

SAFETY DATA SHEET

Flow-Master

Prepared according to U.S. OSHA, CMA, ANSI, Canadian WHMIS regulations

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **Flow-Master**
PRODUCT NUMBER: 409S
PRODUCT DESCRIPTION: Diesel/Heating Oil Additive
U.N. NUMBER: NA 1993
U.N. DANGEROUS GOODS CLASS: Combustible liquid, n.o.s. (Contains Petroleum Distillates) See Section 14 for Details

SUPPLIER/MANUFACTURER'S NAME: **Primrose Oil Company, Inc.**
ADDRESS: 11444 Denton Drive, P.O. Box 29665, Dallas, Texas 75229 USA
EMERGENCY PHONE: 1-800-633-8253 (For Emergencies Only)
BUSINESS PHONE: 1-972-241-1100 (For product information)
WEB SITE: www.primrose.com
DATE OF PREPARATION: March 20, 2013
DATE OF LAST REVISION: May 23, 2017, September 16, 2025

SECTION 2 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

This product is a clear to yellow colored liquid with a mild petroleum odor.

HEALTH HAZARDS: Repeated or prolonged contact with skin may cause irritation. Contact with eyes can cause irritation. Inhalation of vapors or mist can cause irritation. May be harmful if swallowed.

FLAMMABILITY: This product is a Combustible liquid and vapor.

ENVIRONMENTAL EFFECTS: The Environmental effects of this product have not been investigated.

US DOT SYMBOLS



CANADA (WHMIS) SYMBOLS



GHS HAZARD SYMBOL(S)



Signal Word: **Warning!**

COMPONENTS DETERMINING HAZARDS:

Severely Hydrotreated Light Mineral Oil, 2-Ethylhexyl Nitrate, Benzene, 1,2,4-Trimethyl, Aromatic Hydrocarbon Solvent, Solvent Naphtha (Petroleum) Light Aromatic, Vinyl Acetate, Xylene, Cumene, Naphthalene

GHS HAZARD CLASSIFICATION(S):

Flammable Liquid Category 4
Acute Oral Toxicity Category 4
STOT SE Category 3
Skin Corrosion/Irritation Category 2
Eye Irritation Category 2A
Acute Inhalation Toxicity Category 4
Acute Aquatic Toxicity Category 1
Chronic Aquatic Toxicity Category 1

HAZARD STATEMENTS:

Combustible Liquid
Harmful if swallowed
May cause respiratory irritation
May be irritating to eyes and skin
May cause drowsiness and dizziness
Very toxic to aquatic life

PRECAUTIONARY STATEMENTS:

Avoid exposure
Use only with adequate ventilation.
Wash thoroughly after handling.
In case of an accident or if you feel unwell – seek medical advice and show label
Avoid release to the environment

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HEALTH HAZARDS OR RISKS FROM EXPOSURE:

ACUTE:

INHALATION: Inhalation of vapor or mist may cause irritation. Concentrations above the TLV may cause headache, dizziness, nausea, or shortness of breath.

EYE CONTACT: Direct eye contact can cause irritation with redness, tearing and blurred vision.

SKIN CONTACT: May cause skin irritation.

INGESTION: Can cause gastrointestinal irritation.

CHRONIC: Prolonged or repeated contact with product and poor hygiene conditions may result in dryness, dermatitis, erythema, oil acne, cracking and defatting of the skin.

TARGET ORGANS: ACUTE: Eye, Skin, Respiratory System CHRONIC: Skin

SECTION 3 - COMPOSITION and INFORMATION ON INGREDIENTS

HAZARDS DISCLOSURE: This product does contain known hazardous materials in reportable levels as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200. As defined under Sara 311 and 312, this product contains known hazardous materials.

