MATERIAL SAFETY DATA SHEET

ARBUTUS POINT MARINE LTD
Non-Bio ECA Compliant Fuel

1. Product and Company Identification

Material name	**Ultra Low Sulfur Diesel**
Version #	01
Issue date	02-01-2013
Revision date	
Supersedes date	
CAS #	68476-34-6
MSDS Number	TST002
Product use	Fuel.
Synonym(s)	GARB Diesel TF3;GARB Diesel;GARB Diesel10%; GARB
Manufacturer/Supplier	
Telephone Number:	(604) 947-2562
Emergency	

2. Hazards Identification

Physical state	Liquid.
Appearance	Liquid.
Emergency overview	WARNING Flammable liquid and vapor. Harmful if inhaled. Harmful or fatal if swallowed. Can enter lungs and cause damage. Causes skin irritation.
OSHA regulatory status	This product is hazardous according to OSHA 29 CFR 1910.1200.
Potential health effects	
Routes of exposure	Ingestion. Skin contact. Eye contact. Inhalation.
Eyes	May cause minor irritation on eye contact.
Skin	Causes skin irritation. May be absorbed through the skin.
Inhalation	Breathing of high concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness.
Ingestion	Harmful or fatal if swallowed, can enter lungs and cause damage. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Target organs	Skin. Central nervous system.
Chronic effects	Possible cancer hazard - may cause cancer based on animal data. May cause central nervous system effects. Prolonged or repeated contact with skin may cause redness, itching, irritation, eczema/chapping and oil acne. May cause damage to the liver.
Signs and symptoms	Vapors may cause drowsiness and dizziness. Irritation of eyes and mucous membranes. Skin irritation. Defats the skin. Dermatitis. Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure.
Potential environmental effects	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Fuels, diesel, no. 2	68476-34-6	95-100
Naphthalene	91-20-3	< 1

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

First aid procedures

Eye contact	Flush eyes thoroughly with water for at least 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention if irritation develops or persists.
Skin contact	Remove contaminated clothing. Wash with soap and water. In case of rashes, wounds or other skin disorders: Seek medical attention and bring along these instructions.
Inhalation	Move injured person into fresh air and keep person calm under observation. Get medical attention immediately.
Ingestion	Rinse mouth thoroughly with water and give large amounts of milk or water, if person is conscious. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Get medical attention immediately.
Notes to physician	Treat symptomatically. Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure.
General advice	Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

5. Fire Fighting Measures

Flammable properties	The product is flammable, and heating may generate vapors which may form explosive vapor/air mixtures.
Extinguishing media	
Suitable extinguishing media	Water spray, foam, dry powder or carbon dioxide.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Protection of firefighters	
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Protective equipment and precautions for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out.
Hazardous combustion products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

6. Accidental Release Measures

Personal precautions	Stay upwind. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid inhalation of vapors and contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection. See Section 8 of the SOS for Personal Protective Equipment.
Environmental precautions	Prevent spreading over a wide area (e.g. by containment or oilbarriers). Do not contaminate water. Contact local authorities in case of spillage to drain/aquatic environment. U.S. regulations require reporting releases of this materialto the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks.The National Response Center can be reached at (800)424-8802.
Methods for cleaning up	Remove sources of ignition. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Small Spills: Absorb spillage with non-combustible, absorbent material. Large Spills: Remove with vacuum trucks or pump to storage/salvage vessels. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Wash area with soap and water. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labeled container. Never return spills in original containers for re-use.

7. Handling and Storage

Handling

Should be handled in closed systems, if possible. Avoid contact with eyes, skin, and clothing. Avoid inhalation of vapors. Wear appropriate personal protective equipment. The product is flammable, and heating may generate vapors which may form explosive vapor/air mixtures. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Ground container and transfer equipment to eliminate static electric sparks. Do not eat, drink or smoke when using the product. Observe good industrial hygiene practices.

