



Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Solvent A

Synonyms: Solvent; Cutter Stock "A"; 0399-0; CASRN 8008-20-6.

Product Use: Used in specialty asphalt product manufacture.

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: March 19, 2012

Section 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER
 FLAMMABLE LIQUID AND VAPOR. HARMFUL OR FATAL
 IF SWALLOWED. CAN ENTER LUNGS AND CAUSE
 DAMAGE. IRRITATING TO SKIN.

Colour: Clear to light blue.
Physical State: Liquid.
Odour: Petroleum.

WHMIS	Personal Protection Equipment	TDG (Ground)
		

Potential Health Effects: See Section 11 for more information.

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

Eye: May be irritating to eyes. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hydrogen sulphide may cause eye irritation at 1-20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H₂S, eye irritation may include symptoms of redness, severe swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

Skin: Irritating to skin. Signs/symptoms may include localized redness, swelling, and itching.

Ingestion: Harmful or fatal: may cause lung damage if swallowed. Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Inhalation: May cause respiratory tract irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause headache, dizziness, confusion, loss of appetite and loss of consciousness. Hydrogen sulphide may cause symptoms such as digestive upset and loss of appetite, loss of sense of smell and pulmonary edema. At 500-1000 ppm Hydrogen sulphide may cause respiratory paralysis, collapse and death without rescue.



Chronic Effects: See Section 11 for more information.

Medical Conditions Aggravated By Exposure: Not available.

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Cardiovascular system. Bone marrow. Nervous system.

Potential Environmental Effects: See Section 12 for more information.

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

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No.	Wt. %
Kerosine (petroleum)	8008-20-6	60 - 100

Section 4: FIRST AID MEASURES

- Eye Contact:** Flush eyes with plenty of water for at least 15 minutes. If signs/symptoms persist, get medical attention.
- Skin Contact:** Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. If signs/symptoms develop, get medical attention.
- Ingestion:** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Inhalation:** Remove person to fresh air. If breathing has stopped apply artificial respiration. If signs/symptoms develop, get medical attention.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or MSDS where possible).
- Note to Physicians:** Symptoms may not appear immediately. For inhalation of Hydrogen Sulphide, consider oxygen.

Section 5: FIRE FIGHTING MEASURES

- Flammability:** Flammable liquid by WHMIS criteria. Flammable liquid by OSHA criteria. Released vapours may form flammable/explosive mixtures at or above the flash point. Vapours may travel considerable distances to ignition sources and cause a flash fire. Cool containing vessels with water jet in order to prevent pressure build-up, auto-ignition or explosion.
- Means of Extinction**
- Suitable Extinguishing Media:** Dry chemical, foam, or carbon dioxide.
- Unsuitable Extinguishing Media:** Water may not be an effective medium to extinguish fire.
- Products of Combustion:** Oxides of carbon. Oxides of sulphur. Oxides of nitrogen. Aldehydes.
- Protection of Firefighters:** Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Hydrogen sulphide is heavier than air and may collect in low lying areas and confined spaces.



Explosion Data

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 above the flash point.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Evacuate all unnecessary personnel. Stay upwind. Eliminate all ignition sources. Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. 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. Contain spill and absorb with inert absorbent. Large pools may be covered with foam to prevent vapour evolution. 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. Use clean non-sparking tools to collect absorbed material. Large spills should be removed with explosion proof vacuum equipment.

Other Information: Dispose of in accordance with all federal, provincial and local regulations. Comply with federal, provincial, and local requirements for spill and/or release notification.

Section 7: HANDLING AND STORAGE

Handling:

Do not swallow. Do not get on skin. All equipment used when handling the product must be grounded. Handle and open container with care. When using do not eat or drink. Wash hands before eating, drinking, or smoking. See Section 8 for information on Personal Protective Equipment.

Storage:

Store in cool, dry, well-ventilated area away from incompatible materials, heat, and sources of ignition. All storage containers and pumping equipment should be grounded. 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

Kerosine (petroleum)

(8008-20-6) **ACGIH:** 200 mg/m³ (TWA); Skin; A3; Application restricted to conditions in which there are negligible aerosol exposures (2003)

(8008-20-6) **OSHA:** No PEL established.

