



Kawasaki Marine Hi Performance Material Safety Data Sheet

CITGO Petroleum Corporation
P.O. Box 3758
Tulsa, OK 74102

MSDS No. 25486
Revision Date 10/2/98

Hazard Rankings		
	HMS	NFPA
Health Hazard	1	1
Fire Hazard	1	1
Reactivity	0	0

* = Chronic Health Hazard

IMPORTANT: Read this MSDS before handling or disposing of this product and pass this information on to employees, customers and users of this product.

Emergency Overview			
Physical State	Liquid.		
Color	Blue.	Odor	Mild Petroleum Odor
DANGER! Contains Petroleum Distillates. Harmful or fatal if swallowed - Can enter lungs and cause damage. If swallowed, DO NOT induce vomiting. Call a physician immediately. This material will burn. Heated material can release vapor that can cause flash fire or ignite with explosive force. Do not store in open or unmarked containers. Spills can cause slipping hazard.			

Protective Equipment	
Minimum Requirements See Section 8 for Details	

SECTION 1: IDENTIFICATION

Trade Name	Kawasaki Marine Hi Performance	Technical Contact	(918) 495-5933
Product Number	25486	Medical Emergency	(918) 495-4700
CAS Number	Mixture	CHEMTREC Emergency	(800) 424-9300
Product Family	Two Cycle Engine Oil		
Synonyms	Lubricating Oil, Two Cycle Engine Oil		

SECTION 2: COMPOSITION

Component Name(s)	CAS Registry No.	Concentration (%)
Middle Distillate	Mixture	25 - 35
Highly-Refined Petroleum Lubricant Oils	Mixture	40 - 50
Proprietary Two Cycle Oil Dispersant	Mixture	25 - 30

SECTION 3: HAZARDS IDENTIFICATION

Also see Emergency Overview and Hazard Ratings on the top of Page 1 of this MSDS.

Major Route(s) of Entry: Skin contact.

Signs and Symptoms of Acute Exposure

Inhalation: At elevated temperatures, mist or vapors may irritate the mucous membranes of the nose, the throat, bronchi, and lungs.

Eye Contact: Mild eye irritation may result from short-term contact with liquid, mist, or vapor.

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Skin Contact	Mild to moderate skin irritation may be expected from short-term exposure. Prolonged and/or repeated skin contact may produce moderate irritation and inflammation.
Ingestion	If swallowed, no significant adverse health effects are anticipated. Ingestion can cause a laxative effect. If aspirated into the lungs, liquid can cause severe lung damage or death.
Chronic Health Effects Summary	Prolonged or repeated contact can cause mild skin irritation and inflammation characterized by drying, cracking, (dermatitis) or oil acne.
Conditions Aggravated by Exposure	Personnel with pre-existing skin disorders, central nervous system (CNS) disease, chronic respiratory diseases, or impaired pulmonary, kidney, and/or liver function should avoid exposure.
Target Organs	Skin.
Carcinogenic Potential	This product is not believed to contain components that are considered carcinogenic by OSHA, IARC or NTP.

OSHA Hazard Classification is indicated by an "X" in the box adjacent to the hazard title. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

OSHA Health Hazard Classification				OSHA Physical Hazard Classification			
Irritant	<input type="checkbox"/>	Toxic	<input type="checkbox"/>	Combustible	<input type="checkbox"/>	Explosive	<input type="checkbox"/>
Sensitizer	<input type="checkbox"/>	Highly Toxic	<input type="checkbox"/>	Flammable	<input type="checkbox"/>	Oxidizer	<input type="checkbox"/>
Corrosive	<input type="checkbox"/>	Carcinogenic	<input type="checkbox"/>	Compressed Gas	<input type="checkbox"/>	Organic Peroxide	<input type="checkbox"/>
						Pyrophoric	<input type="checkbox"/>
						Water-reactive	<input type="checkbox"/>
						Unstable	<input type="checkbox"/>

SECTION 4: FIRST AID MEASURES

Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid. For more specific information, refer to Exposure Controls and Personal Protection in Section 8 of this MSDS.

Inhalation	Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately.
Eye Contact	Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness, or pain persists.
Skin Contact	Remove contaminated shoes and clothing. Wipe off excess material. Wash exposed skin with soap and water. Seek medical attention if tissue appears damaged or if irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated leather goods.
Ingestion	Do not induce vomiting unless directed to by a physician. Do not give anything to drink unless directed to by a physician. Never give anything by mouth to a person who is not fully conscious. If large amounts are swallowed or irritation or discomfort occurs, seek medical attention immediately.
Notes to Physician	The viscosity range of the product(s) represented by this MSDS is greater than 200 SUS at 100°F. Accordingly, upon ingestion there is a low risk of aspiration. Careful gastric lavage or emesis may be considered to evacuate large quantities of material. Subcutaneous or intramuscular injection requires prompt surgical debridement.

