATION :	NA	PRODUCT DESCRIPTION :	Gasoline
SAMPLE SOURCE :	Petrol 95		
SAMPLE TYPE :	NA	SAMPLE BY :	Client
SAMPLED :	--	RECEIVED :	18/Mar/2021
ANALYSED :	18/Mar/2021 - 19/Mar/2021	COMPLETED :	19/Mar/2021
SAMPLE NUMBER:	1173360		

Diesel Fuel Test

Certificate of Analysis: SG21-01367.001

LOCATION :	NA	PRODUCT DESCRIPTION :	Diesel Oil
SAMPLE SOURCE :	Diesel		
SAMPLE TYPE :	NA	SAMPLE BY :	Client
SAMPLED :	--	RECEIVED :	18/Mar/2021
ANALYSED :	18/Mar/2021 - 19/Mar/2021	COMPLETED :	19/Mar/2021

Marine High Sulfur Fuel Oil (Without GFX)

Certificate of Analysis: SG21-00235.002A

LOCATION :	NA	PRODUCT DESCRIPTION :	Low Sulfur Fuel Oil
SAMPLE SOURCE :	WITHOUT GREEN FUEL MAX MARINE		
SAMPLE TYPE :	NA	SAMPLE BY :	Client
SAMPLED :	--	RECEIVED :	12/Jan/2021
ANALYSED :	12/Jan/2021 - 18/Jan/2021	COMPLETED :	27/Feb/2021
SAMPLE NUMBER:	1171782		

Marine High Sulfur Fuel Oil (With GFX)

Certificate of Analysis: SG21-00235.001A

LOCATION :	NA	PRODUCT DESCRIPTION :	Low Sulfur Fuel Oil
SAMPLE SOURCE :	WITH GREEN FUEL MAX MARINE		
SAMPLE TYPE :	NA	SAMPLE BY :	Client
SAMPLED :	--	RECEIVED :	12/Jan/2021
ANALYSED :	12/Jan/2021 - 18/Jan/2021	COMPLETED :	27/Feb/2021
SAMPLE NUMBER:	1171781		

Marine Low Sulfur Fuel Oil (Without GFX)

Certificate of Analysis: SG21-00594.001A

LOCATION :	NA	PRODUCT DESCRIPTION :	Fuel Oil
SAMPLE SOURCE :	HSFO		
SAMPLE TYPE :	NA	SAMPLE BY :	Client
SAMPLED :	--	RECEIVED :	02/Feb/2021
ANALYSED :	02/Feb/2021 - 04/Feb/2021	COMPLETED :	27/Feb/2021
SAMPLE NUMBER:	1172352		

Marine Low Sulfur Fuel Oil (With GFX)

Certificate of Analysis: SG21-00594.002A

LOCATION :	NA	PRODUCT DESCRIPTION :	Fuel Oil
SAMPLE SOURCE :	HSFO With Green Fuel Max Marine		
SAMPLE TYPE :	NA	SAMPLE BY :	Client
SAMPLED :	--	RECEIVED :	02/Feb/2021
ANALYSED :	02/Feb/2021 - 04/Feb/2021	COMPLETED :	27/Feb/2021
SAMPLE NUMBER:	1172353		

Test Report Sample (Right Panel)

PROPERTY	METHOD	RESULT	UNITS
Flash Point-Pensky-Martens Closed Cup	ISO 2719:2016		
Pensky Martens Flash Point (Closed cup) Procedure B		85.39	°C
Gross Calorific Value	ASTM D4868-17	46.07	MJ/kg
Density at 15°C	EN ISO 12185:1996	918.6	kg/m³
Sulfur	ISO 8754:2003	0.47	%(m/m)
Kinematic Viscosity at 50 °C	ISO 3104:1994/Cor.1: 1997	34.04	mm²/s
Potential Total Sediment - TSP	ISO 10307-2:2009/Cor.1:2010 Procedure A	0.01	%(m/m)
Carbon Residue - Micro Method	ISO 10370:2014	3.13	%(m/m)
Upper Pour Point	ISO 3016:1994	+18	°C
Ash	ISO 6245:2001	0.014	%(m/m)
Elements in Residual Fuel Oil by ICP	IP 501/05		
Vanadium		11	mg/kg
Sodium		13	mg/kg
Aluminium + Silicon		28	mg/kg
Calcium		11	mg/kg
Zinc		<1	mg/kg
Phosphorus		<1	mg/kg
Water Content	ISO 3733:1999	0.04	% (v/v)

For full test reports, please contact us.

MGO Test Report by Intertek

✅ **Key Findings from Intertek Test Report**

1. Improved Fuel Performance

•**Higher Energy Density:** Increased aromatic content → more energy released per unit of fuel → improved fuel efficiency, reduced consumption, and enhanced engine power.

•**Enhanced Lubricity:** Improved lubrication → reduced engine wear → extended engine life and lower maintenance needs.

•**Improved Low-Temperature Flowability:** Optimized formulation ensures reliable operation under cold climate conditions.

2. Superior Emission Performance

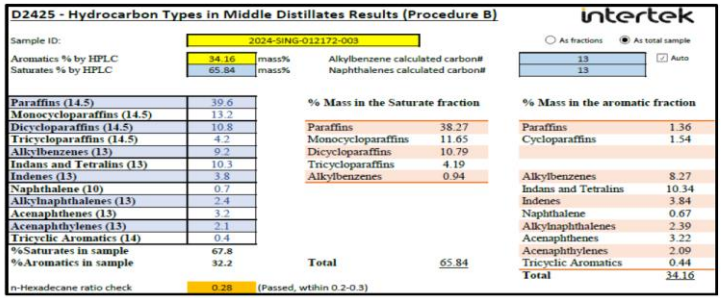
•**Carbon Emission Reduction up to 35%:** Verified by real-world marine testing → supports environmental compliance and emission regulations.

•**Lower NOx Emissions:** Reduced combustion peak temperature → cleaner exhaust → improved air quality.

•**Reduced Particulate Matter (PM):** More complete combustion → less smoke and soot → cleaner engine and exhaust.

•**Reduced Carbon Monoxide (CO) and Unburned Hydrocarbons (UHC):** Enhanced combustion efficiency → further emission reduction.

