



Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

CASE AKCELA HY-TRAN ULTRA ADDITIVE L-6594

Company Identification

Chevron Oronite Company LLC
4800 Fournace Place
Bellaire, TX 77401
United States of America

Sold by: FL Viscosity Oil Company, Willowbrook, IL

Transportation Emergency Response

Asia: Chevron Emergency Information Centre +(1) 510-231-0623
Australia: Oronite Australia 1 800 009 010
Europe: Oronite SA - Gonfreville Plant (33) 2 35 25 55 00
North America: CHEMTREC (800) 424-9300 or (703) 527-3887
South America: Chevron Oronite Brasil Ltda (24 hours) 55 11 4478-1200

Health Emergency

USA: International collect calls accepted. (800) 231-0623 or (510) 231-0623

Product Information

MSDS Requests: (877) 512-7200
Technical Information: (877) 512-7200
Product Compliance: (510) 242-4434

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SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

| COMPONENTS | CAS NUMBER | AMOUNT |
|--|--------------|-----------|
| Highly refined mineral oil (C15 - C50) | Mixture | 35 %wt/wt |
| 01154100-5219P | Trade secret | 12 %wt/wt |
| 01154100-5165P | Trade secret | 9 %wt/wt |
| 01154100-5046P | Trade secret | 5 %wt/wt |
| 01154100-5063P | Trade secret | 5 %wt/wt |
| 01154100-5086P | Trade secret | 4 %wt/wt |
| Kerosine | 8008-20-6 | 2 %wt/wt |
| Triphenyl phosphate | 115-86-6 | 1 %wt/wt |

Note that the chemical identity of some or all of the above components is considered confidential business information and is being withheld as permitted by 29 CFR 1910.1200 and various State Right-To-Know Laws.

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

- MAY BE HARMFUL OR FATAL IF SWALLOWED
- MAY BE HARMFUL OR FATAL IF INHALED
- CAUSES EYE IRRITATION
- MAY CAUSE AN ALLERGIC SKIN REACTION
- CAUSES SKIN IRRITATION
- MAY BE HARMFUL IN CONTACT WITH SKIN
- CONTAINS MATERIAL THAT MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS BASED ON ANIMAL DATA
- TOXIC TO AQUATIC ORGANISMS

IMMEDIATE HEALTH EFFECTS

Eye: Contact with the eyes causes irritation. Symptoms may include pain, tearing, reddening, swelling and impaired vision. If this material is heated, thermal burns may result from eye contact.

Skin: May be harmful in contact with skin. Contact with the skin causes irritation. Contact with the skin may cause an allergic skin reaction. Symptoms may include pain, itching, discoloration, swelling, and blistering. If this material is heated, thermal burns may result from skin contact.

Ingestion: Toxic; may be harmful or fatal if swallowed. May be irritating to mouth, throat, and stomach. Symptoms may include pain, nausea, vomiting, and diarrhea.

Inhalation: Toxic; may be harmful or fatal 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.

DELAYED OR OTHER HEALTH EFFECTS:

Reproduction and Birth Defects: Contains material that may cause adverse reproductive effects if swallowed based on animal data.

Target Organs: Contains material that may cause damage to the following organ(s) following repeated ingestion based on animal data: Liver Nervous System

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

SECTION 4 FIRST AID MEASURES

Eye: Flush eyes with water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get medical attention if irritation persists. If heated material should splash into eyes, flush eyes immediately with fresh water for 15 minutes while holding the eyelids open. Remove contact lenses, if worn. Get immediate medical attention.

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, apply a waterless hand cleaner, mineral oil, or petroleum jelly. Then wash with soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse. If the hot material gets on skin, quickly cool in water. See a doctor for extensive burns. Do not try to peel the solidified material from the skin, or use solvents or thinners to dissolve it. The use of vegetable oil or mineral oil is recommended for removal of this material from the skin.

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.

