



April 3, 2009
AET 09-0028

ATTN: Document Control Desk
Mr. Michael F. Weber
Director, Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

**American Centrifuge Plant
Docket Number 70-7004; License Number SNM-2011
Submission of USEC Inc.'s Response to a Request for Additional Information for the
American Centrifuge Plant License Amendment for Feed and Withdrawal System Design
Changes (TAC L32476)**

Dear Mr. Weber:

USEC Inc. hereby submits to the U.S. Nuclear Regulatory Commission the Material Safety Data Sheet for Chevron GST Oil and a specification sheet for Chevron GST ISO Grade 68 Oil referenced in Enclosure 1 of USEC letter AET 09-0027 in response to a request for additional information (question FS-2).

If you have any questions regarding this matter, please contact me at (301) 564-3470 or Terry Sensus at (740) 897-2412.

Sincerely,

Peter J. Miner
Director, Regulatory and Quality Assurance

cc: J. Downs, NRC HQ
J. Henson, NRC Region II (w/o enclosure)
O. Siurano, NRC HQ
B. Smith, NRC HQ

Enclosure: As Stated

**Information Contained Within
DOES NOT CONTAIN
Export Controlled Information**
Reviewer (Signature) RS Jykonl
Date 4-3-09

**This document has been reviewed and is UNCLASSIFIED
and NOT UCNI. This review does not constitute clearance
for public release.**

RS Jykonl - ATEng DC# 4089 4-3-09
Authorized Derivative Classifier Date

Enclosure 1 of AET 09-0028

Material Safety Data Sheet Related to Request for Additional Information FS-2

**Information Contained Within
DOES NOT CONTAIN
Export Controlled Information**
Reviewer (Signature) RS Lyford.
Date 4-3-09

**This document has been reviewed and is UNCLASSIFIED
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for public release.**

RS Lyford. ATEADC#4089 4-3-09
Authorized Derivative Classifier Date



Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron GST® Oil

Product Use: Turbine Oil

Product Number(s): CPS253026, CPS253027, CPS253028, CPS253029

Synonyms: Chevron GST® Oil ISO 100, Chevron GST® Oil ISO 32, Chevron GST® Oil ISO 46, Chevron GST® Oil ISO 68

Company Identification

Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

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

email : lubemsds@chevron.com
Product Information: (800) LUBE TEK
MSDS Requests: (800) 414-6737

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

| COMPONENTS | CAS NUMBER | AMOUNT |
|--|------------|------------------|
| Highly refined mineral oil (C15 - C50) | Mixture | 90 - 100 %weight |

SECTION 3 HAZARDS IDENTIFICATION

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause

respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

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: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

FIRE CLASSIFICATION:

OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:

Flashpoint: (Cleveland Open Cup) 190 °C (374 °F) Minimum

Autoignition: No Data Available

Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

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

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. 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 vicinity of spilled material.

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. 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.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.

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'.

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 in a well-ventilated area.

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: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.

Respiratory Protection: No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

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

Color: Yellow

Physical State: Liquid

Odor: Petroleum odor

pH: Not Applicable

Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)

Vapor Density (Air = 1): >1

Boiling Point: >315°C (599°F)

Solubility: Soluble in hydrocarbons; insoluble in water

Freezing Point: Not Applicable

Melting Point: Not Applicable

Specific Gravity: 0.86 - 0.87 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)

Density: 0.86 kg/l @ 15.6°C (60.1°F) Minimum

Viscosity: 28.8 cSt - 100 cSt @ 40°C (104°F)

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.

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. 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.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer

warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

96 hour(s) LC50: >1000 mg/l (Oncorhynchus mykiss)
This material is not expected to be harmful to aquatic organisms.

ENVIRONMENTAL FATE

Ready Biodegradability: This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

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.

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

Additional Information: NOT HAZARDOUS BY U.S. DOT. ADR/RID HAZARD CLASS NOT APPLICABLE.

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; MAY BE REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

SECTION 15 REGULATORY INFORMATION

| | | |
|----------------------------------|---------------------------------------|----|
| EPCRA 311/312 CATEGORIES: | 1. Immediate (Acute) Health Effects: | NO |
| | 2. Delayed (Chronic) Health Effects: | NO |
| | 3. Fire Hazard: | NO |
| | 4. Sudden Release of Pressure Hazard: | NO |
| | 5. Reactivity Hazard: | NO |

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1
01-2A=IARC Group 2A
01-2B=IARC Group 2B
02=NTP Carcinogen

03=EPCRA 313
04=CA Proposition 65
05=MA RTK
06=NJ RTK
07=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: DSL (Canada), IECSC (China), TSCA (United States).