Table 1 - Neat MGO



D2425 - Hydrocarbon Types in Middle Distillates Results (Procedure B) — intertek

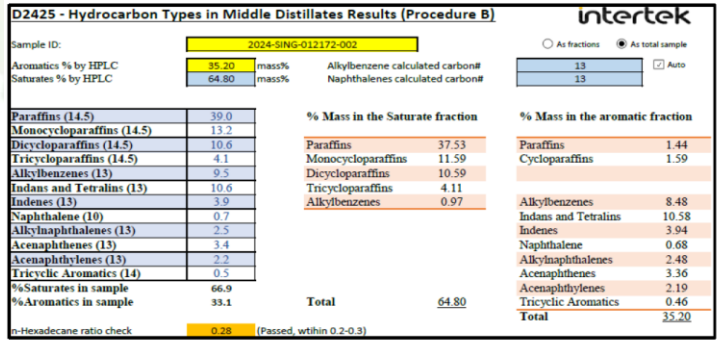
Sample ID: 2024-SING-012172-003 — ○ As fractions ◉ As total sample

Aromatics % by HPLC	34.16	mass%	Alkylbenzene calculated carbon#	13	☑ Auto
Saturates % by HPLC	65.84	mass%	Naphthalenes calculated carbon#	13	

		% Mass in the Saturate fraction		% Mass in the aromatic fraction	
Paraffins (14.5)	39.6	Paraffins	38.27	Paraffins	1.36
Monocycloparaffins (14.5)	13.2	Monocycloparaffins	11.65	Cycloparaffins	1.54
Dicycloparaffins (14.5)	10.8	Dicycloparaffins	10.79		
Tricycloparaffins (14.5)	4.2	Tricycloparaffins	4.19		
Alkylbenzenes (13)	9.2	Alkylbenzenes	0.94	Alkylbenzenes	8.27
Indans and Tetralins (13)	10.3			Indans and Tetralins	10.34
Indenes (13)	3.8			Indenes	3.84
Naphthalene (10)	0.7			Naphthalene	0.67
Alkylnaphthalenes (13)	2.4			Alkylnaphthalenes	2.39
Acenaphthenes (13)	3.2			Acenaphthenes	3.22
Acenaphthylenes (13)	2.1			Acenaphthylenes	2.09
Tricyclic Aromatics (14)	0.4			Tricyclic Aromatics	0.44
%Saturates in sample	67.8			Total	34.16
%Aromatics in sample	32.2	Total	65.84		

n-Hexadecane ratio check: 0.28 (Passed, wtihin 0.2-0.3)

Table 2 – MGO with Green Fuel Max Marine



D2425 - Hydrocarbon Types in Middle Distillates Results (Procedure B) — intertek

Sample ID: 2024-SING-012172-002 — ○ As fractions ◉ As total sample

Aromatics % by HPLC	35.20	mass%	Alkylbenzene calculated carbon#	13	☑ Auto
Saturates % by HPLC	64.80	mass%	Naphthalenes calculated carbon#	13	

		% Mass in the Saturate fraction		% Mass in the aromatic fraction	
Paraffins (14.5)	39.0	Paraffins	37.53	Paraffins	1.44
Monocycloparaffins (14.5)	13.2	Monocycloparaffins	11.59	Cycloparaffins	1.59
Dicycloparaffins (14.5)	10.6	Dicycloparaffins	10.59		
Tricycloparaffins (14.5)	4.1	Tricycloparaffins	4.11		
Alkylbenzenes (13)	9.5	Alkylbenzenes	0.97	Alkylbenzenes	8.48
Indans and Tetralins (13)	10.6			Indans and Tetralins	10.58
Indenes (13)	3.9			Indenes	3.94
Naphthalene (10)	0.7			Naphthalene	0.68
Alkylnaphthalenes (13)	2.5			Alkylnaphthalenes	2.48
Acenaphthenes (13)	3.4			Acenaphthenes	3.36
Acenaphthylenes (13)	2.2			Acenaphthylenes	2.19
Tricyclic Aromatics (14)	0.5			Tricyclic Aromatics	0.46
%Saturates in sample	66.9			Total	35.20
%Aromatics in sample	33.1	Total	64.80		

n-Hexadecane ratio check: 0.28 (Passed, wtihin 0.2-0.3)

For full test reports, please contact us.

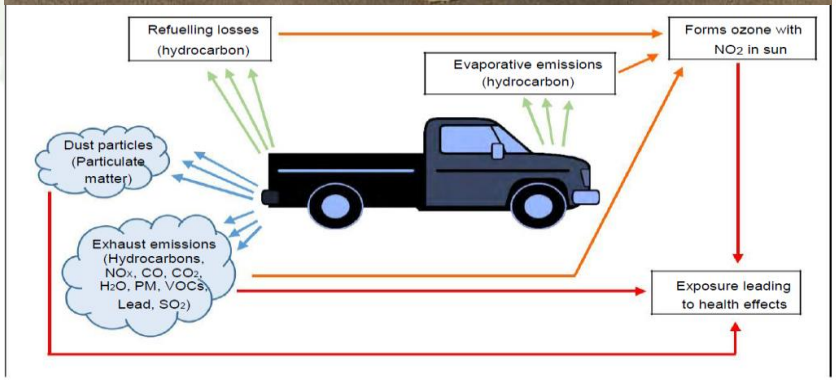
Vehicle Engine Emissions Reduction Test Report

EMISSIONS REPORT – MITSUBISHI TRITON

SLSB-REP-TA-0003

Revision Number: A
Revision Date: 24/01/2017

Description	Data
Unit & Engine Make	Mitsubishi
Registration No.	1GCO 174
Model	Triton
Engine No.	MMAJYKL10GH013995
Engine Capacity	2400cc
Engine Power	133 kW
Total Hours / km Run	9,836 kms
Original Engine	Yes
Exhaust Treatment Type	Standard Turbo Diesel
Bank	Straight 4 Cylinder



Vehicle Engine Emissions Reduction Test Report

✅ **GFX additive significantly reduces tailpipe pollutant emissions**

📊 **Supported by real-world testing data (Mitsubishi Triton test)**

1. CO (Carbon Monoxide) Emission Reduction

•Idle Condition (650 RPM)

- Before: 7 ppm → After: 12 ppm (slight increase)

•High Load Condition (2,500 RPM)

- Before: 413 ppm → After: 252 ppm
- ➤ Reduced by 39%

2. NOx (Nitrogen Oxides) Emission Reduction

•Idle Condition (650 RPM)

- Before: 130 ppm → After: 27 ppm
- ➤ Reduced by 79%

•High Load Condition (2,500 RPM)

