SAFETY DATA SHEET

Revision Date 21-Feb-2017
Version 2

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name VALVTECT MARINE PREMIUM DIESEL ADDITIVE WITH BIOGUARD MICROBIOCIDE
Product code VMDABK

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Fuel additive
Restrictions on use No information available

1.3 Details of the supplier of the safety data sheet

Supplier

ValvTect Petroleum Products
A Division of Kop-Coat, Inc.
1608 Barclay Boulevard
Buffalo Grove, IL 60089
(847) 272-2278

E-mail Address ValvTect@valvtect.com

1.4 Emergency telephone number

Emergency telephone number

Chemtrec: +1 703-527-3887 ex-USA
Chemtrec: 1-800-424-9300 USA

2. Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910.1200

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3 - (H335,H336)
Aspiration toxicity	Category 1
Flammable liquids	Category 3

2.2 Label elements

Signal Word

Danger

Hazard Statements
Harmful if swallowed
Toxic if inhaled
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing cancer
May cause respiratory irritation. May cause drowsiness or dizziness
May be fatal if swallowed and enters airways
Flammable liquid and vapor

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/Bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Precautionary Statements - Response
If exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
If skin irritation or rash occurs: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTER or doctor
IF SWALLOWED: Immediately call a POISON CENTER or doctor
Do NOT induce vomiting
Rinse mouth
In case of fire: Use CO2, dry chemical, or foam to extinguish

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

2.3. Other Hazards Hazards not otherwise classified (HNOC)
Not Applicable

2.4 Other information

Not Applicable

Unknown Acute Toxicity < 1% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance
Not applicable
Mixture

Chemical Name	CAS-No	Weight %
Solvent naphtha (petroleum), light aromatic	64742-95-6	20 - 30
4-(2-Nitrobutyl) morpholine	2224-44-4	20 - 30
2-Ethylhexyl nitrate	27247-96-7	10 - 20
1,2,4-Trimethylbenzene	95-63-6	10 - 20
Heavy aromatic naptha	64742-94-5	10 - 20
Methylene Dimorpholine	5625-90-1	1 - 5
Morpholine	110-91-8	1 - 5
4,4'-(2-Ethyl-2-Nitropropane-1,3-diyl)bismorpholine	1854-23-5	1 - 5
Naphthalene	91-20-3	1 - 5
CUMENE	98-82-8	< 1

The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

4.1 Description of first-aid measures

General advice For further assistance, contact your local Poison Control Center.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician or poison control center immediately.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Call a physician if irritation develops or persists. Wash contaminated clothing before reuse.

Inhalation Move victim to fresh air. If not breathing, give artificial respiration. Seek immediate medical attention/advice.

Ingestion Never give fluids if the victim is unconscious or having convulsions. Do NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position. Call a physician or poison control center immediately. Gently wipe or rinse the inside of the mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms See Section 2.2, Label Elements and/or Section 11, Toxicological effects.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician There is no specific antidote for effects from overexposure to this material. Treat symptomatically.

5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Foam. Carbon dioxide (CO_2). Dry chemical. Water spray or fog. Water may be used to cool and prevent the rupture of containers that are exposed to the heat from a fire.

Unsuitable Extinguishing Media Water may be unsuitable for extinguishing fires.

5.2 Special hazards arising from the substance or mixture

Special Hazard
Thermal decomposition can lead to release of irritating gases and vapors. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Temperatures above 100°C may cause self-accelerating exothermic reaction which causes a rapid rise in temperature and pressure. This could result in an explosion (bursting of the container), splashing of material, burning of the product, and the emission of toxic gases and exhaust fumes.

Hazardous Combustion Products Possible formation of carbon oxides, nitrogen oxides, and hazardous organic compounds.

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge Yes. No information available.

5.3 Advice for firefighters

Evacuate personnel to safe areas. Move non-burning material, as feasible, to a safe location as soon as possible. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out. Thoroughly decontaminate all protective equipment after use. DO NOT extinguish a fire resulting from the flow of flammable liquid until the flow of the liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Refer to protective measures listed in sections 7 and 8. Avoid exceeding of the given occupational exposure limits (see section 8). Personal protection needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the training and the expertise of employees in the area responding to the spill.

