SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Diesel fuel #2/GTL Diesel 10-30%

Product Use: Fuel
Company Identification
Chevron Products Company
Marketing, MSDS Coordinator
6001 Bollinger Canyon Road
San Ramon, CA 94583
United States of America

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
MSDS Requests: http://www.chevron.com/contact
Technical Information: (510) 242-5357

SECTION 2 HAZARDS IDENTIFICATION

************************************************************************************************************************
EMERGENCY OVERVIEW
- COMBUSTIBLE LIQUID AND VAPOR
- HARMFUL OR FATAL IF SWALLOWED - MAY CAUSE LUNG DAMAGE IF SWALLOWED
- MAY BE FATAL IF INHALED
- MAY CAUSE DIZZINESS, DROWSINESS AND REDUCED ALERTNESS
- CAUSES SKIN IRRITATION
- MAY CAUSE CANCER BASED ON ANIMAL DATA
- TOXIC TO AQUATIC ORGANISMS. MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT
- FOR RESEARCH AND DEVELOPMENT PURPOSES ONLY
- TO BE USED ONLY UNDER THE DIRECT SUPERVISION OF A TECHNICALLY QUALIFIED INDIVIDUAL

************************************************************************************************************************
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin causes irritation. Skin contact may cause drying or defatting of the skin.
Contact with the skin is not expected to cause an allergic skin response. 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.

**Inhalation:** Highly toxic; may be fatal if inhaled. Symptoms of respiratory irritation may include coughing and difficulty breathing. Excessive or prolonged breathing of this material 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.

**DELAYED OR OTHER HEALTH EFFECTS:**

**Cancer:** Prolonged or repeated exposure to this material may cause cancer. Contains naphthalene, which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC). Whole diesel engine exhaust has been classified as a Group 2A carcinogen (probably carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

See Section 11 for additional information. Risk depends on duration and level of exposure.

---

### SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>CAS NUMBER</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel Fuel No. 2</td>
<td>68476-34-6</td>
<td>80 - 100 %weight</td>
</tr>
<tr>
<td>Distillates (Fischer-Tropsch), C8-26</td>
<td>Pending</td>
<td>10 - 30 %weight</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>0.02 - 0.2 %weight</td>
</tr>
</tbody>
</table>

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

---

### SECTION 4 FIRST AID MEASURES

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** 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.

**Ingestion:** If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

**Inhalation:** During an emergency, wear an approved, positive pressure air-supplying respirator. Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

**Note to Physicians:** Ingestion of this product or subsequent vomiting may result in aspiration of light
hydrocarbon liquid, which may cause pneumonitis.

**SECTION 5  FIRE FIGHTING MEASURES**

See Section 7 for proper handling and storage.

**FLAMMABLE PROPERTIES:**
- **Flashpoint:** (Pensky-Martens Closed Cup) 52 °C (125 °F) (Min)
- **Autoignition:** 208 °C (406 °F) Minimum
- **Flammability (Explosive) Limits (% by volume in air):** Lower: 0.6 Upper: 4.7

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

**PROTECTION OF FIRE FIGHTERS:**
- **Fire Fighting Instructions:** For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
- **Combustion Products:** 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.

**SECTION 6  ACCIDENTAL RELEASE MEASURES**

**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 as appropriate or required.

**SECTION 7  HANDLING AND STORAGE**

**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'.

**General Storage Information:** 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.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

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.

ENGINEERING CONTROLS:

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

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face 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: Air-Purifying Respirator for Organic Vapors. When used as a fuel, this material can produce carbon monoxide in the exhaust. Determine if airborne concentrations are below the occupational exposure limit for carbon monoxide. If not, wear an approved positive-pressure air-supplying respirator. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

<table>
<thead>
<tr>
<th>Component</th>
<th>Country/ Agency</th>
<th>TWA</th>
<th>STEL</th>
<th>Ceiling</th>
<th>Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel Fuel No. 2</td>
<td>ACGIH</td>
<td>100 mg/m3</td>
<td>--</td>
<td>--</td>
<td>Skin A3 total hydrocarbon</td>
</tr>
<tr>
<td>Diesel Fuel No. 2</td>
<td>CVX</td>
<td>--</td>
<td>1000 mg/m3</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>ACGIH</td>
<td>10 ppm (weight)</td>
<td>15 ppm (weight)</td>
<td>--</td>
<td>Skin</td>
</tr>
</tbody>
</table>