- Before: 151 ppm → After: 136 ppm
- ➤ Reduced by 10%

3. Other NO & NO_2 Observations

•NO: Decreased from 123–147 ppm to 27–135 ppm

•NO_2: Maximum value decreased from 4 ppm to 1 ppm

Table 4.1: Emissions of CO from Mitsubishi Triton's Exhaust Gas

Vehicle Operation Mode	Speed (RPM)	Before addition of GFX		After addition of GFX	
		Temp. (°C)	CO (ppm)	Temp. (°C)	CO (ppm)
Minimum Rated Power (idle)	650	75	7	55	12
Maximum Rated Power (high idle)	2,500	78	413	75	252

The results are depicted in Figure 4.1 below:

Figure 4.1: Emissions of CO from Mitsubishi Triton's Exhaust Gas Plot

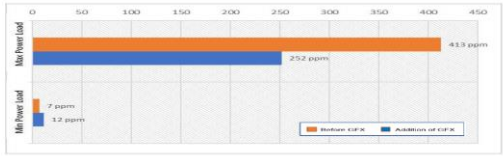
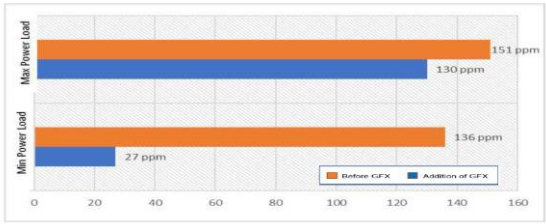


Table 4.2: Emissions of NOx from Mitsubishi TRITON's Exhaust

Vehicle Operation Mode	Speed (RPM)	Before addition of GFX		After addition of GFX	
		Temp. (°C)	NOx (ppm)	Temp. (°C)	NOx (ppm)
Minimum Rated Power (idle)	650	75	130	55	27
Maximum Rated Power (high idle)	2,500	78	151	75	136

Figure 4.2: Emissions of NOx from Mitsubishi TRITON's Exhaust Gas Plot



For full test reports, please contact us.

Marine Main Engine Test Report

上海中船三井造船柴油机有限公司

沪东重机有限公司
HUDONG HEAVY MACHINERY CO.,LTD.

GFX Test Report

Background

1. **Purpose**

Using the diesel oil with and without GFX fuel additive on test engine in test bed. Comparing the difference between engine performance, cleanliness state of the combustion chamber moving parts and engine emission character. According to the results, verify the effect of GFX fuel additive on marine low speed engine.

2. **Test engine**

Type: CMD-6550ME-C8.2

SMCR: 9960KW@127rpm

Emission grade: T2

Manufacturing date: 2014

Test time ：Over 1000 hours

Test procedure

1. **Fuel oil analysis**

The test engine use 0# diesel oil as fuel oil. Two samples are taken before test. One of them was add GFX fuel additive with the recommend ratio 1:4000. Assay both two samples separately.

2. **Original data record**

Engine operates in T2 mode without GFX fuel additive. Measure and record engine performance and emission data.

3. **Combustion chamber state inspection**

Inspect cylinder liner, piston head and piston ring.

4. **Add fuel additive**

Add GFX fuel additive in fuel oil tank with ratio 1:4000, operate engine in different mode over 100 hours.

5. **Test data record**

After engine operate over 100 hours with new fuel oil, engine change to T2 mode, measure and record engine performance and emission data.

6. **Combustion chamber state inspection**

Inspect cylinder liner, piston head and piston ring.

Test result

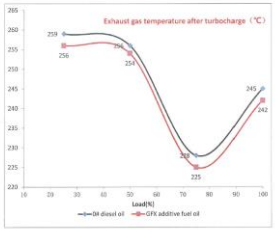
1. **Fuel oil sample comparison**

Fuel oil analysis reports (see the attachment).

Compare the sample with additive and without additive each detected index nearly without change.

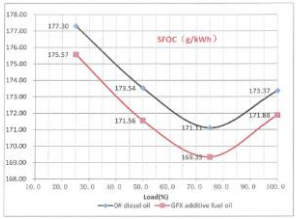
2. **Engine performance data comparison**

2.1 Exhaust gas temperature



After use GFX fuel additive, engine exhaust gas temperature decreasud 2~3℃.

2.2 Fuel oil consumption comparison



After using of GFX additive, fuel oil consumption decreased about 1%~1.5%.

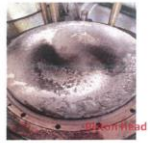
NOx value measurement comparison

NOx concentration in engine exhaust gas（ppm）				
Load（%）	25	50	75	100
0# diesel oil	1190	1205	935	825
GFX additive fuel oil	1205	1220	928	840

After using of GFX additive, the NOx value without obvious change.

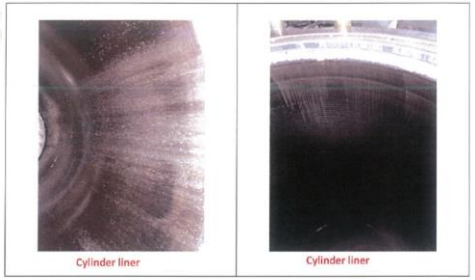
3. **Moving parts comparison**

After operate with 0# diesel oil	After operate with GFX fuel additive



Piston ring

Piston ring



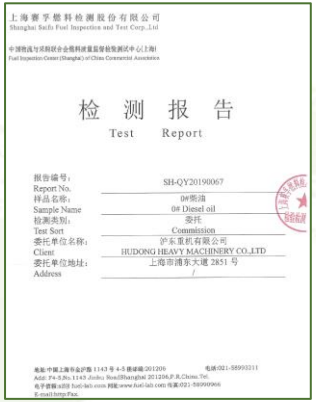
After use of GFX fuel additive, There is an obviously decrease in carbon deposition of piston head, and no more wear in piston ring and cylinder liner surface.

Marine Main Engine Test Report

Green FUEL MAX Marine

上海中船三井造船柴油机有限公司

CSSC
沪东重机有限公司
HUDONG HEAVY MACHINERY CO.,LTD.