SECTION 5: FIRE FIGHTING MEASURES

NFPA Flammability Classification	OSHA/NFPA Class-III-B combustible liquid. Slightly combustible		
Flash Point/Method	CLOSED CUP: 144°C (291°F). OPEN CUP: 188°C (370°F).		
Lower Flammable Limit	No data.	Upper Flammable Limit	No data.
Auto-ignition Temp.	Not available.		

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Hazardous Combustion Products	Carbon Dioxide, Carbon Monoxide, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur and nitrogen.
Special Properties	When heated above its flash point temperature, this material will release vapors which, if exposed to an ignition source, can ignite. In enclosed spaces vapors can ignite with explosive force. Mists or sprays may burn at temperatures below the flash point.
Extinguishing Media	SMALL FIRE: Use dry chemicals, carbon dioxide (CO ₂), foam, water fog, or inert gas (nitrogen). LARGE FIRE: Use foam, water fog, or waterspray. Water fog and spray are effective in cooling containers and adjacent structures but might cause frothing and/or may not achieve extinguishment. A water jet may be used to cool the vessel's external walls to prevent pressure build-up, autoignition, or explosion. NEVER use a water jet directly on the fire because it may spread the fire to a larger area.
Fire Fighting Protective Clothing	Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion/decomposition products and oxygen deficiencies.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. For more specific information, refer to the Emergency Overview on Page 1, Exposure Controls and Personal Protection in Section 8 and Disposal Considerations in Section 13 of this MSDS.

Do not touch damaged containers or spilled material unless wearing appropriate protective equipment. Slipping hazard; do not walk through spilled material. Stop leak; if you can do so without risk. For small spills, absorb or cover with dry earth, sand, or other inert non-combustible absorbent material and place into waste containers for later disposal. Contain large spills to maximize product recovery or disposal. Prevent entry into waterways or sewers. In urban area, cleanup spill as soon as possible. In natural environments, seek cleanup advice from specialists to minimize physical habitat damage. This material will float on water. Absorbent pads and similar materials can be used. Comply with all laws and regulations.

SECTION 7: HANDLING AND STORAGE

Handling	Avoid water contamination and temperatures above 150° F to minimize product degradation. Empty containers may contain product residues that can ignite with explosive force. Do not pressurize, cut, weld, braze solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.
Storage	Keep container closed. Store in a cool, dry, well-ventilated area. Do not store at temperatures above 120° F or in direct sunlight. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers or waste residues of this product.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls	Good general ventilation should be sufficient to control airborne levels. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits (see below). Ensure that an emergency eye wash station and safety shower are near the work-station location.
Personal Protective Equipment	Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required.

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- Eye Protection** Safety glasses with side shields are recommended as a minimum protection. During transfer operations or when there is a likelihood of misting, splashing, or spraying, chemical goggles and face shield should be worn. Suitable eye wash water should be readily available. Hard contact lenses must not be worn.
- Hand Protection** Avoid skin contact and use gloves (disposable PCV, neoprene, nitrile, vinyl, or PVC/NBR). Before eating, drinking, smoking, use of toilet facilities, or leaving work, wash hands with plenty of mild soap and water. DO NOT use gasoline, kerosene, solvents, or harsh abrasive skin cleaners.
- Body Protection** Use clean and impervious protective clothing (e.g., neoprene or Tyvek®) if splashing or spraying conditions are present. Protective clothing may include long-sleeve outer garment, apron, or lab coat. If significant contact occurs, remove oil-contaminated clothing as soon as possible and promptly shower. Launder contaminated before reuse or discard. Wear heat protective boots and protective clothing when handling material at elevated temperatures.
- Respiratory Protection** Vaporization or misting is not expected at ambient temperatures. Therefore, the need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).
- General Comments** Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities, or leaving work. DO NOT use gasoline, kerosene, solvents, or harsh abrasive skin cleaners. Since specific exposure standards/control limits have not been established for this product, the "Oil Mist, Mineral" exposure limits shown below are suggested as minimum control guidelines.

Occupational Exposure Guidelines

Substance	Concentration (%)	Applicable Workplace Exposure Levels
Middle Distillate	25 - 35	TWA: 100 (ppm) from ACGIH (TLV) TWA: 500 (ppm) from ACGIH (TLV) TWA: 350 (mg/m³) from NIOSH
Highly-Refined Petroleum Lubricant Oils	40 - 50	TWA: 5 STEL: 10 (mg/m³) from ACGIH (TLV) TWA: 5 (mg/m³) from OSHA (PEL) TWA: 5 STEL: 10 (mg/m³) from NIOSH
Proprietary Two Cycle Oil Dispersant	25 - 30	None

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid.	Color	Blue.	Odor	Mild Petroleum Odor
Specific Gravity	0.87 (Water = 1)	pH	Not available.	Vapor Density	>1 (Air = 1)
Boiling Point/Range	Not available.	Melting/Freezing Point		Not available.	
Vapor Pressure	Not available.	Viscosity (cSt @ 40°C)		53.46	
Solubility in Water	Insoluble in cold water, hot water.	Volatile Characteristics		Negligible volatility	
Additional Properties	No additional information.				