HAZARDOUS INGREDIENTS:	CAS #	WT %	HAZARD CLASSIFICATION; RISK PHRASES
Severely Hydrotreated Light Mineral Oil	64742-46-7	75 – 85%	HAZARD CLASSIFICATION: [Xi] Irritant RISK PHRASES: R37/38
2-Ethylhexyl Nitrate	27247-96-7	<15%	HAZARD CLASSIFICATION: [Xi] Irritant RISK PHRASES: R37
Benzene, 1,2,4-Trimethyl	95-63-6	<4%	HAZARD CLASSIFICATION: [F] Flammable, [Xn] Harmful, [Xi] Irritant, [N] Dangerous to the Environment RISK PHRASES: R10, R20, R36/37/38, R51/53
Aromatic Hydrocarbon Solvent	526-73-8	<1%	HAZARD CLASSIFICATION: [Xi] Irritant RISK PHRASES: R37
Solvent Naphtha (Petroleum) Light Aromatic	64742-95-6	<1%	HAZARD CLASSIFICATION: [F] Flammable, [Xn] Harmful, [Xi] Irritant, [N] Dangerous to the Environment RISK PHRASES: R10, R65, R37, R66, R67, R51/53
Vinyl Acetate	108-05-4	<2%	HAZARD CLASSIFICATION: [F] Flammable RISK PHRASES: R10
Xylene	1330-20-7	<1%	HAZARD CLASSIFICATION: [F] Flammable, [Xn] Harmful, [Xi] Irritant RISK PHRASES: R10, R20/21, R38
Cumene	98-82-8	<1%	HAZARD CLASSIFICATION: [F] Flammable, [Xn] Harmful, [Xi] Irritant, [N] Dangerous to the Environment RISK PHRASES: R10, R65, R37, R51/53
Naphthalene	91-20-3	<0.5%	HAZARD CLASSIFICATION: [Xn] Harmful, [N] Dangerous to the Environment RISK PHRASES: R22, R51/53

Each of the other components present are non hazardous or less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens)

NOTE: ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2010 format.

SECTION 4 - FIRST-AID MEASURES

Contaminated individuals of chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to health professional with contaminated individual.

EYE CONTACT: If product enters the eyes, open eyes while under gentle running water for at least 15 minutes. Seek medical attention if irritation or blurred vision continues.

SKIN CONTACT: Wash skin thoroughly after handling. Seek medical attention if irritation develops and persists.

INHALATION: If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention immediately.

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INGESTION: If product is swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or MSDS with the victim to the health professional.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing skin disorders should avoid contact with this product.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and reduce over-exposure.

SECTION 5 - FIRE-FIGHTING MEASURES

FLASH POINT:

Combustible liquid and vapor >142°F

AUTOIGNITION TEMPERATURE:

>450°F

FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL): Not Established Upper (UEL): Not Established

FIRE EXTINGUISHING MATERIALS:

Dry chemical, carbon dioxide, foam. Water spray may be used to keep fire exposed containers cool, dilute spills to non-flammable mixtures

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Above flash point, vapor air mixtures are explosive within flammable limits noted above. Vapor can flow along surfaces to distant ignition sources and flash back.

Explosion Sensitivity to Mechanical Impact:

Not Sensitive.

Explosion Sensitivity to Static Discharge:

Sensitive

SPECIAL FIRE-FIGHTING PROCEDURES:

NFPA Rating System



Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Personnel should be trained for spill response operations. Contain and recover liquid if possible. Use non-sparking tools and equipment. Cover spilled liquid with sand, earth or other non-combustible absorbent material. Pickup spilled material immediately and place in appropriate containers. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations).

Do not discharge to sewers and surface waters. Notify authorities if entry occurs.

U.S. Regulations (CERCLA) requires reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

SECTION 7 - HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product on you. Wash thoroughly after handling this product. Use in a well-ventilated location.

STORAGE AND HANDLING PRACTICES: Store containers in a cool, dry location. Keep away from sources of ignition. Keep container tightly closed when not in use. Protect from physical damage.