上海赛孚燃料检测股份有限公司
Shanghai Saifu Fuel Inspection and Test Corp.,Ltd

中国物流与采购联合会燃料质量监督检验测试中心(上海)
Fuel Inspection Center (Shanghai) of China Commercial Association

检 测 报 告
Test Report

报告编号: Report No.	SH-QY20190067
样品名称: Sample Name	0#柴油 0# Diesel oil
检测类别: Test Sort	委托 Commission
委托单位名称: Client	沪东重机有限公司 HUDONG HEAVY MACHINERY CO.,LTD
委托单位地址: Address	上海市浦东大道 2851 号

委托单位名称: Client	沪东重机有限公司 HUDONG HEAVY MACHINERY CO.,LTD	样品名称: Sample Name	0#柴油 0#Diesel oil
取(采)样地点/日期: Sampling Address/Date	HHM/2019-06-11	样品数量/状态: Sample Weight/State	800mL/淡黄色透明液体 (Buff-clarity Liquid)
来样日期: Sample Arriving Date	2019-06-11	联系人/送样人: Contacts/Carry Sample Person	朱利峰 Zhu Lifeng
检测日期: Test Date	2019-06-13	检测地点: TestPlace	上海赛孚 Shanghai Saifu

检测结果
RESULTS OF TEST

序号 No.	检测项目 Test Items		检测标准 Test Methods	检测数据 Test Value
1	水分 Water Content	% (m/m)	ISO 3733-1999	<0.05
2	密度(20℃) Density at 20℃	kg/m³	ISO 3675-1998 GB/T1885-1998(2004)	831.7
	密度(15℃) Density at 15℃	kg/m³		833.3
3	运动粘度(40℃) Kinematic Viscosity at 40℃	mm²/s	ISO 3104-1994	2.965
4	硫含量 Sulfur Content	% (m/m)	ISO 8754-2003	0.001
5	总热值 Gross calorific value	MJ/kg	ASTM D240-2017	45.960
	净热值 Net calorific value	MJ/kg		42.905
6	闪点(闭口) Flash point (closed)	℃	ISO 2719-2016	70.5
7	灰分 Ash Content	% (m/m)	ISO 6245-2001	0.003
8	10%蒸余物残炭(微量法) Carbon residue in 10% residue	% (m/m)	ISO 10370-2014	0.02
9	十六烷指数 Cetane index	/	ISO 4264-2018	53
10	碳含量 Carbon content	% (m/m)	GB/T476-2008 GB/T19227-2008	85.67
	氢含量 Hydrogen content	% (m/m)		13.52
	氧含量 Oxygen content	% (m/m)		0.69
	氮含量 Nitrogen content	% (m/m)		0.03

备注 Remark

审核人: Checked by
批准人: Approved by
批准日期: Approving Date
报告日期: Report Date

SH-QY20190067 报告说明

Description of SH-QY20190067 Report

The results comparing with 0# diesel oil test value (SH-QY20190067 test report) and DMA data in the ISO-F item of ISO8217:2017(E)Table 1 are described as follows (required by commission client):

序号 S/N	检测项目及单位 Item to be tested unit	检测结果 test result	DMA 要求结果 Result required by DMA	检测标准 test standard	结论 Conclusion
1	密度(15℃) Density at 15℃ kg/m³	833.3	Max 890.0	ISO 3675	符合 Coincidence
2	运动粘度(40℃) Kinematic Viscosity at 40℃ mm²/s	2.965	Min 2.000 Max 6.000	ISO 3104	符合 Coincidence
3	闪点(闭口) Flash point (closed) ℃	70.5	Min 60.0	ISO 2719	符合 Coincidence
4	10%蒸余物残炭 Carbon residue in 10% residue % (m/m)	0.02	Max 0.30	ISO 10370	符合 Coincidence
5	灰分 Ash Content % (m/m)	0.003	Max 0.010	ISO 6245	符合 Coincidence
6	硫含量 Sulfur content % (m/m)	0.001	Max 1.50	ISO 8754	符合 Coincidence
7	十六烷指数 Cetane index	53	Min 40	ISO 4264	符合 Coincidence

上海赛孚燃料检测股份有限公司
Shanghai Saifu Fuel Inspection and Test Corp., Ltd

上海赛孚燃料检测股份有限公司
Shanghai Saifu Fuel Inspection and Test Corp.,Ltd

中国物流与采购联合会燃料质量监督检验测试中心(上海)
Fuel Inspection Center (Shanghai) of China Commercial Association

检 测 报 告
Test Report

报告编号: Report No.	SH-QY20190068
样品名称: Sample Name	0#柴油 0# Diesel oil
检测类别: Test Sort	委托 Commission
委托单位名称: Client	沪东重机有限公司 HUDONG HEAVY MACHINERY CO.,LTD
委托单位地址: Address	上海市浦东大道 2851 号

报告编号: SH-QY20190068
Report No.

委托单位名称: Client	沪东重机有限公司 HUDONG HEAVY MACHINERY CO.,LTD	样品名称: Sample Name	0#柴油 0#Diesel oil
取(采)样地点/日期: Sampling Address/Date	HHM/2019-06-11	样品数量/状态: Sample Weight/State	800mL/淡黄色透明液体 (Buff-clarity Liquid)
来样日期: Sample Arriving Date	2019-06-11	联系人/送样人: Contacts/Carry Sample Person	朱利峰 Zhu Lifeng
检测日期: Test Date	2019-06-12	检测地点: TestPlace	上海赛孚 Shanghai Saifu

检测结果
RESULTS OF TEST

序号 No.	检测项目 Test Items		检测标准 Test Methods	检测数据 Test Value
1	水分 Water Content	% (m/m)	ISO 3733-1999	<0.05
2	密度(20℃) Density at 20℃	kg/m³	ISO 3675-1998 GB/T1885-1998(2004)	832.8
	密度(15℃) Density at 15℃	kg/m³		835.4
3	运动粘度(40℃) Kinematic Viscosity at 40℃	mm²/s	ISO 3104-1994	2.973
4	硫含量 Sulfur Content	% (m/m)	ISO 8754-2003	0.001
5	总热值 Gross calorific value	MJ/kg	ASTM D240-2017	46.010
	净热值 Net calorific value	MJ/kg		42.945
6	闪点(闭口) Flash point (closed)	℃	ISO 2719-2016	71.0
7	灰分 Ash Content	% (m/m)	ISO 6245-2001	0.003
8	10%蒸余物残炭(微量法) Carbon residue in 10% residue	% (m/m)	ISO 10370-2014	0.02
9	十六烷指数 Cetane index	/	ISO 4264-2018	53
10	碳含量 Carbon content	% (m/m)	GB/T476-2008 GB/T19227-2008	85.59
	氢含量 Hydrogen content	% (m/m)		13.57
	氧含量 Oxygen content	% (m/m)		0.71
	氮含量 Nitrogen content	% (m/m)		0.04

备注 Remark

审核人: Checked by
批准人: Approved by
批准日期: Approving Date
报告日期: Report Date

SH-QY20190068 报告说明

Description of SH-QY20190068 Report

The results comparing with 0# diesel oil test value (SH-QY20190068 test report) and DMA data in the ISO-F item of ISO8217:2017(E)Table 1 are described as follows (required by commission client):