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard 94.4-2002 Selection, Use and
SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Varies depending on specification
Physical State: Liquid
Odor: Petroleum odor
pH: Not Applicable
Vapor Pressure: 0.54 kPa (Approximate) @ 25 °C (77 °F)
Vapor Density (Air = 1): >1
Boiling Point: 175.6°C (348°F) - 370°C (698°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: Not Applicable
Viscosity: 1.3 cSt - 4.5 cSt @ 40°C (104°F)
Odor Threshold: No data available
Coefficient of Water/Oil Distribution: No data available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.
Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

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: The skin sensitization hazard is based on evaluation of data for similar materials or product components.
Acute Dermal Toxicity: LD50: >2000mg/kg (rabbit). The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Oral Toxicity: LD50: >2000 mg/kg (rat) 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. For additional information on the acute toxicity of the components, call the technical information center.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains naphthalene. GENERAL TOXICITY: Exposure to naphthalene has been reported to cause methemoglobinemia and/or hemolytic anemia, especially in humans deficient in the enzyme glucose-6-phosphate dehydrogenase. Laboratory animals given repeated oral doses of naphthalene have developed cataracts. REPRODUCTIVE TOXICITY AND BIRTH DEFECTS: Naphthalene did not cause birth defects when administered orally to rabbits, rats, and mice during pregnancy, but slightly reduced
litter size in mice at dose levels that were lethal to the pregnant females. Naphthalene has been reported
to cross the human placenta. GENETIC TOXICITY: Naphthalene caused chromosome aberrations and
sister chromatid exchanges in Chinese hamster ovary cells, but was not a mutagen in several other
in-vitro tests.CARCINOGENICITY: In a study conducted by the National Toxicology Program (NTP), mice
exposed to 10 or 30 ppm of naphthalene by inhalation daily for two years had chronic inflammation of the
nose and lungs and increased incidences of metaplasia in those tissues. The incidence of benign lung
tumors (alveolar/bronchiolar adenomas) was significantly increased in the high-dose female group but not
in the male groups. In another two-year inhalation study conducted by NTP, exposure of rats to 10, 30,
and 60 ppm naphthalene caused increases in the incidences of a variety of nonneoplastic lesions in the
nose. Increases in nasal tumors were seen in both sexes, including olfactory neuroblastomas in females at
60 ppm and adenomas of the respiratory epithelium in males at all exposure levels. The relevance of
these effects to humans has not been established. No carcinogenic effect was reported in a 2-year
feeding study in rats receiving naphthalene at 41 mg/kg/day. This product contains gas oils.
CONCAWE (product dossier 95/107) has summarized current health, safety and environmental data
available for a number of gas oils, typically hydrotreated middle distillates, CAS 64742-80-9,
straight-run middle distillates, CAS 64741-44-2, and/or light cat-cracked distillate CAS 64741-59-9.
CARCINOGENICITY: All materials tested have caused the development of skin tumors in mice, but all
featured severe skin irritation and sometimes a long latency period before tumors developed. Straight-run
and cracked gas oil samples were studied to determine the influence of dermal irritation on the
carcinogenic activity of middle distillates. At non-irritant doses the straight-run gas oil was not
carcinogenic, but at irritant doses, weak activity was demonstrated. Cracked gas oils, when diluted with
mineral oil, demonstrated carcinogenic activity irrespective of the occurrence of skin irritation. Gas oils
were tested on male mice to study tumor initiating/promoting activity. The results demonstrated that while
a straight-run gas oil sample was neither an initiator or promotor, a blend of straight-run and FCC stock
was both a tumor initiator and a promotor.
GENOTOXICITY: Hydrotreated & hydrosulfurized gas oils range in activity from inactive to weakly
positive in in-vitro bacterial mutagenicity assays. Mouse lymphoma assays on straight-run gas oils without
subsequent hydrosulfurization gave positive results in the presence of S9 metabolic activation.
In-vivo bone marrow cytogenetics and sister chromatid exchange assay exhibited no activity for
straight-run components with or without hydrosulfurization. Thermally or catalytically cracked gas oils
tested with in-vitro bacterial mutagenicity assays in the presence of S9 metabolic activation were shown to
be mutagenic. In-vitro sister chromatid exchange assays on cracked gas oil gave equivocal results both
with and without S9 metabolic activation. In-vivo bone marrow cytogenetics assay was inactive for two
cracked gas oil samples. Three hydrocracked gas oils were tested with in-vitro bacterial mutagenicity
assays with S9, and one of the three gave positive results. Twelve distillate fuel samples were tested with
in-vitro bacterial mutagenicity assays & with S9 metabolic activation and showed negative to weakly
positive results. In one series, activity was shown to be related to the PCA content of samples tested. Two
in-vivo studies were also conducted. A mouse dominant lethal assay was negative for a sample of diesel
fuel. In the other study, 9 samples of No 2 heating oil containing 50% cracked stocks caused a slight
increase in the number of chromosomal aberrations in bone marrow cytogenetics assays.
DEVELOPMENTAL TOXICITY: Diesel fuel vapor did not cause fetotoxic or teratogenic effects when
pregnant rats were exposed on days 6-15 of pregnancy. Gas oils were applied to the skin of pregnant rats
daily on days 0-19 of gestation. All but one (coker light gas oil) caused fetotoxicity (increased resorptions,
reduced litter weight, reduced litter size) at dose levels that were also maternally toxic.