6.2 Environmental precautions

Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological information.

6.3 Methods and materials for containment and cleaning up

Methods for Containment Dike to collect large liquid spills. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Ground and bond containers when transferring material. Take precautionary measures against static discharges.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product. Use according to package label

instructions. Empty containers may retain product residue or vapor. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose container to heat, flame, sparks, static electricity, or other sources of ignition. Take measures to prevent the build up of electrostatic charge.

Hygiene measures Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep in properly labeled containers. Keep away from food, drink and animal feedingstuffs.

Materials to Avoid No materials to be especially mentioned.

8. Exposure controls/personal protection

8.1 Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	British Columbia	Alberta	Quebec	Ontario TWAEV
Morpholine 110-91-8	TWA: 20 ppm S*	TWA: 20 ppm TWA: 70 mg/m³ S*	TWA: 20 ppm Skin	TWA: 20 ppm TWA: 71 mg/m³ Skin	TWA: 20 ppm TWA: 71 mg/m³ Skin	TWA: 20 ppm Skin
Naphthalene 91-20-3	TWA: 10 ppm S*	TWA: 10 ppm TWA: 50 mg/m³	TWA: 10 ppm STEL: 15 ppm Skin	TWA: 10 ppm TWA: 52 mg/m³ STEL: 15 ppm STEL: 79 mg/m³ Skin	TWA: 10 ppm TWA: 52 mg/m³ STEL: 15 ppm STEL: 79 mg/m³	TWA: 10 ppm STEL: 15 ppm Skin
CUMENE 98-82-8	TWA: 50 ppm	TWA: 50 ppm TWA: 245 mg/m³ S*	TWA: 25 ppm STEL: 75 ppm	TWA: 50 ppm TWA: 246 mg/m³	TWA: 50 ppm TWA: 246 mg/m³	TWA: 50 ppm

8.2 Appropriate engineering controls

Engineering Measures Ensure adequate ventilation, especially in confined areas. Use adequate ventilation to maintain airborne concentrations at levels below permissible or recommended occupational exposure limits.

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8.3 Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear chemical-resistant glasses and/or goggles and a face shield when eye and face contact is possible due to handling and processing of material.

Skin and body protection Wear impervious gloves and/or clothing if needed to prevent contact with the material. Rubber/latex/neoprene or other suitable chemical resistant gloves. Remove and wash contaminated clothing before re-use. Cotton-blend coveralls.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures See section 7 for more information

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	Clear	**Color**	various
Odor	Hydrocarbon-like	**Odor Threshold**	No information available

Property	**Values**	**Remarks • Methods**
pH		Not Applicable
Melting/freezing point		No information available
Boiling point/boiling range		No information available
Flash Point	43 °C / 109 °F	
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		
upper flammability limit		No information available
lower flammability limit		No information available
Vapor pressure		No information available
Vapor density		No information available
Specific Gravity	0.8961	
Water solubility		No information available
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic	< 20 mm2/s	
Viscosity, dynamic		No information available
Explosive properties		No information available
Oxidizing Properties		No information available

9.2 Other information

Volatile organic compounds (VOC) content No information available

10. Stability and Reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use

10.2 Chemical stability

Stable under recommended storage conditions Unstable if heated > 100 deg C / 212 deg F.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to Avoid

Keep away from heat, sparks and flames.

10.5 Incompatible Materials

None known based on information supplied.

10.6 Hazardous Decomposition Products

None under normal use conditions. Thermal decomposition can lead to release of irritating gases and vapors.