序号 S/N	检测项目及单位 Item to be tested unit	检测结果 test result	DMA 要求结果 Result required by DMA	检测标准 test standard	结论 Conclusion
1	密度(15℃) Density at 15℃ kg/m³	835.4	Max 890.0	ISO 3675	符合 Coincidence
2	运动粘度(40℃) Kinematic Viscosity at 40℃ mm²/s	2.973	Min 2.000 Max 6.000	ISO 3104	符合 Coincidence
3	闪点(闭口) Flash point (closed) ℃	71.0	Min 60.0	ISO 2719	符合 Coincidence
4	10%蒸余物残炭 Carbon residue in 10% residue % (m/m)	0.02	Max 0.30	ISO 10370	符合 Coincidence
5	灰分 Ash Content % (m/m)	0.003	Max 0.010	ISO 6245	符合 Coincidence
6	硫含量 Sulfur content % (m/m)	0.001	Max 1.50	ISO 8754	符合 Coincidence
7	十六烷指数 Cetane index	53	Min 40	ISO 4264	符合 Coincidence

上海赛孚燃料检测股份有限公司
Shanghai Saifu Fuel Inspection and Test Corp., Ltd

Marine Main Engine Test Report

上海中船三井造船柴油机有限公司

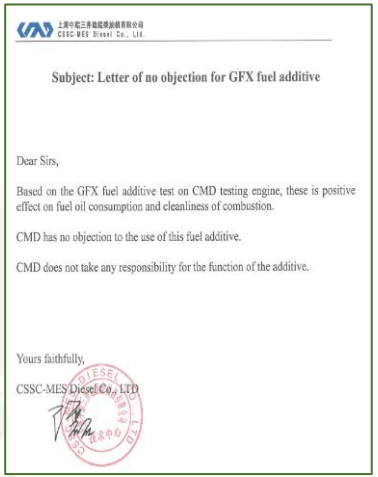
CSSC
沪东重机有限公司
HUDONG HEAVY MACHINERY CO.,LTD.

✅ CSSC-MES Diesel Engine Company issued a statement: "No Objection to the Use of GFX Fuel Additives"

"Testing confirms that GFX fuel additives positively impact fuel consumption and combustion cleanliness. CMD does not oppose the use of this additive."

Test Background and Methodology

- **Test Platform:** CMD-6S50ME-C8.2 marine diesel engine
- **Operation Time:** Cumulative runtime exceeding 1,000 hours
- **Test Method**：
  - A single batch of diesel was divided into two groups:
    - **Group A:** Regular diesel control group
    - **Group B:** GFX additive group (at recommended ratio of 1:4000)
  - Comparative test items included：
    - Fuel physicochemical properties
    - Engine fuel economy
    - Emission temperature
    - Wear condition and cleanliness of piston ring and cylinder liner



CSSC-MES Diesel Co., Ltd.

Subject: Letter of no objection for GFX fuel additive

Dear Sirs,

Based on the GFX fuel additive test on CMD testing engine, these is positive effect on fuel oil consumption and cleanliness of combustion.

CMD has no objection to the use of this fuel additive.

CMD does not take any responsibility for the function of the additive.

Yours faithfully,

CSSC-MES Diesel Co., LTD

Conclusion

1. GFX additive wasn't change in fuel oil physical and chemical properties, without any harmful element to affect catalyst which would be used on SCR.
2. After using GFX additive, engine fuel consumption decreased about 1%~1.5%.
3. After using GFX additive, during the fuel consumption decrease, the exhaust gas temperature without high decrease, so it would not affect exhaust boiler use onboard.
4. After using GFX additive, the measurement of NOx value without obviously change, so it would not affect the engine emission.
5. After using GFX additive, the combustion chamber cleanliness was improved.

Marine Main Engine Test Report

上海中船三井造船柴油机有限公司

CSSC 沪东重机有限公司 HUDONG HEAVY MACHINERY CO.,LTD.

2 Fuel Property Stability – Ensuring Fuel Safety

Property	Before Additive	After Additive	Description
Moisture (%)	<0.05	<0.05	No change; fuel stability unaffected
Density (15℃) (kg/m³)	835.3	836.4	Slight increase; energy density improved
Viscosity (40℃) (mm²/s)	2.963	2.973	Slight increase; helps improve lubricity
Gross/Net Calorific Value (MJ/kg)	45.960/42.905	46.010/42.945	Slight increase; supports higher thermal efficiency
Hydrogen Content (%)	13.52	13.57	More energy release per unit mass; supports fuel-saving argument
Oxygen Content (%)	0.69	0.71	More complete combustion; lowers carbon emissions
Cetane Number	53	53	No change; remains compatible with diesel engines

✅ Conclusion: GFX does not alter the fundamental fuel properties. Post-additive safety remains compliant with standards and engine compatibility is unaffected.

3 Improved Fuel Efficiency Performance

📉 Visual data analysis shows:

- GFX reduces engine fuel consumption by approx. 1.3%–1.5%
- Exhaust gas temperature drops by 2–3℃, indicating more complete combustion and better efficiency

📌 Supporting Indicators:

- Higher hydrogen content → more energy per unit of fuel
- Higher oxygen content → improved combustion, less waste
- Improved atomization and spray uniformity → better thermal efficiency

Marine Main Engine Test Report

上海中船三井造船柴油机有限公司

CSSC 沪东重机有限公司 HUDONG HEAVY MACHINERY CO.,LTD.

4 Emission Reduction and Environmental Benefits

Theoretical and indirect evidence shows：

Increased oxygen and hydrogen ratios → lower carbon intensity Reduced soot and CO → supports ESG, EEXI, CII scoring for sustainability

compliance and credit improvement

✅ Conclusion: GFX helps lower particulate and carbon-based emissions, aiding sustainability and certification performance.