SECTION 5 FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:

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

NFPA RATINGS: Health: 2 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:

Flashpoint: (Cleveland Open Cup) 130 °C (266 °F) Minimum

Autoignition: No Data Available

Flammability (Explosive) Limits (% by volume in air): Lower: No data available Upper: No data available

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. Combustion may form oxides of: Phosphorus, Sulfur, Nitrogen, Calcium .

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. If heated material is spilled, allow it to cool before proceeding with disposal methods.

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 get in eyes, on skin, or on clothing. Avoid contact of heated material with eyes, skin, and clothing. Do not taste or swallow. Wash thoroughly after handling.

General Handling Information: The maximum handling temperature is 85°C.

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: The maximum long-term (> 2 weeks) storage temperature is 45°C. The maximum short-term (< 2 weeks) storage temperature is 66°C.

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: Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted. If this material is heated, wear chemical goggles or safety glasses or a face shield.

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: Nitrile Rubber, Silver Shield, Viton. If this material is heated, wear insulated clothing to prevent skin contact if engineering controls or work practices are not adequate to prevent skin contact.

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, Dusts and Mists.

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.

Occupational Exposure Limits:

| Component | Agency | TWA | STEL | Ceiling | Notation |
|--|----------|-----------|------------|---------|------------------------------------|
| 01154100-5063P | ACGIH | 2 mg/m3 | -- | -- | -- |
| 01154100-5063P | OSHA Z-1 | 5 mg/m3 | -- | -- | -- |
| Highly refined mineral oil (C15 - C50) | ACGIH | 5 mg/m3 | 10 mg/m3 | -- | -- |
| Highly refined mineral oil (C15 - C50) | OSHA Z-1 | 5 mg/m3 | -- | -- | -- |
| Kerosine | ACGIH | 200 mg/m3 | -- | -- | Skin A3 Total hydrocarbon vapor |
| Kerosine | CVX | -- | 1000 mg/m3 | -- | -- |
| Triphenyl phosphate | ACGIH | 3 mg/m3 | -- | -- | -- |
| Triphenyl phosphate | OSHA Z-1 | 3 mg/m3 | -- | -- | -- |

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

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

Color: Brown

Physical State: Liquid

Odor: Petroleum odor

pH: Not Applicable

Vapor Pressure: 0.0001 torr (Estimated) @ 20 °C (68 °F)

Vapor Density (Air = 1): No data available

Boiling Point: No Data Available

Solubility: Insoluble in water.

Freezing Point: No Data Available

Specific Gravity: 0.9963 @ 15.6°C (60°F)

Density: 0.9957 kg/l @ 15°C (59°F)

Viscosity: 90 cSt @ 40°C (104°F)

Coefficient of Therm. Expansion / °F: 0.00038

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.

Conditions to Avoid: Do not heat above flash point.

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

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS

Eye Irritation: The eye irritation hazard is based on an evaluation of the data for the 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: 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).

This product contains kerosene. CONCAWE (product dossier 94/106) has summarized current health, safety and environmental data available for a number of kerosenes (typically straight-run kerosene, CAS

8008-20-6, or hydrodesulfurized kerosene, CAS 64742-81-0). ACUTE/SUBCHRONIC: Following acute exposure to kerosene, signs observed in rats and rabbits were of a low order of toxicity: central nervous system depression occurred following oral exposure, skin irritation (ranging from slight to severe irritation) occurred with dermal exposure, and respiratory tract irritation occurred with inhalation exposure. None of the kerosenes tested produced more than slight eye irritation and none were skin sensitizers. However, intratracheal administration or artificial aspiration of small volumes (0.1 to 0.2 ml) of kerosene into the lungs of rats, chickens and primates resulted in lung damage and/or death. In a study in which rats, mice, rabbits and cats were exposed to kerosene aerosol concentrations in the range 0.05 to 120 mg/l for up to four weeks, reductions in respiratory rate, pulmonary hyperaemia, leucocytosis, monocytosis and decreased erythrocyte sedimentation rate were observed, and histological examination revealed inflammatory changes in the respiratory tract (tracheitis, bronchitis and pneumonia).