11. Toxicological information

11.1 Acute toxicity

Numerical measures of toxicity: Product Information

LD50 Oral:	LD50 Dermal:	LC50 (Dust/Mist)	LC50 (Vapor)
550 mg/kg	> 5000 mg/kg	> 0.51 mg/L (4 hours)	

The following values are calculated based on chapter 3.1 of the GHS document

Unknown Acute Toxicity < 1% of the mixture consists of ingredient(s) of unknown toxicity

LC50 (Vapor) 49.00 mg/l

Numerical measures of toxicity: Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Solvent naphtha (petroleum), light aromatic 64742-95-6	-	> 2000 mg/kg (Rabbit)	= 3400 ppm (Rat) 4 h
2-Ethylhexyl nitrate 27247-96-7	2000 mg/kg (Rat)	> 4820 mg/kg (Rabbit)	> 14 mg/L (Rat) 4 h
1,2,4-Trimethylbenzene 95-63-6	3280 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 18 g/m³ (Rat) 4 h
Heavy aromatic naptha 64742-94-5	> 5000 mg/kg (Rat)	> 2 mL/kg (Rabbit)	> 590 mg/m³ (Rat) 4 h
Morpholine 110-91-8	1050 mg/kg (Rat)	310 - 810 mg/kg (Rabbit)	= 8000 ppm (Rat) 8 h
Naphthalene 91-20-3	1110 mg/kg (Rat)	= 1120 mg/kg (Rabbit)	> 340 mg/m³ (Rat) 1 h
CUMENE 98-82-8	1400 mg/kg (Rat)	= 12300 µL/kg (Rabbit)	8700 ppm (Rat) 4-h

11.2 Information on toxicological effects

Skin corrosion/irritation
Product Information
• No information available
Component Information
• No information available

Serious eye damage/eye irritation
Product Information
• No information available
Component Information
• No information available

Respiratory or skin sensitization
Product Information
• No information available
Component Information
• No information available

Germ cell mutagenicity
Product Information
• No information available
Component Information
• No information available

Carcinogenicity

Product Information

• The table below indicates whether each agency has listed any ingredient as a carcinogen

Component Information

• Contains a known or suspected carcinogen

Chemical Name	ACGIH	IARC	NTP	OSHA
Naphthalene 91-20-3	-	Group 2B	Reasonably Anticipated	
CUMENE 98-82-8	-	Group 2B	Reasonably Anticipated	

Reproductive toxicity

Product Information

• No information available

Component Information

• No information available

STOT - single exposure

No information available

STOT - repeated exposure

• No information available

Other adverse effects

Product Information

• No information available

Component Information

• No information available

Aspiration hazard

Product Information

• Risk of serious damage to the lungs (by aspiration)

Component Information

• No information available

12. Ecological information

12.1 Toxicity

Ecotoxicity No information available

2.844274 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Ecotoxicity effects

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Solvent naphtha (petroleum), light aromatic 64742-95-6	-	LC50: 96 h Oncorhynchus mykiss 9.22 mg/L	EC50: 48 h Daphnia magna 6.14 mg/L
1,2,4-Trimethylbenzene 95-63-6	-	LC50: 96 h Pimephales promelas 7.19 - 8.28 mg/L flow-through	EC50: 48 h Daphnia magna 6.14 mg/L
Heavy aromatic naptha 64742-94-5	-	LC50: 96 h Pimephales promelas 19 mg/L static LC50: 96 h Oncorhynchus mykiss 2.34 mg/L LC50: 96 h Lepomis macrochirus 1740 mg/L static LC50: 96 h Pimephales promelas 45 mg/L flow-through LC50: 96 h Pimephales promelas 41 mg/L	EC50: 48 h Daphnia magna 0.95 mg/L
Morpholine 110-91-8	EC50: 96 h Pseudokirchneriella subcapitata 28 mg/L static	LC50: 96 h Lepomis macrochirus 350 mg/L static LC50: 96 h	-

