Section 1: IDENTIFICATION

Product Name:	Cutter Stock G
Synonyms:	Cutter G; 0401.
Product Use:	A solvent used in the production of asphalt emulsions.
Restrictions on Use:	Not available.
Manufacturer/Supplier:	Husky Oil Marketing Company PO Box 6525 Station 'D' Calgary, Alberta T2P 3G7
Phone Number:	403-298-6111
Emergency Phone:	403-262-2111
Date of Preparation of SDS:	February 8, 2016

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification:
Flammable Liquids, Category 4
Skin Irritation, Category 2
Eye Irritation, Category 2B
Carcinogenicity, Category 1B
Aspiration Hazard, Category 1

LABEL ELEMENTS

Hazard Pictogram(s):

Signal Word: Danger

Hazard Statements:
Combustible liquid.
Causes skin irritation.
Causes eye irritation.
May cause cancer.
May be fatal if swallowed and enters airways.

Precautionary Statements

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
Wash thoroughly after handling.
Wear protective gloves, protective clothing and eye protection.

Response:
If swallowed: Immediately call a poison center or doctor.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If exposed or concerned: Get medical advice/attention.
Do NOT induce vomiting.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
In case of fire: Use dry chemical, CO2, water spray or regular foam to extinguish.

Storage: Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal: Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: 60% of this product mixture consists of ingredient(s) of unknown acute toxicity.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations, 2015.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Kerosine (petroleum)	Kerosene	8008-20-6	40 - 70
Gas oils (petroleum), straight-run, high-boiling	Not available.	68915-97-9	30 - 60
Polycyclic Aromatic Hydrocarbons	Not available.	130498-29-2	variable
Benzene	Not available.	71-43-2	Trace
Benzene, dimethyl-	Xylene	1330-20-7	Trace
Hydrogen sulfide (H2S)	Hydrogen sulphide	7783-06-4	Trace

Section 4: FIRST-AID MEASURES

Inhalation: If inhaled: Call a poison center or doctor if you feel unwell.

Acute and delayed symptoms and effects: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. This product may contain small amounts of Hydrogen sulphide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within 1 to 4 hours of continuous exposure. At 500 ppm the respiratory system is paralyzed, the victim collapses almost instantaneously, and death can occur after exposure of only 30 to 60

minutes. Above 500 ppm Hydrogen sulphide may cause immediate loss of consciousness; death is rapid, and possibly immediate.

Eye Contact: If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Acute and delayed symptoms and effects: Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Acute and delayed symptoms and effects: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Ingestion: If swallowed: Do NOT induce vomiting. Immediately call a poison center or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person.

Acute and delayed symptoms and effects: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately. For inhalation of Hydrogen Sulphide, consider oxygen.

Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Combustible liquid. Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. When heated, this material may evolve toxic and flammable Hydrogen sulphide.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.
Sensitivity to Static Discharge: This material is sensitive to static discharge at temperatures

at or above the flash point.

MEANS OF EXTINCTION

Suitable Extinguishing Media:	Small Fire: Dry chemical, CO2, water spray or regular foam. Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.
Unsuitable Extinguishing Media:	Do not spray water onto burning product as this may cause spattering and spreading of the flame.
Products of Combustion:	Oxides of carbon. Oxides of sulphur. Oxides of nitrogen. Aldehydes.
Protection of Firefighters:	Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control or dilution water may cause pollution. Hydrogen sulphide is heavier than air and may collect in low lying areas and confined spaces. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
Personal Precautions:	Do not touch or walk through spilled material. Use personal protection recommended in Section 8.
Environmental Precautions:	Keep out of drains, sewers, ditches, and waterways.
Methods for Containment:	Stop leak if without risk. Contain spill and absorb with inert absorbent. Large pools may be covered with foam to prevent vapour evolution.
Methods for Clean-Up:	Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Large spills should be removed with explosion proof vacuum equipment.
Other Information:	See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling:
Do not swallow. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, and hot surfaces. – No smoking. Wash thoroughly after handling. See Section 8 for information on Personal Protective Equipment.

Storage:
Store in a well-ventilated place. Keep cool. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children. Head spaces in storage containers may contain toxic Hydrogen sulphide gas. Structural materials and lighting and ventilation systems should be corrosion resistant.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines
Component

Kerosene [CAS No. 8008-20-6]
- **ACGIH:** 200 mg/m³ (TWA); Skin; A3; Application restricted to conditions in which there are negligible aerosol exposures (2003)
- **OSHA:** No PEL established.

Gas oils (petroleum), straight-run, high-boiling [CAS No. 68915-97-9]
- **ACGIH:** A2; Exposure by all routes should be carefully controlled to levels as low as possible (2009); For Mineral oil, excluding metal working fluids; Poorly and mildly refined
- **OSHA:** 5 mg/m³ (TWA); For Oil mist, mineral.

Polycyclic Aromatic Hydrocarbons [CAS No. 130498-29-2]
- **ACGIH:** A2; BEI; Exposure by all routes should be carefully controlled to levels as low as possible (1990); For Benz[a]anthracene
- **OSHA:** 0.2 mg/m³ (TWA); For benzene-soluble fraction.

Benzene [CAS No. 71-43-2]
- **ACGIH:** 0.5 ppm (TWA); 2.5 ppm (STEL); Skin; A1; BEI (1996)
- **OSHA:** 1 ppm (TWA); 5 ppm (STEL);

Xylene [CAS No. 1330-20-7]
- **ACGIH:** 100 ppm (TWA); 150 ppm (STEL); A4; BEI (1992)
- **OSHA:** 100 ppm (TWA), 435 mg/m³ (TWA);
  150 ppm (STEL) [Vacated];

Hydrogen sulphide [CAS No. 7783-06-4]
- **ACGIH:** 1 ppm (TWA); 5 ppm (STEL); (2009)
- **OSHA:** 20 ppm (C); 50 ppm (Peak) (Maximum duration: 10 mins. once only if no other meas. exp. occurs.)
  10 ppm (TWA); 15 ppm (STEL) [Vacated];

PEL: Permissible Exposure Limit
TWA: Time-Weighted Average
STEL: Short-Term Exposure Limit
C: Ceiling

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits. Use explosion-proof electrical, ventilating, and lighting equipment.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye/Face Protection:	Wear safety glasses. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.
Hand Protection:	Wear protective gloves. Consult manufacturer specifications for further information.
Skin and Body Protection:	Wear protective clothing. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20 standards is recommended in areas where material is stored or handled.
Respiratory Protection:	If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with organic vapor cartridge, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
General Hygiene Considerations:	Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear amber liquid.
Colour:	Amber.
Odour:	Petroleum.
Odour Threshold:	Not available.
Physical State:	Liquid.
pH:	Not available.
Melting Point / Freezing Point:	Not available.
Initial Boiling Point:	Not available.
Boiling Range:	> 190 °C (374 °F)
Flash Point:	77 °C (170.6 °F) (PMCC)

Evaporation Rate:	Not available.
Flammability (solid, gas):	Not applicable.
Lower Flammability Limit:	0.7 % (Kerosene)
Upper Flammability Limit:	5 % (Kerosene)
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Relative Density:	0.8684 (Water = 1)
Solubilities:	Insoluble in water.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	210 °C (410 °F) (Kerosene)
Decomposition Temperature:	Not available.
Viscosity:	Not available.
Percent Volatile, wt. %:	Not available.
VOC content, wt. %:	Not available.
Density:	Not available.
Coefficient of Water/Oil Distribution:	Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Chemical Stability:	Stable under normal storage conditions.
Possibility of Hazardous Reactions:	None known.
Conditions to Avoid:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Incompatible Materials:	Strong acids. Strong oxidizers. Halogens.

Hazardous Decomposition Products: Not available.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral:	Not available.
Dermal:	Not available.
Inhalation:	Not available.

Component Toxicity

Component	CAS No.	LD_{50} oral	LD_{50} dermal	LC_{50}
Kerosene	8008-20-6	> 2835 mg/kg (rabbit)	> 2000 mg/kg (rabbit)	> 5000 mg/m³ (rat); 4H
Gas oils (petroleum), straight-run, high-boiling	68915-97-9	Not available.	Not available.	Not available.
Polycyclic Aromatic Hydrocarbons	130498-29-2	Not available.	Not available.	Not available.
Benzene	71-43-2	930 mg/kg (rat)	> 9400 µL/kg (rabbit)	10000 ppm (rat); 7H
Xylene	1330-20-7	4300 mg/kg (rat)	> 1700 mg/kg (rabbit)	5000 ppm (rat); 4H
Hydrogen sulphide	7783-06-4	Not available.	Not available.	444 ppm (rat); 4H

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Cardiovascular system. Bone marrow. Liver. Central nervous system.

Symptoms (including delayed and immediate effects)

Inhalation: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. This product may contain small amounts of Hydrogen sulphide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within 1 to 4 hours of continuous exposure. At 500 ppm the respiratory system is paralyzed, the victim collapses almost instantaneously, and death can occur after exposure of only 30 to 60 minutes. Above 500 ppm Hydrogen sulphide may cause immediate loss of consciousness; death is rapid, and possibly immediate.