Storage

Follow rules for flammable liquids. Keep away from heat, sparks and open flame. Keep in a cool, well-ventilated place. Keep away from food, drink and animal feeding stuffs. Store away from incompatible materials.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Fuels, diesel, no. 2 (CAS 68476-34-6)	TWA	100 mg/m3	Inhalable fraction and vapor.
Naphthalene (CAS 91-20-3)	STEL	15 ppm	
	TWA	10 ppm	

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Naphthalene (CAS 91-20-3)	PEL	50 mg/m3
		10 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Fuels, diesel, no. 2 (CAS 68476-34-6)	TWA	100 mg/m3
Naphthalene (CAS 91-20-3)	STEL	79 mg/m3
		15 ppm
	TWA	52 mg/m3
		10 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Fuels, diesel, no. 2 (CAS 68476-34-6)	TWA	100 mg/m3	Vapor and aerosol.
Naphthalene (CAS 91-20-3)	STEL	15 ppm	
	TWA	10 ppm	

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Fuels, diesel, no. 2 (CAS 68476-34-6)	TWA	100 mg/m3	Inhalable fraction and vapor.
Naphthalene (CAS 91-20-3)	STEL	15 ppm	
	TWA	10 ppm	

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Naphthalene (CAS 91-20-3)	STEL	79 mg/m3
		15 ppm
	TWA	52 mg/m3
		10 ppm

Mexico. Occupational Exposure Limit Values

Components	Type	Value
Naphthalene (CAS 91-20-3)	STEL	75 mg/m3

Mexico. Occupational Exposure Limit Values

Components	Type	Value
	TWA	15 ppm 50 mg/m3 10 ppm

Engineering controls Use explosion-proof equipment. Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors. Provide easy access to water supply and eye wash facilities.

Personal protective equipment

Eye / face protection Wear goggles/face shield.

Skin protection Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier. Protection suit must be worn. Anti-static and flame-retardant protective clothing is recommended.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134. Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use positive pressure, air-supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Observe any medical surveillance requirements.

9. Physical & Chemical Properties

Appearance	Liquid.
Physical state	Liquid.
Form	Liquid.
Color	Dyed green or red.
Odor	Diesel fuel.
Odor threshold	Not available.
pH	Not applicable.
Vapor pressure	0.4 mm Hg
Vapor density	Not available.
Boiling point	300.2 - 690.8 °F (149 - 366 °c)
Melting point/Freezing point	Not available.
Solubility (water)	Insoluble in water.
Specific gravity	0.81 - 0.88 (15.6°C / 60°F)
Flash point	125.6 - 179.6 °F (52 - 82 °C) Pensky-Martens Closed Cup ASTM 093, EPA 1010
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	500 °F (260 °C)
Evaporation rate	< 1 (Butyl acetate = 1)
Bulk density	7.08 lbs/gal

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	Heat, sparks, flames. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents.
Hazardous decomposition products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
Fuels, diesel, no. 2 (CAS 68476-34-6)		
Acute		
Inhalation		
LC50	Rat	4.1 mg/l, 4 hours
Naphthalene (CAS 91-20-3)		
Acute		
Dermal		
LD50	Rabbit	> 2 g/kg
Oral		
LD50	Rat	490 mg/kg

Sensitization	May cause eczema-like skin disorders (dermatitis). May cause photosensitization, evidenced by repeated occurrence of a dermatitic rash on exposure to sunlight.
Acute effects	Breathing of high concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness. Harmful if inhaled. Harmful or fatal if swallowed, can enter lungs and cause damage.
Local effects	Causes skin irritation.
Chronic effects	May cause central nervous system effects. Prolonged or repeated contact with skin may cause redness, itching, irritation, eczema/chapping and oil acne. May cause damage to the liver.
Carcinogenicity	Possible cancer hazard - may cause cancer based on animal data.

ACGIH Carcinogens	
Fuels, diesel, no. 2 (CAS 68476-34-6)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Naphthalene (CAS 91-20-3)	A4 Not classifiable as a human carcinogen.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Fuels, diesel, no. 2 (CAS 68476-34-6)	3 Not classifiable as to carcinogenicity to humans.
Naphthalene (CAS 91-20-3)	2B Possibly carcinogenic to humans.
US NTP Report on Carcinogens: Anticipated carcinogen	
Naphthalene (CAS 91-20-3)	Reasonably Anticipated to be a Human Carcinogen.

Epidemiology	Skin contact may aggravate an existing dermatitis.
Mutagenicity	Knowledge about health hazard is incomplete.
Reproductive effects	Knowledge about health hazard is incomplete.
Symptoms and target organs	Vapors may cause drowsiness and dizziness. Irritation of eyes and mucous membranes. Skin irritation. Defats the skin. Dermatitis. Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure.
Further information	May be absorbed through the skin. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

12. Ecological Information

Ecotoxicological data

Components		Species	Test Results
Fuels, diesel, no. 2 (CAS 68476-34-6)			
Aquatic			
Acute			
Crustacea	EL50	Daphnia magna	68 mg/l, 48 hours
Fish	LL50	Oncorhynchus mykiss	65 mg/l, 96 hours
Naphthalene (CAS 91-20-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1.09 - 3.4 mg/l, 48 hours

Components		Species	Test Results
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.91 - 2.82 mg/l, 96 hours

Ecotoxicity	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Environmental effects	The product is a volatile organic compound which has a photochemical ozone creation
Persistence and degradability	potential. The product is not expected to be readily biodegradable.
Bioaccumulation / Accumulation	No data available for this product.
Mobility in environmental media	The product is insoluble in water. This organic solvent will evaporate easily from all surfaces.

13. Disposal Considerations

Waste codes	D001:Waste Flammable material with a flash point <140 °F
Disposal instructions	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
Waste from residues / unused products	
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT

Basic shipping requirements:	
UN number	UN1202
Proper shipping name	DIESEL FUEL
Hazard class	3
Packing group	III
Environmental hazards	
Marine pollutant	Yes
Special precautions	Read safety instructions, MSDS and emergency procedures before handling.
Additional information:	
Special provisions	81, 183, T2, TP 1
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242
ERG code	128

IATA

UN number	UN1202
UN proper shipping name	DIESEL FUEL
Transport hazard class(es)	3
Packing group	III
ERG code	3L
Special precautions for user	Read safety instructions, MSDS and emergency procedures before handling.

IMDG

UN number	UN1202
UN proper shipping name	DIESEL FUEL
Transport hazard class(es)	3
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-E
Special precautions for user	Read safety instructions, MSDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

TOG

UN number	UN1202
Proper shipping name	DIESEL FUEL
Hazard class	3
Packing group	III
Marine pollutant	Yes

15. Regulatory Information

US federal regulations — This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Naphthalene (GAS 91-20-3)

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Naphthalene (CAS 91-20-3)	0.1%

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Naphthalene (GAS 91-20-3)	Listed.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

Naphthalene: 100

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance (40 CFR 355,Appendix A)	No
Section 311/312 (40 CFR 370)	Yes
Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)	Not controlled

Canadian regulations — This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status — Controlled

WHMIS classification — B3 - Combustible Liquids
D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC

WHMIS labeling

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

State regulations — WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

US California Hazardous Substances (Director's): Listed substance

Naphthalene (CAS 91-20-3)	Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Naphthalene (CAS 91-20-3)	Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Naphthalene (CAS 91-20-3)	Listed: April 19, 2002 Carcinogenic.

US - New Jersey RTK - Substances: Listed substance

Naphthalene (CAS 91-20-3)	Listed.

US. Massachusetts RTK - Substance List

Naphthalene (CAS 91-20-3)	Listed.

US. New Jersey Worker and Community Right-to-Know Act

Fuels, diesel, no. 2 (CAS 68476-34-6)	10000 LBS
Naphthalene (CAS 91-20-3)	500 LBS

US. Pennsylvania RTK - Hazardous Substances

Fuels, diesel, no. 2 (CAS 68476-34-6)	Listed.
Naphthalene (CAS 91-20-3)	Listed.

Mexico regulations This safety data sheet was prepared in accordance with the Official Mexican Standard (NOM-018-STPS-2000).

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.
G - Safety Glasses, Gloves, Vapor Respirator

HMIS® ratings
Health: 2*
Flammability: 2
Physical hazard: 0
Personal protection: G

NFPA ratings
Health: 2
Flammability: 2
Instability: 0

Disclaimer This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.