		Oncorhynchus mykiss 375 - 460 mg/L LC50: 96 h Brachydanio rerio 1000 mg/L static	
Naphthalene 91-20-3	-	LC50: 96 h Pimephales promelas 5.74 - 6.44 mg/L flow-through LC50: 96 h Oncorhynchus mykiss 1.6 mg/L flow-through LC50: 96 h Oncorhynchus mykiss 0.91 - 2.82 mg/L static LC50: 96 h Pimephales promelas 1.99 mg/L static LC50: 96 h Lepomis macrochirus 31.0265 mg/L static	LC50: 48 h Daphnia magna 2.16 mg/L EC50: 48 h Daphnia magna 1.96 mg/L Flow through EC50: 48 h Daphnia magna 1.09 - 3.4 mg/L Static
CUMENE 98-82-8	EC50: 72 h Pseudokirchneriella subcapitata 2.6 mg/L	LC50: 96 h Pimephales promelas 6.04 - 6.61 mg/L flow-through LC50: 96 h Oncorhynchus mykiss 4.8 mg/L flow-through LC50: 96 h Oncorhynchus mykiss 2.7 mg/L semi-static LC50: 96 h Poecilia reticulata 5.1 mg/L semi-static	EC50: 48 h Daphnia magna 0.6 mg/L EC50: 48 h Daphnia magna 7.9 - 14.1 mg/L Static

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Discharge into the environment must be avoided

Chemical Name	log Pow
2-Ethylhexyl nitrate 27247-96-7	4.14
1,2,4-Trimethylbenzene 95-63-6	3.63
Heavy aromatic naptha 64742-94-5	6.1
Morpholine 110-91-8	-2.55
Naphthalene 91-20-3	3.3
CUMENE 98-82-8	3.55

12.4 Mobility in soil

No information available.

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1 Waste treatment methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

14. Transport Information

Note This product is not regulated by US DOT when shipped by ground in containers < 119 gallons.

DOT

Proper shipping name	NA1993, Combustible liquid, n.o.s. (petroleum distillates, 1,2,4-trimethylbenzene), 3, III
Marine Pollutant	This product contains a chemical which is listed as a marine pollutant according to DOT

MEX

no data available

IMDG

Proper shipping name	UN1993, Flammable liquid, n.o.s. (petroleum distillates, 1,2,4-trimethylbenzene), 3, III
Marine pollutant	This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

IATA

Proper shipping name	UN1993, Flammable liquid, n.o.s. (petroleum distillates, 1,2,4-trimethylbenzene), 3, III

15. Regulatory information

Ultra Low Sulfur Additives: The sulfur content of this Diesel Fuel Additive does not exceed 15 parts per million (ppm). References: Code of Federal Regulations Title 40 Part 80, EPA 2006 Regulation of Fuels and Fuel Additives, EPA Document # EPA40-F-05-013.

15.1 International Inventories

TSCA	-
DSL	-
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	-
AICS	Complies
NZIoC	-

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL - Canadian Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

15.2 U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	SARA 313 - Threshold Values %
1,2,4-Trimethylbenzene 95-63-6	1.0
Naphthalene 91-20-3	0.1

15.3 Pesticide Information

U.S. EPA Pesticide Information

EPA Pesticide Registration Number 60061-128
EPA Statement
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling

requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label

CAUTION: Harmful if swallowed. Harmful if inhaled. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

15.4 U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Naphthalene - 91-20-3	Carcinogen
CUMENE - 98-82-8	Carcinogen
Formaldehyde - 50-00-0	Carcinogen

16. Other information

NFPA	**Health Hazard** 2	**Flammability** 2	**Instability** 1	**Physical and chemical hazards** -
HMIS	**Health Hazard** 2*	**Flammability** 2	**Physical Hazard** 1	**Personal protection** X

Legend:

ACGIH (American Conference of Governmental Industrial Hygienists)
Ceiling (C)
DOT (Department of Transportation)
EPA (Environmental Protection Agency)
IARC (International Agency for Research on Cancer)
International Air Transport Association (IATA)
International Maritime Dangerous Goods (IMDG)
NIOSH (National Institute for Occupational Safety and Health)
NTP (National Toxicology Program)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEL (Permissible Exposure Limit)
Reportable Quantity (RQ)
Skin designation (S*)
STEL (Short Term Exposure Limit)
TLV® (Threshold Limit Value)
TWA (time-weighted average)

Revision Date 21-Feb-2017

Revision Note

No information available

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet