1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: GM FUEL SYSTEM TREATMENT PLUS

External Keys:

88861011	Distributable Material (Part #)
88861013	Distributable Material (Part #)
FUEL SYSTEM TREATMENT PLUS	Primary Tradename - Distributable Material
88861262	Distributable Material (Part #)
10-3004	Distributable Material (Part #)

MANUFACTURER INFORMATION

Manufacturer: Chevron Products Company Global Lubricants

Address:

6001 Bollinger Canyon Road	USA	California	94583	San Ramon	MAILING

Communication Lines:

Phone	800-424-9300 or 703-527-3887	EMERGENCY - CHEMTREC
Phone	800-231-0623 or 510-231-0623	HEALTH EMERGENCY
Phone	510-424-5357	PRODUCT INFO
Phone	800-414-6737	MSDS
Phone	800-LUBE-TEK	Product Information
Internet	www.chevron.com	Website (with MSDS)
E-Mail	lubemsds@chevrontexaco.com	Email
Internet	www.chevron-lubricants.com	Website (with MSDS)

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT	64742-47-8	<	45	%Wt	Yes
STODDARD SOLVENT	8052-41-3	<	30	%Wt	Yes
SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	64742-95-6	Range	10-20	%Wt	No
BENZENE, 1,2,4-TRIMETHYL-	95-63-6	Range	1 - 5	%Wt	Yes

3 HAZARDS IDENTIFICATION

Hazards Overview:

EMERGENCY OVERVIEW:
- COMBUSTIBLE LIQUID AND VAPOR.
- HARMFUL OR FATAL IF SWALLOWED - MAY CAUSE LUNG DAMAGE IF SWALLOWED.
- MAY CAUSE RESPIRATORY TRACT IRRITATION IF INHALED.
- CAUSES SKIN IRRITATION.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Observation
Eye Contact	Not expected to cause prolonged or significant eye irritation.
Skin Contact	Contact with the skin causes irritation. Skin contact may cause drying or defatting of the skin. Symptoms may include pain, itching, discoloration, swelling, and blistering. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion	Because of its low viscosity, this material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death. May be irritating to mouth, throat, and stomach. Symptoms may include pain, nausea, vomiting, and diarrhea.

Exposure Routes	Observation
Inhalation	The vapor or fumes from this material may cause respiratory irritation. Symptoms of respiratory irritation may include coughing and difficulty breathing. Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

Medical Conditions Aggravated By Exposure:
Not provided.

4 FIRST AID MEASURES

First Aid By::

Inhalation	Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue.
After Inhlation	
After Skin Contact	
Skin Contact	Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Eye Contact	No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
After Eye Contact	
After Ingestion	
Ingestion	If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, get medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Notes To Physician:
Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

5 FIRE FIGHTING MEASURES

Product Flammability:
OSHA Classification (29 CFR 1910.1200): Combustible liquid.

Flash Point:

=	49	°C	(Pensky-Martens Closed Cup)	(Typical).
=	120	°F	(Pensky-Martens Closed Cup)	(Typical).

Explosive Limits:

Upper Explosive Limit (UEL)	No data available.
Lower Explosive Limit (LEL)	No data available.

Autoignition Temperature:

=	349	°C	(Min).
Range	660	°F	(Min).

Extinguishing Media:
Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Special Fire Fighting Procedures:
For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES

Recovery:
PROTECTIVE MEASURES: Eliminate all sources of ignition in the vicinity of the spill or released vapor. If this material is released into the work area, evacuate the area immediately. Monitor area with combustible gas indicator. SPILL MANAGEMENT: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up

spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. All equipment used when handling the product must be grounded. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. REPORTING: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

PRECAUTIONARY MEASURES: Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive force. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 29C (85F). The hydrocarbon solvent in this product may accumulate at flammable or explosive levels in the head space of storage containers. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling. Keep out of the reach of children. GENERAL HANDLING INFORMATION: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water. STATIC HAZARD: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

STORAGE

Storage Conditions:

DO NOT USE OR STORE near heat, sparks, flames, or hot surfaces . USE AND STORE ONLY IN WELL VENTILATED AREA. Keep container closed when not in use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT	64742-47-8	PEL-TWA	500ppm	-	OSHA - Permissible Exposure Limits (PELs)
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT	64742-47-8	PEL-TWA	2000mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
STODDARD SOLVENT	8052-41-3	PEL-TWA	2900mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
STODDARD SOLVENT	8052-41-3	TLV-TWA	525mg/m3	-	GM Occupational Exposure Guidelines (OEG)
STODDARD SOLVENT	8052-41-3	State-TWA	525mg/m3	-	MICHIGAN
STODDARD SOLVENT	8052-41-3	State-TWA	525mg/m3	-	NEW YORK
STODDARD SOLVENT	8052-41-3	State-TWA	525mg/m3	-	TENNESSEE
STODDARD SOLVENT	8052-41-3	GM OEG-TWA	525mg/m3	-	GM