This product may contain significant amounts of Polynuclear Aromatic Hydrocarbons (PAH's) which have
been shown to cause skin cancer after prolonged and frequent contact with the skin of test animals. Brief
or intermittent skin contact with this product is not expected to have serious effects if it is washed from the
skin. While skin cancer is unlikely to occur in human beings following use of this product, skin contact and
breathing, of mists, vapors or dusts should be reduced to a minimum.

SECTION 12 ECOLOGICAL INFORMATION
ECOTOXICITY
This material is expected to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

ENVIRONMENTAL FATE
On release to the environment the lighter components of diesel fuel will generally evaporate but depending on local environmental conditions (temperature, wind, mixing or wave action, soil type, etc.) the remainder may become dispersed in the water column or absorbed to soil or sediment. Diesel fuel would not be expected to be readily biodegradable. In a modified Strum test (OECD method 301B) approximately 40% biodegradation was recorded over 28 days. However, it has been shown that most hydrocarbon components of diesel fuel are degraded in soil in the presence of oxygen. Under anaerobic conditions, such as in anoxic sediments, rates of biodegradation are negligible.

SECTION 13 DISPOSAL CONSIDERATIONS
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 USEPA under RCRA (40CFR261), Environment Canada, or other State, Provincial, 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.

SECTION 14 TRANSPORT INFORMATION
The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: UN1202, GAS OIL, 3, III

IMO/IMDG Shipping Description: UN1268, PETROLEUM DISTILLATES, N.O.S. (DIESEL FUEL, GASOIL), 3, III, FLASH POINT SEE SECTION 5 OR 9, MARINE POLLUTANT (DIESEL FUEL, GASOIL)

ICAO/IATA Shipping Description: UN1202, GAS OIL, 3, III

DOT Shipping Description: UN1202, GAS OIL, COMBUSTIBLE LIQUID, III

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:
01-1=IARC Group 1
01-2A=IARC Group 2A
01-2B=IARC Group 2B
35=WHMIS IDL

The following components of this material are found on the regulatory lists indicated.
Naphthalene 01-2B, 35

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

WHMIS CLASSIFICATION:
Class B, Division 3: Combustible Liquids
Class D, Division 1, Subdivision A: Very Toxic Material - Acute Lethality
Class D, Division 2, Subdivision A: Very Toxic Material - Carcinogenicity
Class D, Division 2, Subdivision B: Toxic Material - Skin or Eye Irritation

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations. (See Hazardous Products Act (HPA), R.S.C. 1985, c.H-3,s.2).

MSDS PREPARATION:
This Material Safety Data Sheet has been prepared by the Toxicology and Health Risk Assessment Unit, ERTC, P.O. Box 1627, Richmond, CA 94804, (888)676-6183.

Revision Date: AUGUST 06, 2010

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 14, 16.

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>API</td>
<td>American Petroleum Institute</td>
</tr>
<tr>
<td>CVX</td>
<td>Chevron</td>
</tr>
<tr>
<td>DOT</td>
<td>Department of Transportation (USA)</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service Number</td>
</tr>
<tr>
<td>IMO/IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>MSDS</td>
<td>Material Safety Data Sheet</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Association (USA)</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program (USA)</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
</tr>
</tbody>
</table>

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.