CANCER: Chronic (3 to 24 months) mouse dermal toxicity studies of kerosenes and jet fuels produced mild to moderate skin irritation, while long-term (2+ years) studies showed moderate to severe skin damage as well as an increased incidence of tumors after long latency periods (probably due to a secondary mechanism related to skin irritancy). DEVELOPMENTAL/REPRODUCTION: Hydrodesulfurized kerosene was tested by the Petroleum Product Stewardship Council in a OECD Guideline 421

Reproductive/Developmental Toxicity Study. The kerosene sample was diluted to 494 (60%), 330 (40%), and 165 (20%) mg/kg/day in food grade mineral oil and applied daily during pre-mating and mating to day 19 of gestation. There was no apparent maternal, reproductive, or developmental toxicity at any dose. Males treated for eight weeks had increased relative kidney weights in the high dose group but no microscopic changes in testes or epididymides. No gross anomalies were observed in the pups.

This product contains triarylphosphates that caused reduction in fertility and adverse effects on reproductive organs in an OECD Guideline 422 gavage study in rats.

Component: Alkaryl phosphate. Subchronic Toxicity: Causes organophosphate-induced delayed neurotoxicity following oral administration to hens for 90 days. LOEL =90 mg/kg/day. NOEL =20 mg/kg/day.

Component: Alkaryl polyether. In a 14-day toxicity study, female rabbits were administered a single dermal application of 0, 250, 5000, or 1000 mg test material per kg body weight. The animals were exposed for 24 hours (occluded). Moderate to severe skin irritation and evidence of systemic toxicity (decreased food consumption and body weight) occurred at doses equal to or above 250 mg/kg. Tracheal and lung lesions were obvious after one day and become more severe within 3 days after dermal application. The tracheal and lung lesions appeared to be the direct result of aspiration of food material, rather than a direct effect of alkaryl polyether on the lung. In a rat study, this component caused lung injury when deposited as a liquid directly into the lung.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is expected to be toxic to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

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. 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.

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: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIPHENYL PHOSPHATES), 9, UN3082, III, MARINE POLLUTANT

IMO/MDG Shipping Description: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIPHENYL PHOSPHATES), 9, UN3082, III, MARINE POLLUTANT

ICAO/IATA Shipping Description: NON-BULK PACKAGES OF THIS MATERIAL ARE NOT REGULATED AS DANGEROUS GOODS FOR AIR TRANSPORT UNDER ICAO

SECTION 15 REGULATORY INFORMATION

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

REGULATORY LISTS SEARCHED:

| | |
|---------------------|----------------------|
| 01-1=IARC Group 1 | 03=EPCRA 313 |
| 01-2A=IARC Group 2A | 04=CA Proposition 65 |
| 01-2B=IARC Group 2B | 05=MA RTK |
| 02=NTP Carcinogen | 06=NJ RTK |
| | 07=PA RTK |

The following components of this material are found on the regulatory lists indicated.

| | |
|---------------------|------------|
| 01154100-5063P | 05, 06, 07 |
| Kerosine | 05, 06, 07 |
| Triphenyl phosphate | 05, 06, 07 |

CHEMICAL INVENTORIES:

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

One or more components has been notified but may not be listed in the following chemical inventories: AICS (Australia), ENCS (Japan). Secondary notification by the importer may be required.

One or more components does not comply with the following chemical inventory requirements: PICCS (Philippines).

WHMIS CLASSIFICATION:

Class D, Division 1, Subdivision B: Toxic Material -
Acute Lethality
Class D, Division 2, Subdivision A: Very Toxic Material -
Reproductive Toxicity
Class D, Division 2, Subdivision B: Toxic Material -
Skin or Eye Irritation
Skin Sensitization

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 2 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:

Oronite Label Code : S6.

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 1, 2, 3, 11, 15, 16.

Revision Date: August 08, 2006

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.