

Material Safety Data Sheet

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

MSDS No. 625462324

Revision Date 02/20/2003

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 Purple. Odor Mild petroleum odor

WARNING:

Contains Petroleum Distillates. Harmful if swallowed - Can enter lungs and cause damage.

If swallowed, DO NOT induce vomiting. Call a physician immediately. Combustible Liquid.

Heated material can release vapor that can cause flash fire or ignite with explosive force.

Vapor or mists can cause mucous membrane and respiratory tract irritation.

Spills may create a slipping hazard.

Hazard Rankings								
	HMIS	NFPA						
Health Hazard	* 1	1						
Fire Hazard	2	2						
Reactivity	0	0						
* = Chronic Health Hazard								

Protective Equipment

Minimum Recommended See Section 8 for Details





SECTION 1: IDENTIFICATION

Trade Name Technical Contact Yamalube 2-W Two Cycle Engine Oil (800) 248-4684

Product Number 625462324 **Medical Emergency** (918) 495-4700

CAS Number CHEMTREC Emergency Mixture. (800) 424-9300 (United States Only)

Product Family Two cycle engine oil Synonyms Two cycle engine oil;

Air-cooled 2-Stroke Engine Oil:

CITGO SAP Product Code No.: 625462324

SECTION 2: COMPOSITION

Component Name(s) 1) Distillates, petroleum, solvent-refined heavy paraffinic

- 2) Petroleum hydrocarbon distillates
- 3) Polybutene
- 4) Proprietary Ingredients
- 5) Residual oils, petroleum, solvent-refined

Concentration (%) CAS Registry No.

64741-88-4 40 - 60 8052-41-3 10 - 30 9003-29-6 5 - 20 Proprietary Mixture 5 - 20 64742-01-4 1 - 5

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 or in enclosed spaces, product mist or vapors may irritate the mucous

membranes of the nose, the throat, bronchi, and lungs.

Eye Contact This product can cause eye irritation with short-term contact with liquid, mists or vapor. Symptoms include

stinging, watering, redness, and swelling.

Skin Contact This material can cause skin irritation with short-term exposure. The degree of irritation will depend on the

amount of material that is applied to the skin and the speed and thoroughness that it is removed. Signs and symptoms can include pain, sensation of heat, discoloration, swelling or blistering. Repeated and

prolonged skin contact can produce irritation and inflammation.

Ingestion If swallowed, large volumes of material can cause generalized depression, headache, drowsiness, nausea,

vomiting and diarrhea. Smaller doses can cause a laxative effect. If aspirated into the lungs, liquid can

cause lung damage.

Chronic Health Effects

Summary

Prolonged and/or repeated skin contact may cause irritation and inflamation. Symptoms include defatting, redness, dryness, blistering eczema-like lesions, scaly dermatitis, and/or more serious skin disorders. Chronic effects of ingestion and subsequent aspiration into the lungs may cause pneumatocele (lung

cavity) formation and chronic lung dysfunction.

Conditions Aggravated

by Exposure

Medical conditions aggravated by exposure to this material may include pre-existing disorders of the skin,

central nervous system, respiratory system, liver and/or kidney.

Target Organs This material may cause damage to the following organs: upper respiratory tract, skin, eyes.

Carcinogenic Potential This product does not contain any components at concentrations above 0.1% which 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		Toxic		Combustible	Х	Explosive		Pyrophoric		
Sensitizer		Highly Toxic		Flammable		Oxidizer		Water-reactive		
Corrosive		Carcinogenic		Compressed Gas		Organic Peroxide		Unstable		

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. Keep the affected individual warm and at rest.

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 If burned by hot material, cool skin by quenching with large amounts of cool water. For contact with

product at ambient temperatures, remove contaminated shoes and clothing. Wipe off excess material. Wash exposed skin with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated

leather goods. If material is injected under the skin, seek medical attention immediately.

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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 significant amounts are swallowed or irritation or discomfort occurs, seek medical attention immediately.