Chemical Name	CAS Number	Type	Value	Specification	Source
BENZENE, 1,2,4-TRIMETHYL-	95-63-6	GM OEG-TWA	25ppm	-	GM Occupational Exposure Guidelines (OEG)
BENZENE, 1,2,4-TRIMETHYL-	95-63-6	TLV-TWA	25ppm	-	Threshold Limit Values (TLVs) - ACGIH

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection	Wear protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Suggested materials for protective gloves include: Chlorinated Polyethylene (or Chlorosulfonated Polyethylene), Nitrile Rubber, Polyurethane, Viton.
Respiratory Protection	Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Special Precautions:

GENERAL CONSIDERATIONS: Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Liquid

Color: Colorless to yellow

Odor: Hydrocarbon odor.

PHYSICAL PROPERTIES

pH Value:

Not Applicable

Changes of State:

Boiling Point	=	149	°C
Boiling Point	=	300.2	°F
Melting/Freezing Point	Not Applicable		

Vapor Pressure:

= 0.1 psia (Min) @ 37.8 °C (100 °F).

Vapor Density:

No data available. (Air = 1).

Specific Gravity:

= 0.88 @ 15.6°C (60.1°F) / 15.6°C (60.1°F).

Solubility:

In Hydrocarbons	Soluble.
In Water	Insoluble.

Viscosity:

Viscosity	=	3.1	cSt @ 40°C (104°F) (Typical).

Comment:
ATTENTION: The data above are typical values and do not constitute a specification.

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:
Do not exceed handling and storage temperatures listed in MSDS Section 7 (Handling and Storage).

Incompatible Materials:
May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous Polymerization:
Will not occur.

Comment:
CHEMICAL STABILITY: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Thermal Decomposition	Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.
Decomposition	None known (None expected).

11 TOXICOLOGICAL INFORMATION

OCCUPATIONAL EXPERIENCES

Health Effects:
IMMEDIATE HEALTH EFFECTS:
EYE IRRITATION: The eye irritation hazard is based on evaluation of data for similar materials or product components.
SKIN IRRITATION: The skin irritation hazard is based on evaluation of data for similar materials or product components.
SKIN SENSITIZATION: No product toxicology data available.
ACUTE DERMAL TOXICITY: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.
ACUTE ORAL TOXICITY: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.
ACUTE INHALATION TOXICITY: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

SCIENTIFIC OBSERVATIONS

TOXICOLOGICAL EFFECTS

Data By Chemical:

Chemical Name	CAS Number	Comment
STODDARD SOLVENT	8052-41-3	This product contains Stoddard solvent, a mixture of straight and branched-chain paraffins, naphthenes and aromatic hydrocarbons. Based on studies of Stoddard solvent sample 85-01 sponsored by the American Petroleum Institute, the acute dermal LD50 was found to be >3.0 g/kg and the acute oral LD50 was found to >5.0 g/kg. Acute inhalation toxicity tests showed a no observable effect level for inhalation of Stoddard solvent at 4.0 mg/l, with eye irritation and slight

Chemical Name	CAS Number	Comment
		loss of coordination at 8 mg/l, and tremors, CNS depression and death within 7.5 hours of exposure to 10 mg/l. In a 28-day dermal study sponsored by the API, moderate skin irritation occurred at 200 mg/kg, with moderate to severe irritation above 1000 mg/kg. The API also determined the primary dermal irritation index to be 4.5, and the primary eye irritation index to be 0.0 at 24 hours. In human sensory response tests, exposure to Stoddard solvent at 0.60 mg/l caused mild eye and nose irritation after 30 minutes, with increased blink rate and eye irritation at 2.4 mg/l, and eye irritation and tearing at 2.7 mg/l. No significant effects on psychomotor performance were noted.
SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	64742-95-6	Light Aromatic Solvent Naphtha (CAS 64742-95-6, also described as High-Flash Aromatic Naphtha, Type I, as defined by ASTM D-3734). SUBCHRONIC TOXICITY: In a 13-week rat inhalation study using dose levels of 0, 100, 500, and 1500 ppm for 6 hours/day, 5 days/week, no target organ toxicity including neurotoxicity was observed at any dose level. Slight general systemic toxicity (decreased body weight gain) was observed at 1500 ppm.