5 Reduced Component Wear – Improved System Reliability

Test Item	Before Additive (Traditional Fuel)	After Additive (With GFX)
Piston Top Carbon	Clearly accumulated, dark deposits	Significantly reduced, visibly cleaner
Piston Ring & Cylinder Wear	Obvious metal scoring and corrosion	Reduced scarring, better lubrication
Combustion Chamber Wall	Local fouling and heavy deposits	Even surface, clean appearance, extended maintenance cycle

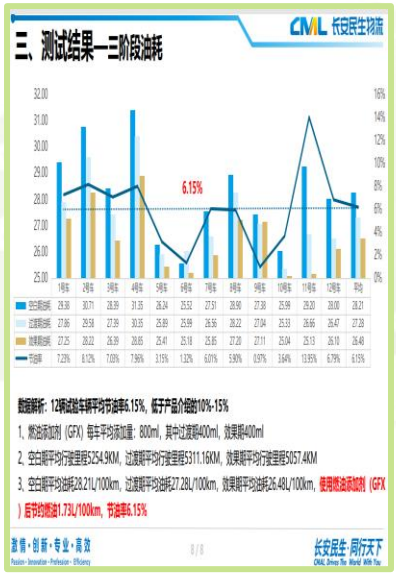
Real-World Fuel Savings Results of GFX in Land Vehicles

Green FUEL MAX Marine

Australia Test Results

Singapore Test Results

China Test Results



Malaysia Test Results

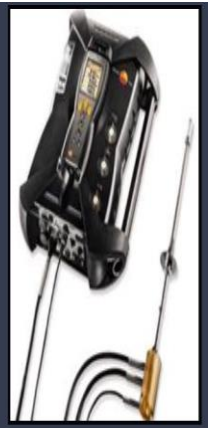
GFX MARINE Onboard Testing and Application Results

Emission Test Overview	To determine the effectiveness of Green Fuel Max in reducing carbon emissions of operating marine vessels. By measuring Carbon Monoxide and Nitrogen Oxide fuel emission levels of Sea Falcon 15.
Period	**6 weeks**, from mid-March to April 2023

Testing equipment	**Testo 350 Exhaust Gas Analyzer** For professional industrial emission measurements for marine vessels from the port and starboard diesel engines. The Testo 350 device is certified by DNV, GL and NK according to MARPOL Annexe VI standard.

*Emission testing was completed for **Sea Falcon 15**, an offshore searching vessel providing operational services*

- **Testing generally took place daily** and on occasion at night, whenever Sea Falcon 15 bunkered for fuel.
- Testing starboard engine and then port. It was noted that the engines were running well and obviously regular serviced. Soot emissions were low on both engines. The port engine was not running as well as the starboard, refer to further comments on Slide 5.
- The process consisted of mooring or stabilising the launch in calm water, holding the engines in neutral and emission testing by accessing the exhaust ports on the vessel.
- Emission testing was timed between 45-60 seconds, readings were recorded on the Testo 350 and images were taken of these readings at each testing.



Testo 350 Gas Analyzer

GFX MARINE Onboard Testing and Application Results

- Application of Green Fuel Max took place at every bunker visit. Images of measured amounts of each application can be made available upon request.
- Images of all Testo 350 device readings can be made available upon request

Green Fuel Max measured and ready for application to fuel tank. Easy application for Searching Offshore team members

Green Fuel Max being poured into fuel tank. Only takes a few minutes to calculate measure and pour.

One of the two Fuel Bunkers used to refuel Sea Falcon 15

Image of emission reading, of the initial base reading

Image of emission reading, of the peak reading of carbon being removed from the fuel combustion

Image of emission reading, of a low reading post the carbon engine burnout, reflecting a carbon reduction of 67% from initial base reading

Sea Falcon 15 Emission Testing: Key Findings

Initial emission testing's base levels:

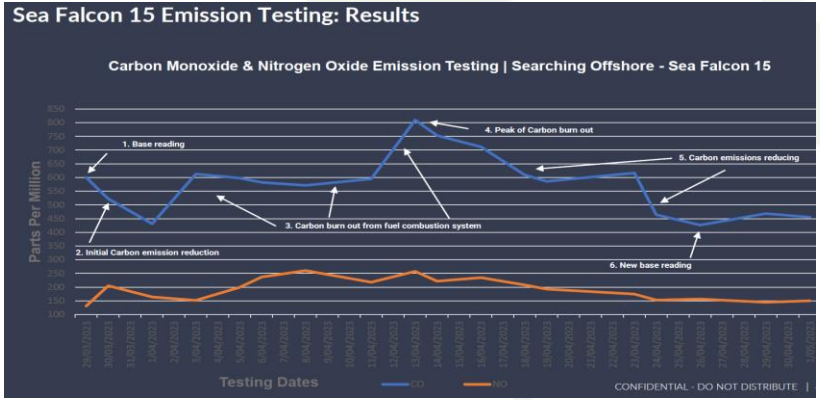
- Carbon Monoxide - 618 parts per million = 9.71% Carbon Dioxide
- Nitrogen Oxide - 204 parts per million = 2.05%

Carbon emission engine burn started on 3 April and continued until 14 April.

Testing was completed once new base level was achieved on 1 May:

- Carbon Monoxide - 455 parts per million = 7.15% Carbon Dioxide
- Nitrogen Oxide - 150 parts per million = 1.50%

Sea Falcon 15 Emission Testing: Results



Sea Falcon 15 Emission Testing: Key Findings - continued

- **Carbon emissions overall reduced** by just over 35%
- **Nitrogen Oxide emissions were reduced** by over 35% (note: this was not a target of the testing however a significant change).
- **Overall performance improvement on running of engines** – noted audible improvements especially in the port engine.
- **Diesel refueling quantity generally ranged between 500ltr to 700ltr.** Resulting in Green Fuel Max being applied in quantities of between **125ml – 175ml a very small amount of product** for a compelling result in terms of Carbon emission reduction.
- **This equates to between $2.00 - $3.00 per application** of Green Fuel Max.
- **Emissions reduction in this test is concluded to be significant.**

FINDINGS

Achieve over 35% carbon emission reduction, environmental impact reduction

Plus gain fuel savings and cost savings in engine maintenance (est. $81k/year fleet wide)

Green Fuel Max effectively reduces Carbon Dioxide and Nitrogen Monoxide emissions, cleans fuel systems, and improves fuel economy.

GFX MARINE Fuel Additive Test Summary

📌 Test Background

- Real-world marine trials conducted on operational ships at sea
- Comparative testing: data collected before and after using the additive, covering fuel consumption, emissions, engine performance, and operational behaviours
- Objective: Verify effectiveness in fuel savings, emission reduction, engine cleanliness, and combustion efficiency improvement 。

🛢️ Fuel-Saving Results

- Significant trend of reduced fuel consumption observed under actual operating conditions
- Estimated fuel savings potential is approximately 9%, based on the "equivalent carbon reduction cost conversion method"
- Actual measured fuel savings: approximately 8%–10% 。

🌿 Emission Reduction Effects

- CO emissions reduced by ~26% → Indicates more complete combustion, less unburned carbon
- NOx emissions reduced by ~26% → Shows better combustion temperature control, reducing high-temperature byproducts
- Exhaust temperature lowered by 2–3°C → Improved heat transfer efficiency and combustion stability
- Overall reduction in carbon emissions → Supports carbon credit acquisition & compliance with EEXI / CII / ESG regulations 。

GFX MARINE has shown outstanding performance on Chinese-operated VLOC, VLCC, CAPE, AFRAMAX, PANAMAX, and European dry bulk vessels. Its engine efficiency and fuel-saving mechanism align with those in land vehicles. While results may vary slightly depending on fuel quality and engine systems, marine fuel savings are often even better. The earlier you use it, the sooner you benefit.

