



Section 1: IDENTIFICATION

Product Name: Atmospheric Gas Oil
Synonyms: AGO; Straight Run Gas Oil; 0397-1; CASRN 68915-97-9.
Product Use: Diluent for speciality asphalt products.
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: May 12, 2016

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification: Skin Irritation, Category 2
Eye Irritation, Category 2B
Germ Cell Mutagenicity, Category 1B
Carcinogenicity, Category 1A
Aspiration Hazard, Category 1

LABEL ELEMENTS

Hazard

Pictogram(s):



Signal Word: Danger

Hazard Statements: Causes skin irritation.
Causes eye irritation.
May cause genetic defects.
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.
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: Wash with plenty of soap and water.
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.
Take off contaminated clothing and wash it before reuse.

Storage: 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: 100% 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.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Gas oils (petroleum), straight-run, high-boiling	Not available.	68915-97-9	100
Benzene	Not available.	71-43-2	variable
Polycyclic Aromatic Hydrocarbons	Not available.	130498-29-2	variable
Hydrogen sulfide (H ₂ S)	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. 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: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it 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

Not flammable or combustible by OSHA/WHMIS criteria. When heated, this material may evolve toxic and flammable Hydrogen sulphide.

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: Not available.

Products of Combustion: Oxides of carbon. Oxides of sulphur. Oxides of nitrogen. Aldehydes.

Protection of Firefighters: Fire may produce irritating, corrosive and/or toxic gases. 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. Don full-face, positive pressure, self-contained breathing apparatus.
- Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.
- Methods for Containment:** Stop leak if without risk. Do not flush to sewer or allow to enter waterways.
- Methods for Clean-Up:** Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- 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. Wash thoroughly after handling. See Section 8 for information on Personal Protective Equipment.

Storage:

Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children. Hydrogen sulphide may accumulate in tanks during long term storage at high temperatures. For this reason, tank vapour spaces should be regarded as hazardous. 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

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.

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);



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.

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]

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.

PERSONAL PROTECTIVE EQUIPMENT (PPE)



Eye/Face Protection:

Wear chemical safety goggles. 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. Neoprene or nitrile material is suggested. Consult manufacturer specifications for further information.

Skin and Body Protection:

Wear protective clothing.

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, 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:	Light blue-green coloured liquid.
Colour:	Light blue-green.
Odour:	Petroleum.
Odour Threshold:	Not available.
Physical State:	Liquid.
pH:	Not available.
Melting Point / Freezing Point:	-24 °C (-11.2 °F)
Initial Boiling Point:	Not available.
Boiling Range:	> 230 °C (446 °F)
Flash Point:	> 93 °C (199.4 °F) (PMCC)
Evaporation Rate:	Low.
Flammability (solid, gas):	Not applicable.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Relative Density:	0.8889 (Water = 1)
Solubilities:	Insoluble in water.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Viscosity:	Not available.
Percent Volatile, wt. %:	Non-volatile.
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
Gas oils (petroleum), straight-run, high-boiling	68915-97-9	Not available.	Not available.	Not available.
Benzene	71-43-2	930 mg/kg (rat)	> 9400 µL/kg (rabbit)	10000 ppm (rat); 7H
Polycyclic Aromatic Hydrocarbons	130498-29-2	Not available.	Not available.	Not available.
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. 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. Central nervous system.

Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation. Long term inhalation of Benzene vapours can result in bone marrow abnormalities with damage to blood forming tissues and may cause anemia and other blood cell abnormalities. Immunodepressive effects have also been reported. 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. 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. 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
Gas oils (petroleum), straight-run, high-boiling	A2	Group 1	List 1	OSHA Carcinogen.	Listed.
Benzene	A1	Group 1	List 1	OSHA Carcinogen.	Listed.
Polycyclic Aromatic Hydrocarbons	A2	Not listed.	List 2	OSHA Carcinogen.	Listed.

Mutagenicity: May cause genetic defects.

Reproductive Effects: Not available.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Benzene has caused adverse fetal effects in laboratory animals.



Husky Energy

SAFETY DATA SHEET

Atmospheric Gas Oil

Date of Preparation: May 12, 2016

Toxicologically Synergistic Materials: Not available.

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: Not regulated.
Class: Not applicable.
UN Number: Not applicable.
Packing Group: Not applicable.
Label Code: Not applicable.

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.)
Benzene	Not listed.	Not listed.	10	313	U019	Not listed.
Polycyclic Aromatic Hydrocarbons	Not listed.	Not listed.	Not listed.	313	Not listed.	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
Gas oils (petroleum), straight-run, high-boiling	68915-97-9	Listed.
Benzene	71-43-2	E
Polycyclic Aromatic Hydrocarbons	130498-29-2	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
Gas oils (petroleum), straight-run, high-boiling	68915-97-9	SHHS
Benzene	71-43-2	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
Gas oils (petroleum), straight-run, high-boiling	68915-97-9	S
Benzene	71-43-2	ES
Polycyclic Aromatic Hydrocarbons	130498-29-2	Listed.
Hydrogen sulphide	7783-06-4	E

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



Husky Energy

SAFETY DATA SHEET

Atmospheric Gas Oil

Date of Preparation: May 12, 2016

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

Gas oils (petroleum), straight-run, high-boiling

Benzene

Polycyclic Aromatic Hydrocarbons

Type of Toxicity

cancer

cancer; developmental, male

cancer

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: May 12, 2016

Version: 2.2

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

Phone: (403) 720-3700