One or more components is listed on ELINCS (European Union). Secondary notification by the importer may be required. All other components are listed or exempted from listing on EINECS.

One or more components does not comply with the following chemical inventory requirements: AICS (Australia), ENCS (Japan), KECI (Korea), PICCS (Philippines).

NEW JERSEY RTK CLASSIFICATION:

Refer to components listed in Section 2. Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Lubricating oil)

WHMIS CLASSIFICATION:

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:

Label Category : INDUSTRIAL OIL 1 - IND1

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 12, 15, 16

Revision Date: January 19, 2009

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

| | |
|---|--|
| TLV - Threshold Limit Value | TWA - Time Weighted Average |
| STEL - Short-term Exposure Limit | PEL - Permissible Exposure Limit |
| | CAS - Chemical Abstract Service Number |
| ACGIH - American Conference of Government Industrial Hygienists | IMO/IMDG - International Maritime Dangerous Goods Code |
| API - American Petroleum Institute | MSDS - Material Safety Data Sheet |
| CVX - Chevron | NFPA - National Fire Protection Association (USA) |

| | |
|--|--|
| DOT - Department of Transportation (USA) | NTP - National Toxicology Program (USA) |
| IARC - International Agency for Research on Cancer | OSHA - Occupational Safety and Health Administration |

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

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.

ChevronTexaco GST® ISO 68 Oil

Categories: [Fluid](#); [Lubricant](#)

Material Notes:

Chevron GST Oils are designed to meet the critical demands of:

- gas, steam, and hydroelectric turbine bearing lubrication
- reduction gear lubrication in marine operations

They are an excellent recommendation for many other industrial applications including air compression. Chevron GST Oils are formulated with ISOSYN® base stocks.

Higher temperatures in advanced gas and steam turbines require a circulating system oil with exceptional high temperature stability. Chevron GST Oils have outstanding thermal and oxidation stability.

Nonvolatile oxidation inhibition minimizes the evaporative loss of the inhibitors, a common problem with turbine oils where bearing temperatures are high and system capacities are limited. With retained oxidation resistance for long periods under high temperature conditions, Chevron GST Oils have proven they will provide longer oil service life and reduced turbine down time.

Corrosion inhibition protects costly turbine shafts and gears from corrosion and rusting. Chevron GST Oils have excellent demulsibility characteristics which allow these oils to maintain a high film strength coating on critical wear points of bearings and gear reducers and assure fast removal of water contamination.

Foam inhibition prevents sump overflow and erratic governor operation.

Applications

Chevron GST Oils are recommended for use in turbines of all types including gas, steam, and hydroelectric turbines, and marine gear turbine sets.

Key Words: CPS Number: 253028; MSDS Number: 6710

Vendors: [Click here to view all available suppliers for this material.](#)

Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

| Physical Properties | Metric | English | Comments |
|--|--------------|--------------|---|
| API Gravity | 31.7 ° | 31.7 ° | |
| Viscosity Measurement | 102 | 102 | Viscosity Index; ASTM D2270 |
| Saybolt Viscosity at 100 °F | 334 SUS | 334 SUS | |
| Saybolt Viscosity at 210 °F | 54.8 SUS | 54.8 SUS | |
| Kinematic Viscosity at 40 °C (104 °F) | 64.6 cSt | 64.6 cSt | ASTM D445; |
| Kinematic Viscosity at 100 °C (212 °F) | 8.50 cSt | 8.50 cSt | ASTM D445 |
| Oxidative Stability | 23,3333 hour | 23,3333 hour | 25 psi pressure drop; ASTM D2272 |
| | 11000 hour | 11000 hour | Hours to 2.0 mg KOH/g acid number; ASTM D943; |
| Thermal Properties | Metric | English | Comments |
| Pour Point | -33.0 °C | -27.4 °F | ASTM D97 |
| Flash Point | 245 °C | 473 °F | ASTM D92 |

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's disclaimer and terms of use regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.

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