GFX and GFX MARINE Product MSDS

Material Safety Data Sheet

1. IDENTIFICATION of MATERIAL and SUPPLIER

Product Name: GREEN FUEL MAX (GFX)
Recommended Use: Fuel additive for petrol and Diesel fuels

2. HAZARDS IDENTIFICATION

Hazard Classification: This material is not considered **hazardous** according to the criteria of ASCC. However prolonged skin or eye contact can cause irritations.

Hazard Category: N/A

Risk Phrases: N/A

Safety Phrases: N/A

3. COMPOSITION/INFORMATION on INGREDIENTS

Chemical Name	CAS No	Proportion (%w/w)
Non Ionic surfactants (non-hazardous)	N/A	30-60%
Alkoxy propanols (organic)		30-60%
Dye	Proprietary	<10%
Fragrance	Proprietary	<10%

4. FIRST AID MEASURES

FIRST AID

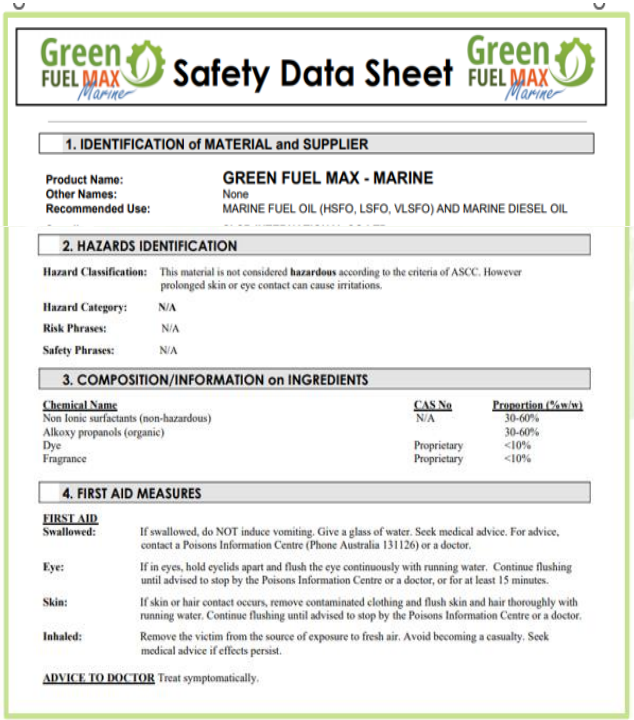
Swallowed: If swallowed, do NOT induce vomiting. Give a glass of water. Seek medical advice. For advice, contact a Poisons Information Centre (Phone Australia 131126) or a doctor.

Eye: If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

Skin: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair thoroughly with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor.

Inhaled: Remove the victim from the source of exposure to fresh air. Avoid becoming a casualty. Seek medical advice if effects persist.

ADVICE TO DOCTOR Treat symptomatically.



Safety Data Sheet

1. IDENTIFICATION of MATERIAL and SUPPLIER

Product Name: GREEN FUEL MAX - MARINE
Other Names: None
Recommended Use: MARINE FUEL OIL (HSFO, LSFO, VLSFO) AND MARINE DIESEL OIL

2. HAZARDS IDENTIFICATION

Hazard Classification: This material is not considered **hazardous** according to the criteria of ASCC. However prolonged skin or eye contact can cause irritations.

Hazard Category: N/A

Risk Phrases: N/A

Safety Phrases: N/A

3. COMPOSITION/INFORMATION on INGREDIENTS

Chemical Name	CAS No	Proportion (%w/w)
Non Ionic surfactants (non-hazardous)	N/A	30-60%
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Skin: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair thoroughly with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor.

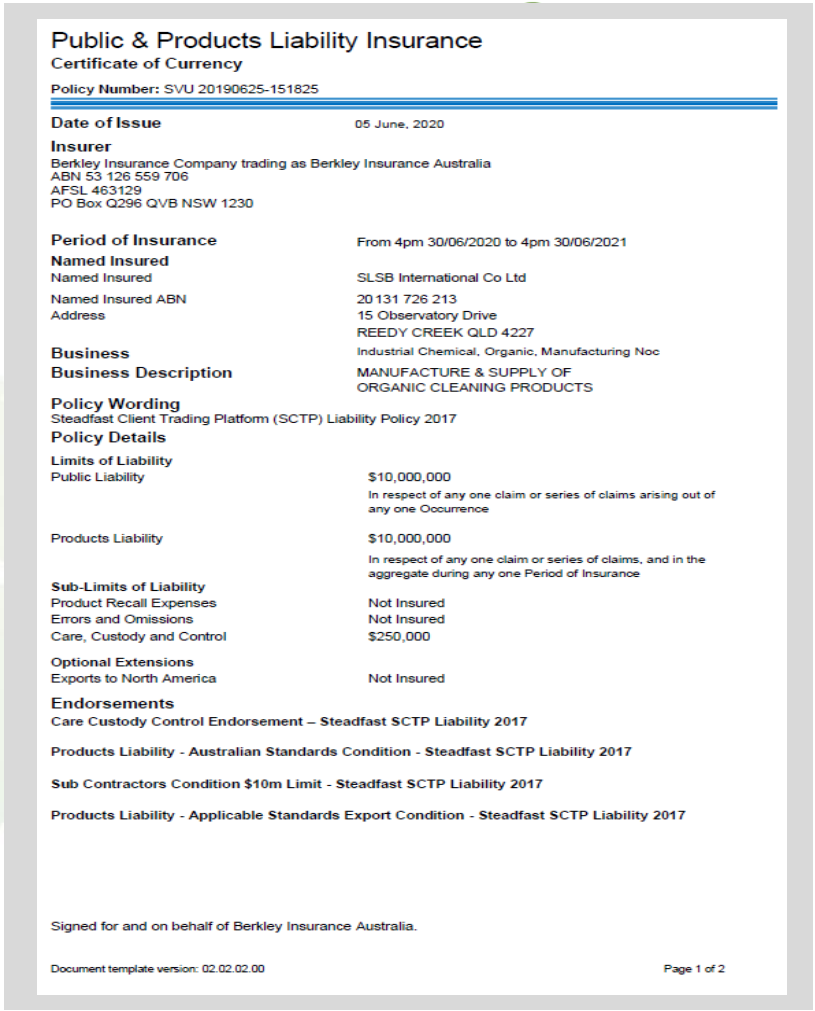
Inhaled: Remove the victim from the source of exposure to fresh air. Avoid becoming a casualty. Seek medical advice if effects persist.