CLASSIFICATION OF INGREDIENTS

Mutagenicity:

Light Aromatic Solvent Naphtha (CAS 64742-95-6, also described as High-Flash Aromatic Naphtha, Type I, as defined by ASTM D-3734). (64742-95-6) SOLVENT NAPHTHA, LIGHT AROMATIC: GENETIC TOXICITY: No evidence of genetic toxicity was observed in the following tests: Salmonella typhimurium reverse mutation assay (Ames test), in vitro Chinese Hamster Ovary (CHO) cell HGPRT mutation assay, in vitro Chinese Hamster Ovary (CHO) cell chromosomal aberration assay, in vitro Chinese Hamster Ovary (CHO) cell sister chromatid exchange assay, and in vivo rat bone marrow chromosome aberration assay

Reproductive Effects:

Light Aromatic Solvent Naphtha (CAS 64742-95-6, also described as High-Flash Aromatic Naphtha, Type I, as defined by ASTM D-3734). (64742-95-6) SOLVENT NAPHTHA, LIGHT AROMATIC: DEVELOPMENTAL TOXICITY: In a mouse inhalation study using dose levels of 0, 100, 500, and 1500 ppm for 6 hours/day on gestation days 6-15, no signs of maternal toxicity or developmental toxicity were observed at 100 ppm. At 500 ppm, maternal toxicity (decreased body weight gain) and developmental toxicity (decreased fetal body weight) were observed. Severe maternal toxicity (44% mortality, decreased body weight gain, clinical signs of toxicity) and developmental toxicity (decreased number of live fetuses per litter, increased post-implantation losses per dam, decreased fetal body weights, delayed ossification, cleft palate) were observed at 1500 ppm. In a rat inhalation study using dose levels of 600, 1000, and 2000 mg/m3 for 24 hours/day on gestation days 7-15, signs of maternal toxicity (decreased body weight gain) were observed at all dose levels. At 600 mg/m3, no signs of fetal or developmental toxicity were observed. Signs of fetal toxicity (decreased male fetal body weight) and developmental toxicity (delayed ossification) were observed at 1000 and 2000 mg/m3. REPRODUCTIVE TOXICITY: In a rat 3-generation inhalation study using dose levels of 0, 100, 500, and 1500 ppm for 6 hours/day, 5 days/week, no signs of general systemic or reproductive toxicity were observed at 100 ppm. At 500 ppm, slight parental toxicity (decreased body weight gain) and postnatal toxicity (decreased pup body weight) were observed, but reproductive parameters were not affected. Severe parental toxicity (mortality, decreased body weight gain, clinical signs of toxicity) and postnatal toxicity (decreased pup body weight) were observed at 1500 ppm, but reproductive parameters were not affected.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

ENVIRONMENTAL FATE: This material is not expected to be readily biodegradable.

ECOTOXICITY

Comment:

The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

14 TRANSPORT INFORMATION

DOT Information:

DOT SHIPPING DESCRIPTION: PETROLEUM OIL, N.E.C.; NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR.

Comment:

The description shown may not apply to all shipping situations. ADDITIONAL INFORMATION: NOT HAZARDOUS BY U.S. DOT. ADR/RID HAZARD CLASS NOT APPLICABLE. IMO/IMDG SHIPPING DESCRIPTION: PETROLEUM PRODUCTS, N.O.S.,3,UN1268,III,FLASH POINT SEE SECTION 5. ICAO/IATA SHIPPING DESCRIPTION: PETROLEUM PRODUCTS, N.O.S.,3,UN1268,III. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Health	1
NFPA Flammability	2
NFPA Reactivity	0
HMIS Health	2
HMIS Flammability	2
HMIS Reactivity	0

Comment:

LABEL RECOMMENDATION: Label Category : FUEL ADDITIVE 3.

NATIONAL REGULATIONS

SARA 311/312: Yes

SARA 313: Yes

Immediate Health: Yes

Delayed Health: No

Fire: Yes

Sudden Pressure Release: No

Reactive: No

Other Regulation:

EPCRA 313:	(95-63-6) BENZENE, 1, 2, 4-TRIMETHYL. All other chemicals: Not listed.
TSCA:	All ingredients are either on or exempt from the TSCA Inventory.

Comment:

CHEMICAL INVENTORIES: All components comply with the following chemical inventory requirements: DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States). One or more components does not comply with the following chemical inventory requirements: AICS (Australia).

STATE/LOCAL REGULATIONS

Comment:

NEW JERSEY RTK CLASSIFICATION: Refer to components listed in Section 2. The following components of this material are found on the regulatory lists indicated: (95-63-6)BENZENE, 1, 2, 4-TRIMETHYL-, (8052-41-3) STODDARD SOLVENT: MA RTK, NJ RTK, PA RTK.

16 OTHER INFORMATION

Comments:

ADDITIONAL EXPOSURE LIMITS: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

Additional Comments:

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the ChevronTexaco Energy Research & Technology Company, 100 Chevron Way, Richmond, California 94802.