The viscosity range of the product represented by this MSDS is 100 to 400 SUS at 100° F. Accordingly. upon ingestion there is a low to moderate risk of aspiration. Careful gastric lavage 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

Notes to Physician

NFPA Class-IIIA combustible liquid. Moderately combustible.

Flash Point Method

CLOSED CUP: 69°C (156.°F). (Pensky-Martens (ASTM D-93).) OPEN CUP: 96°C (205°F) (Cleveland.).

Lower Flammable Limit

No data.

Upper Flammable Limit

No data.

Autoignition Temperature

Not available.

Hazardous

Combustion Products

Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur

and/or nitrogen.

Special Properties

This material will release vapors when heated above the flash point temperature that can ignite when exposed to a source of ignition. 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, foam, water fog, or inert gas (nitrogen). LARGE FIRE: Use foam, water fog, or water spray. Water fog and spray are effective in cooling containers and adjacent structures. However, water can cause frothing and/or may not extinguish the fire. Water can be used to cool the external walls of vessels to prevent excessive pressure, autoignition or explosion. DO NOT use a solid stream of water directly on the fire as the water may spread the fire

to a larger area.

Protection of Fire Fighters

Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Withdraw immediately from the area if there is a rising sound from a venting safety device or discoloration of vessels, tanks, or pipelines.

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 regulation

SECTION 7: HANDLING AND STORAGE

Handling Avoid contamination and extreme temperatures 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 with oxidizing agents.

Do not store at elevated temperatures or in direct sunlight for extended periods of time. 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 Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists

and/or vapors below the recommended exposure limits (see below). An eye wash station and safety

shower should be located near the work-station.

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.



Eye Protection Safety glasses equipped with side shields are recommended as minimum protection in industrial

settings. Wear goggles and/or face shield if splashing or spraying is anticipated. Wear goggles and face shield if material is heated above 125°F (51°C). Have suitable eye wash water available.

Hand Protection Avoid skin contact. Use gloves (e.g., disposable PVC, neoprene, nitrile, vinyl, or PVC/NBR). Wash

hands 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 abrasives as 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 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 abrasives as 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 Applicable Workplace Exposure Levels

1) Oil Mist, Mineral

ACGIH (United States).

TWA: 5 mg/m³

STEL: 10 mg/m³

OSHA (United States).

TWA: 5 mg/m³
2) Petroleum hydrocarbon distillates ACGIH TLV (United States).

TWA: 100 ppm **OSHA PEL Z2 (United States).**

TWA: 500 ppm

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL)

Color Purple. Odor Mild petroleum odor **Physical State** Liquid.

Vapor >1 (Air = 1) Specific Gravity 0.86 (Water = 1)Not Applicable.

Density

Melting/Freezing Not available. Not available. **Boiling Point/Range**

Point

Vapor Pressure Viscosity (cSt @ 40°C) 38 <0.1 kPa (<1 mmHg) (at 20°C)

Solubility in Water Insoluble in cold water. Volatile AP 190 g/I VOC (W/V)

Characteristics

Additional Properties Gravity, OAPI (ASTM D287) = 32.5 @ 600 F

Density = 7.16 Lbs/gal.

Viscosity (ASTM D2161) = 194 SUS @ 100° F

SECTION 10: STABILITY AND REACTIVITY

Hazardous Polymerization Not expected to occur. **Chemical Stability** Stable.

Conditions to Avoid Keep away from extreme heat, sparks, open flame, and strongly oxidizing conditions.

Materials Incompatibility Strong oxidizers.

Hazardous No additional hazardous decomposition products were identified other than the combustion products

Decomposition 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 Distillates, petroleum, solvent-refined heavy paraffinic:

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

Residual oils, petroleum, solvent-refined:

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

Stoddard Solvent:

Acute: >3000 mg/kg [Rabbit]. DERMAL (LD50): INHALATION (LC50): Acute: >5.5 mg/l 8 hour(s) [Rat].