ADVICE TO DOCTOR Treat symptomatically.

Non-toxic, Harmless, Safe Product with Extended Shelf Life

An Extra Layer of Assurance

The safety of GFX and GFX Marine products has been officially recognized by insurers. Berkley Insurance Australia, a globally renowned insurance provider, has issued a AUD 10 million global property insurance policy for the GFX product line—giving customers complete peace of mind.



Public & Products Liability Insurance

Certificate of Currency

Policy Number: SVU 20190625-151825

Date of Issue 05 June, 2020

Insurer
Berkley Insurance Company trading as Berkley Insurance Australia
ABN 53 126 559 706
AFSL 463129
PO Box Q296 QVB NSW 1230

Period of Insurance From 4pm 30/06/2020 to 4pm 30/06/2021

Named Insured

Named Insured	SLSB International Co Ltd
Named Insured ABN	20 131 726 213
Address	15 Observatory Drive REEDY CREEK QLD 4227
Business	Industrial Chemical, Organic, Manufacturing Noc
Business Description	MANUFACTURE & SUPPLY OF ORGANIC CLEANING PRODUCTS

Policy Wording
Steadfast Client Trading Platform (SCTP) Liability Policy 2017

Policy Details

Limits of Liability

Public Liability	$10,000,000 In respect of any one claim or series of claims arising out of any one Occurrence
Products Liability	$10,000,000 In respect of any one claim or series of claims, and in the aggregate during any one Period of Insurance

Sub-Limits of Liability

Product Recall Expenses	Not Insured
Errors and Omissions	Not Insured
Care, Custody and Control	$250,000

Optional Extensions

Exports to North America	Not Insured

Endorsements

Care Custody Control Endorsement – Steadfast SCTP Liability 2017

Products Liability - Australian Standards Condition - Steadfast SCTP Liability 2017

Sub Contractors Condition $10m Limit - Steadfast SCTP Liability 2017

Products Liability - Applicable Standards Export Condition - Steadfast SCTP Liability 2017

Signed for and on behalf of Berkley Insurance Australia.

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Page 1 of 2

GFX & GFX MARINE Usage Guidelines

Before refuelling, add GFX directly into the fuel tank. Calculate the total tank capacity and the amount of fuel to be added, then dose accordingly:

- Initial dosage: 1 litre of GFX per 2,000 litres of fuel
- Maintenance dosage (after 1 month): 1 litre per 4,000 litres
- Can be used immediately after refuelling

Before bunkering, inject GFX Marine directly into the tank via dip port or other access points. Calculate total tank capacity and fuel volume to be added, then dose accordingly:

- Initial dosage: 1 litre of GFX Marine per 5,000 litres of fuel
- Maintenance dosage (after 1 month or full voyage): 1 litre per 10,000 litres
- Allow 48 hours for natural mixing before normal use

Case Study: Cost-Benefit Calculation

Example: Panama Bulk Carrier

Items	Quantity	Unit
Daily HFO Consumption	30	MT
Standard Emissions Factor	3.15	tCO2/MT
LSFO Unit Price	550	US$
2025 Carbon Credit Price (Est.)	80	US$
Annual Operating Days	300	Day

Efficiency is not a promise—it's a proven outcome.

Data Type	Cost			Benefit			
GFX Additive Daily Dosage(Dosing rate: 1:10000, Retail Price: USD 80/L)	3	L	US$ 240				
Daily savings from 1% HFO reduction				0.30	MT	US$	165
Carbon credit savings from reduced CO_2 emissions (0.945 t)				0.945	tCO2	US$	75.60
Total daily savings						US$	0.6
Annual savings (×300 days)						**US$**	**180**

This table proves you're essentially using our multifunctional additive for free.

The sooner you use it, the sooner you benefit!

Data Type	Cost			Benefit			
GFX Additive Daily Dosage	3	L	US$ 240				
Daily savings from 5% HFO reduction				1.5	MT	US$	825
Carbon credit savings from reduced CO_2 emissions				4.725	tCO2	US$	378
Total daily savings						US$	963
Annual savings (×300 days)						**US$**	**288900**

This is the fuel and emission saving your vessel should achieve with our additive!
(Spare parts and maintenance savings not included)

Case Study: Cost-Benefit Calculation

Example: Logistic Truck

Fuel Consumption Per 100 KM	35	L
Daily Distance (Aassumed 2000KM)	700	L
Emission Factor	3.15	tCO2/mT
Diesel Price Per Litre	1.5	US$
EUA Carbon Price (2025)	80	US$
Annual Operation Days	300	DAY

Efficiency is not a promise—it's a proven outcome.

Data Type	Cost			Benefit		
Daily GFX additive consumption(Dosing rate 1:4000, Retail Price : USD100/L)	0.175	L	US$ 17.50			
Daily savings from 5% HFO reduction				35	L	US$ 52.50
Carbon credit saved (0.1 tCO_2)				0.1	tCO2	US$ 8
Total daily savings						US$ 43
Annual savings (×300 days)						**US$ 12900**

The sooner you use it, the sooner you benefit!

This is the fuel and emission saving your Truck should achieve with our additive!
(Spare parts and maintenance savings not included)

Green FUEL MAX Marine

✅ **Proven Emission Cuts**

✅ **Effective Fuel Savings**

🌿 **Green Power**

✨ **Starts with GFX**

GFX & GFX Marine – The New-Generation Organic Fuel Optimizer. GFX and GFX Marine are advanced, multi-functional fuel treatment solutions made from 100% organic, non-hazardous ingredients. Backed by over 5 years of shelf stability and comprehensive insurance coverage, they offer a safer, greener alternative to traditional chemical additives. Key benefits include: Boosting fuel calorific value, Cleaning and lubricating the fuel system, Improving combustion efficiency, Reducing fuel consumption per unit of power, Lowering emissions of CO_2, CO, and Nox. With proven effectiveness in both land and marine applications, GFX provides measurable energy savings and emission reductions—delivering peace of mind for every user.