SECTION 8 - EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/GUIDELINES:

Chemical Name	CAS#	ACGIH TWA	OSHA TWA
Severely Hydrotreated Light Mineral Oil	64742-46-7	5 mg/m ³ Oil Mist	5 mg/m ³ Oil Mist
2-Ethylhexyl Nitrate	27247-96-7	Not Listed	Not Listed
Benzene, 1,2,4-Trimethyl	95-63-6	25 ppm	25 ppm

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Aromatic Hydrocarbon Solvent	526-73-8	Not Listed	Not Listed
Solvent Naphtha (Petroleum) Light Aromatic	64742-95-6	Not Listed	Not Listed
Vinyl Acetate	108-05-4	Not Listed	Not Listed
Xylene	1330-20-7	100 ppm	100 ppm
Cumene	98-82-8	50 ppm	50 ppm
Naphthalene	91-20-3	Not Listed	Not Listed

Currently, International exposure limits are not established for all the components of this product. Please check with competent authority in each country for the most recent limits in place.

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above. Use local exhaust ventilation to control airborne vapors.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada. Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: Not normally required when using this product. Maintain airborne contaminant concentrations below guidelines listed above, if applicable. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93.

EYE PROTECTION: Wear safety glasses or chemical goggles as appropriate where splashing is possible. If necessary, refer to U.S. OSHA 29 CFR 1910.133 or appropriate Canadian Standards.

HAND PROTECTION: Wear chemical resistant gloves as appropriate to prevent skin contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.

BODY PROTECTION: Use body protection appropriate to prevent skin contact (e.g. lab coat, overalls). If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards.

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL STATE:

Liquid

APPEARANCE & ODOR:

Clear to yellow colored liquid with a mild petroleum odor.

ODOR THRESHOLD (PPM):

Mild

VAPOR PRESSURE (mmHg):

<10 mm @ 30°C

VAPOR DENSITY (AIR=1):

>5

EVAPORATION RATE (nBuAc = 1):

Not Available

BOILING POINT (C°):

>450°F

FREEZING POINT (C°):

Not Available

pH:

Not Available

SPECIFIC GRAVITY 20°C: (WATER =1)

0.9

SOLUBILITY IN WATER (%)

Partial

VOC:

Not Available

SECTION 10 - STABILITY and REACTIVITY

STABILITY: Product is stable

DECOMPOSITION PRODUCTS: When heated to decomposition this product produces Oxides of carbon (COx), Oxides of sulfur and Hydrocarbons

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: Strong oxidizers.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Contact with incompatible materials and ignition sources

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SECTION 11 - TOXICOLOGICAL INFORMATION

TOXICITY DATA: Toxicity data is available for the following components:

CAS# 64742-46-7

No LD50 Data Available

CAS# 27247-96-7

Oral, rat: LD50 = 9640 mg/kg;

Inhalation, rat: LC50 = 639 ppm/1H

CAS# 95-63-6:

Inhalation, rat: LC50 = 18000 mg/m³/4H;

Oral, mouse: LD50 = 6900 mg/kg;

Oral, rat: LD50 = 5 gm/kg;

CAS# 526-73-8:

No LD50 Data Available

CAS# 64742-95-6

Oral, rat: LD50 = 8400 mg/kg;

CAS# 108-05-4

No LD50 Data Available

CAS# 1330-20-7:

Draize test, rabbit, eye: 87 mg Mild;

Draize test, rabbit, eye: 5 mg/24H Severe;

Draize test, rabbit, skin: 100% Moderate;

Draize test, rabbit, skin: 500 mg/24H Moderate;

Inhalation, rat: LC50 = 5000 ppm/4H;

Oral, mouse: LD50 = 2119 mg/kg;

Oral, rat: LD50 = 4300 mg/kg;

Skin, rabbit: LD50 = >1700 mg/kg;<BR.

CAS# 98-82-8

Oral, mouse: LD50 = 12750 mg/kg

Oral, rat: LD50 = 1400 mg/kg

Dermal, rabbit LD50 = 12300 mg/kg

CAS# 91-20-3

No LD50 Data Available

SUSPECTED CANCER AGENT: One or more of the ingredients are found on the following lists: FEDERAL OSHA Z LIST, NTP, CAL/OSHA, IARC and therefore is considered to be, or suspected to be a cancer-causing agent by these agencies.