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability	Stable.	Hazardous Polymerization	Hazardous polymerization not expected to occur.
Conditions to Avoid	Keep away from extreme heat, sparks, open flame and strongly oxidizing conditions.		
Materials Incompatibility	Strong oxidizers.		
Hazardous Decomposition Products	No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS.		

SECTION 11: TOXICOLOGICAL INFORMATION

For other health-related information, refer to the Emergency Overview on Page 1 and the Hazards Identification in Section 3 of this MSDS.

Toxicity Data**Middle Distillate:**

ORAL (LD50): Acute: >5000 mg/kg (Rat).
 DERMAL (LD50): Acute: >2000 mg/kg (Rabbit).

Highly-Refined Petroleum Lubricant Oils:

ORAL (LD50): Acute: >5000 mg/kg (Rat).
 DERMAL (LD50): Acute: >2000 mg/kg (Rabbit).

Middle Distillate: The products represented by this MSDS contain a mixture of petroleum hydrocarbons commonly referred to as "middle distillates." Laboratory data have associated some middle distillates with skin cancer when the material is applied repeatedly over the lifetime of the test animal. Middle distillates similar to the products represented by this MSDS have been associated with liver and kidney damage in subchronic (90-day) inhalation studies of male rats. The relevance of these findings to human health is unclear.

Highly-Refined Petroleum Lubricant Oils: Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists with above applicable workplace exposure levels include lung inflammatory reaction, lipid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

SECTION 12: ECOLOGICAL INFORMATION**Ecotoxicity**

No data.

Environmental Fate

Ecological effects testing has not been conducted on this product. However, plants and animals may experience harmful or fatal effects when coated with petroleum-based products. Petroleum-based (mineral) lube oils will normally float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway might be enough to cause a fish kill or create an anaerobic environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

Conditions of use may cause this material to become a hazardous waste, as defined by Federal or State regulations. It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal. Transportation, treatment, storage and disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR 260 through 40 CFR 271). State and/or local regulations may be more restrictive. Contact the RCRA/Superfund Hotline at (800) 424-9346 or your regional US EPA office for guidance concerning case specific disposal issues.

SECTION 14: TRANSPORT INFORMATION

DOT Status	Not a U.S. Department of Transportation regulated material.		
Proper Shipping Name	Petroleum Lubricating Oil		
Hazard Class	Not a DOT controlled material (United States).	Packing Group(s) UN/NA ID	Not available. Not applicable.
Reportable Quantity			
Placards		Emergency Response Guide No.	Not applicable.
		HAZMAT STCC No.	Not applicable.
		MARPOL III Status	Not available.

SECTION 15: REGULATORY INFORMATION

TSCA	This product and/or its components are listed on the Toxic Substance Control Act (TSCA) inventory. TSCA 12(b) annual export notification: No products were found. TSCA 12(b) one time export: No products were found.
SARA 302/304 SARA 311/312	SARA 302/304 emergency planning and notification: No products were found. The Superfund Amendments and Reauthorization Act of 1989 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories: None
SARA 313	SARA 313 toxic chemical notification and release reporting: No products were found.
CERCLA	CERCLA hazardous substances: No products were found.
CWA	This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spill which product a visible sheen on waters of the United States, adjoining shorelines or into conduits leading into surface waters, must be reported to the National Response Center at (800) 424-8802.
California Proposition 65	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: No products were found.

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**New Jersey
Right-to-Know**

Petroleum Oil (Two Cycle Engine Oil)

**Additional Regulatory
Remarks**

This product contains "Petroleum Distillates" which may require special labeling if distributed in a manner intended or packaged in a form suitable for use in the household or by children. Precautionary label dialogue should display the following: Contains Petroleum Distillates! May be harmful or fatal if swallowed! KEEP OUT OF REACH OF CHILDREN!

SECTION 16: OTHER INFORMATION

Refer to the top of Page 1 for the HMIS and NFPA Hazard Ratings for this product.

REVISION INFORMATION

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ABBREVIATIONS

AP = Approximately EQ = Equal GT = Greater Than LT = Less Than NA = Not Applicable ND = No Data
NE = Not Established
ACGIH = American Conference of Governmental Industrial Hygienists AIHA = American Industrial Hygiene Association
IARC = International Agency for Research on Cancer NTP = National Toxicology Program
NIOSH = National Institute of Occupational Safety and Health OSHA = Occupational Safety and Health Administration
NPCA = National Paint and Coating Manufacturers Association HMIS = Hazardous Materials Information System
NFPA = National Fire Protection Association EPA = Environmental Protection Agency

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