Distillates, petroleum, solvent-refined heavy paraffinic:

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 well above applicable workplace exposure levels include lung inflammatory reaction, lipoid 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. Analyses conducted by method IP 346 indicate that the polycyclic aromatic concentration of this mineral oil is below 3.0 weight percent.

Residual oils, petroleum, solvent-refined:

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 well above applicable workplace exposure levels include lung inflammatory reaction, lipoid 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.

Stoddard Solvent:

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Studies on laboratory animals have associated similar materials with eve and respiratory tract irritation. Studies on laboratory animals have shown similar materials to cause skin irritation after repeated or prolonged contact. Repeated direct application of Stoddard Solvent to the skin can produce defatting dermatitis and kidney damage in laboratory animals. Rats developed kidney damage and elevated blood urea nitrogen levels when exposed to a concentration of 1.9 mg/L for 65 days. The kidney damage occurred only in male rats and appeared to involve both the tubules and glomeruli. The significance of these animal study results to human health is unclear.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity Analysis for ecological effects has not been conducted on this product. However, if spilled, this product

and any contaminated soil or water may be harmful to human, animal, and aquatic life. Also, the coating action associated with petroleum and petroleum products can be harmful or fatal to aquatic life

and waterfowl.

Environmental Fate An environmental fate analysis has not been conducted on this specific product. 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 may be sufficient

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. Empty drums and pails retain residue. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose this product's empty container to heat, flame, or other ignition sources. DO NOT attempt to clean it. Empty drums and pails should be drained completely, properly bunged or sealed, and promptly sent to a reconditioner.

SECTION 14: TRANSPORT INFORMATION

The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside of the United States.

US DOT Status A U.S. Department of Transportation regulated material.

Proper Shipping Name Combustible liquid, n.o.s. (contains Petroleum Distillates)

> [This product has a flash point temperature between 61° to 93°C (141° and 200°F). For bulk shipments, it is classified as a US DOT "Combustible Liquid." According to 49 CFR 173.150 (f)(2), certain

transportation-related requirements, such as labeling, may not apply to this product when shipped in non-bulk packaging (e.g., less than 119 gallons capacity). However, pursuant to 49 CFR 173.150 (b)

limited-quantities offered for or transported via aircraft may be subject to US DOT regulation.]

Hazard Class Combustible Liquid. Packing Group(s)

> UN/NA ID NA 1993

Reportable Quantity A Reportable Quantity (RQ) has not been established for this material.

Placards



Emergency Response Guide

No.

128

HAZMAT STCC No.

4915378

MARPOL III Status

Not a DOT "Marine Pollutant"

per 49 CFR 171.8.

SECTION 15: REGULATORY INFORMATION

This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory. TSCA Inventory

The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject SARA 302/304

to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances"

listed in 40 CFR 302.4 and 40 CFR 355. No components were identified.

The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject SARA 311/312

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:

Fire, Acute (Immediate) Health Hazard, Chronic (Delayed) Health Hazard

SARA 313 This product contains the following components in concentrations above de minimis levels that are

listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA: No

components were identified.

CERCLA The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)

requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are: None identified.

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 spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the

EPA's National Response Center at (800) 424-8802.

California This material may contain the following components which are known to the State of California to cause **Proposition 65**

cancer, birth defects or other reproductive harm, and may be subject to the requirements of California

Proposition 65 (CA Health & Safety Code Section 25249.5):

Toluene: 0.0003%

New Jersey

Right-to-Know Label

Petroleum Oil (Two Cycle Engine Oil)

Additional Regulatory

Remarks

No additional regulatory remarks.

SECTION 16: OTHER INFORMATION

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

REVISION INFORMATION

Version Number 3.0

Revision Date 02/20/2003

Print Date Printed on 02/20/2003.

ABBREVIATIONS

AP: Approximately EQ: Equal NE: Not Established >: Greater Than <. Less Than NA: Not Applicable ND: No Data

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: US Environmental Protection Agency

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* * * * * END OF MSDS * * * * *