CAS# 98-82-8 Cumene

CAS# 108-05-4 Vinyl Acetate

CAS# 91-20-3 Naphthalene

Note: The severely hydrotreated petroleum ingredients are not considered a potential carcinogen based on IP346 DMSO of less than 3.0 wt%.

IRRITANCY OF PRODUCT: Contact with this product can be irritating to skin and eyes.

SENSITIZATION OF PRODUCT: Ingredients in this product are not considered a sensitizer.

REPRODUCTIVE TOXICITY INFORMATION: No information concerning the effects of this product and its components on the human reproductive system.

SECTION 12 - ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: No specific data is available for this product, however this product is not expected to be readily biodegradable

EFFECT OF MATERIAL ON PLANTS or ANIMALS: If applied to leaves, this product may kill grasses and small plants by interfering with transpiration and respiration. This product is not toxic to fish but may coat gill structures resulting in suffocation if spilled in shallow, running water. Product may be moderately toxic to amphibians by preventing dermal respiration. This product may cause gastrointestinal distress in birds and mammals through ingestion during pelage grooming.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No evidence is currently available on this product's effects on aquatic life.

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SECTION 13 - DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.

SECTION 14 - TRANSPORTATION INFORMATION

US DOT; IATA; IMO; ADR:

THIS PRODUCT IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

NOTE: This product can be reclassified for "Limited Quantities" for shipment within the USA via road or rail in non-bulk quantities of less than 115 gallons (450L)

PROPER SHIPPING NAME: Combustible liquid, n.o.s. (Contains Petroleum Distillates)

HAZARD CLASS NUMBER and DESCRIPTION: Class 3 Combustible Liquid

UN IDENTIFICATION NUMBER: NA1993

PACKING GROUP: PGIII

DOT LABEL(S) REQUIRED: Flammable Class 3

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2004): 128

MARINE POLLUTANT: One of the ingredients is classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B) Naphthalene CAS# 91-20-3

U.S. DEPARTMENT OF TRANSPORTATION (DOT) SHIPPING REGULATIONS:

This product is classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:

This product is classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):

This product is classified as Dangerous Goods, by rules of IATA:

Quantity Limits: 20L Passenger Aircraft, 220L Cargo Aircraft.

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION:

This product is classified as Dangerous Goods by the International Maritime Organization.

SECTION 15 - REGULATORY INFORMATION

UNITED STATES REGULATIONS

SARA REPORTING REQUIREMENTS: This product is subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act., as follows:

Section 302 (RQ) CAS# 1330-20-7: final RQ = 100 pounds, CAS# 108-05-4: Final RQ = 5,000 pounds

This material contains Xylenes CAS# 1330-20-7, <1%, 1,2,4-Trimethylbenzene CAS# 95-63-6 <4%, Vinyl Acetate CAS# 108-05-4 <1%, Cumene CAS# 98-82-8 <1%, Naphthalene CAS# 91-20-3 <0.5% which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

TSCA: All components in this product are listed on the US Toxic Substances Control Act (TSCA) inventory of chemicals.

SARA 311/312:

Acute Health: Yes Chronic Health: No Fire: Yes Reactivity: No

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): CAS# 93-63-6: 10 lb final RQ, CAS# 1330-20-7 100 lb final RQ, CAS# 98-82-8 5000 lb RQ, CAS# 91-20-3 10,307 lb RQ.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): One or more of the ingredients are on the California Proposition 65 lists.

Warning! This product contains ingredients known to the State of California to cause cancer or reproductive harm!

CANADIAN REGULATIONS:

CANADIAN DSL/NDL INVENTORY STATUS: All of the components of this product are on the DSL Inventory

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS: No component of this product is on the CEPA First Priorities Substance Lists.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS: This is considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and is therefore subject to the labeling and MSDS requirements of the Workplace Hazardous Materials Information System (WHMIS). Class B Division 3 Combustible Liquid, Class D2B Materials having other toxic effects.

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SECTION 16 - OTHER INFORMATION

PREPARED BY: Paul Eigbrett/
Matt Moore

MSDS Authoring PLUS/
Primrose Oil Company, Inc.

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