Eye: Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Ingestion: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Cardiovascular system. Bone marrow. Liver. Kidneys. Central nervous system.

Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation. This product contains Polycyclic Aromatic Hydrocarbons. Prolonged contact with these compounds has been associated with the induction of skin and lung tumours, anemia, disorders of the liver, bone marrow and lymphoid tissues. Reports of chronic poisoning with Benzene or Xylene describe anemia, decreased blood cell count and bone marrow hypoplasia. Liver and kidney damage may occur. Repeated exposure of the eyes to high concentrations of Xylenes vapour may cause reversible eye damage. Chronic inhalation exposure to xylene causes mid-frequency hearing loss in laboratory animals. Xylene reacts synergistically with n-hexane to enhance hearing loss. Immunodepressive effects have also been reported for Benzene. Hydrogen sulphide may reduce lung function; cause neurological effects such as headaches, nausea, depression and personality changes; eye and mucous membrane irritation; and damage to cardiovascular system.

Carcinogenicity: May cause cancer. Straight run Kerosene has shown the potential to cause skin cancer in laboratory animals when applied over the life time of the animal. Chronic exposure to benzene has been associated with an increased incidence of leukemia and multiple myeloma (tumour composed of cells of the type normally found in the bone marrow).

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Kerosene	A3	Not listed.	Not listed.	Not listed.	Not listed.
Gas oils (petroleum), straight-run, high-boiling	A2	Group 1	List 1	OSHA Carcinogen.	Listed.
Polycyclic Aromatic Hydrocarbons	A2	Not listed.	List 2	OSHA Carcinogen.	Listed.
Benzene	A1	Group 1	List 1	OSHA Carcinogen.	Listed.
Xylene	A4	Group 3	Not listed.	Not listed.	Not listed.

Mutagenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Benzene and Xylene have caused adverse fetal effects in laboratory animals.

Toxicologically Synergistic Materials: Xylene reacts synergistically with n-hexane to enhance hearing loss.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

Persistence / Degradability: Not available.

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: NA1993, COMBUSTIBLE LIQUIDS, N.O.S. (Kerosene), Combustible liquid, PG III

Class: Combustible liquid

UN Number: NA1993

Packing Group: III

Label Code:

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: Not regulated.

Class: Not applicable.

UN Number: Not applicable.

Packing Group: Not applicable.

Label Code: Not applicable.

Section 15: REGULATORY INFORMATION

Chemical Inventories

US (TSCA)
The components of this product are in compliance with the chemical notification requirements of TSCA.

Canada (DSL)
The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

Federal Regulations

United States

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Polycyclic Aromatic Hydrocarbons	Not listed.	Not listed.	Not listed.	313	Not listed.	Not listed.
Benzene	Not listed.	Not listed.	10	313	U019	Not listed.
Xylene	Not listed.	Not listed.	100	313	U239	Not listed.
Hydrogen sulphide	500	100	100	313	U135	10000

State Regulations

Massachusetts

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
Kerosene	8008-20-6	Listed.
Gas oils (petroleum), straight-run, high-boiling	68915-97-9	Listed.
Polycyclic Aromatic Hydrocarbons	130498-29-2	Listed.
Benzene	71-43-2	E
Xylene	1330-20-7	Listed.
Hydrogen sulphide	7783-06-4	E

Note: E = Extraordinarily Hazardous Substance

New Jersey

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
Kerosene	8008-20-6	Listed.
Gas oils (petroleum), straight-run, high-boiling	68915-97-9	SHHS
Benzene	71-43-2	SHHS
Xylene	1330-20-7	SHHS
Hydrogen sulphide	7783-06-4	SHHS

Note: SHHS = Special Health Hazard Substance

Pennsylvania

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
Kerosene	8008-20-6	Listed.
Gas oils (petroleum), straight-run, high-boiling	68915-97-9	S
Polycyclic Aromatic Hydrocarbons	130498-29-2	Listed.
Benzene	71-43-2	ES
Xylene	1330-20-7	E
Hydrogen sulphide	7783-06-4	E

Note: E = Environmental Hazard; S = Special Hazardous Substance

California

California Prop 65: WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Component	Type of Toxicity
Gas oils (petroleum), straight-run, high-boiling	cancer
Polycyclic Aromatic Hydrocarbons	cancer
Benzene	cancer; developmental, male

Section 16: OTHER INFORMATION

Disclaimer:

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for his own particular use.

Date of Preparation of SDS: February 8, 2016

Version: 2.2

GHS SDS Prepared by: **Deerfoot Consulting Inc.**

Phone: (403) 720-3700