Hydrogen sulfide (H₂S)

(7783-06-4) **ACGIH:** 1 ppm (TWA); 5 ppm (STEL); (2009)

(7783-06-4) **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]



Benzene

(71-43-2) **ACGIH:** 0.5 ppm (TWA); 2.5 ppm (STEL); Skin; A1; BEI (1996)

(71-43-2) **OSHA:** 1 ppm (TWA); 5 ppm (STEL);

Xylenes

(1330-20-7) **ACGIH:** 100 ppm (TWA); 150 ppm (STEL); A4; BEI (1992)

(1330-20-7) **OSHA:** 100 ppm (TWA), 435 mg/m³ (TWA);
150 ppm (STEL) [Vacated]

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

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 ventilation equipment.

Personal Protective Equipment

Eye/Face Protection:

Wear safety glasses.

Hand Protection:

Wear impervious gloves. Neoprene or nitrile material is suggested. Consult manufacturer specifications for further information.

Skin and Body Protection:

Wear suitable protective clothing. Flame resistant clothing such as Nomex ® 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 or self-contained breathing apparatus (SCBA) should 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.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear to light blue liquid.

Colour: Clear to light blue.

Odour: Petroleum.

Odour Threshold: Not available.

Physical State: Liquid.

pH: Not available.

Viscosity: Not available.

Melting Point: Not available.



Boiling Point: 154 °C
Flash Point: 31.5 °C (PMCC)
Evaporation Rate: Not available.
Lower Flammability Limit: Not available.
Upper Flammability Limit: Not available.
Vapor Pressure: Not available.
Vapor Density: Not available.
Specific Gravity: 0.838 (Water = 1)
Density: Not available.
Solubility in Water: Insoluble.
Coefficient of Water/Oil Distribution: Not available.
Auto-ignition Temperature: Not available.
Percent Volatile, wt. %: 98 @ 294 °C
VOC content, wt. %: Not available.

Section 10: STABILITY AND REACTIVITY

Stability: Stable under normal storage conditions.
Conditions of Reactivity: Contact with incompatible materials. Sources of ignition. Exposure to heat.
Incompatible Materials: Strong acids. Strong oxidizers. Chlorine.
Hazardous Decomposition Products: Not available.
Possibility of Hazardous Reactions: None known.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Component Toxicity

Component	CAS No.	LD ₅₀ oral	LD ₅₀ dermal	LC ₅₀
Kerosine (petroleum)	8008-20-6	>2835 mg/kg, (rabbit)	>2000 mg/kg, (rabbit)	>5000 mg/m ³ , (rat), 4H
Hydrogen sulfide (H ₂ S)	7783-06-4	Not available.	Not available.	444 ppm, (rat),
Benzene	71-43-2	930 mg/kg, (rat)	>9400 µl/kg, (rabbit)	10000 ppm, (rat), 7H
Xylenes	1330-20-7	>1700 mg/kg, (rat)	4300 mg/kg, (rabbit)	5000 ppm, (rat), 4H

Eye: May be irritating to eyes. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hydrogen sulphide may cause eye irritation at 1-20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H₂S, eye irritation may include symptoms of redness, severe swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.



- Skin:** Irritating to skin. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** Harmful or fatal: may cause lung damage if swallowed. Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- Inhalation:** May cause respiratory tract irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause headache, dizziness, confusion, loss of appetite and loss of consciousness. Hydrogen sulphide may cause symptoms such as digestive upset and loss of appetite, loss of sense of smell and pulmonary edema. At 500-1000 ppm Hydrogen sulphide may cause respiratory paralysis, collapse and death without rescue.
- Skin Sensitization:** Not hazardous by OSHA/WHMIS criteria.
- Respiratory Sensitization:** Not hazardous by OSHA/WHMIS criteria.

EFFECTS OF CHRONIC EXPOSURE

- Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Cardiovascular system. Bone marrow. Nervous system.
- Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation. Hydrogen sulphide may reduce lung function; cause neurological effects such as headaches, nausea, depression and personality changes; eye and mucous membrane irritation: damage to cardiovascular system. Long term inhalation of Benzene or Xylene 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.
- Carcinogenicity:** 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
Kerosine (petroleum)	A3	Not listed.	Not listed.	Not listed.	Not listed.
Hydrogen sulfide (H ₂ S)	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.
Benzene	A1	Group 1	List 1	OSHA Carcinogen.	Listed.
Xylenes	A4	Group 3	Not listed.	Not listed.	Not listed.

- Mutagenicity:** Not hazardous by OSHA/WHMIS criteria.
- Reproductive Effects:** Not hazardous by OSHA/WHMIS criteria.
- Developmental Effects**
 - Teratogenicity:** Not hazardous by OSHA/WHMIS criteria.
 - Embryotoxicity:** Exposure to Benzene or Xylene has produced fetotoxic effects in animal studies.
- 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.

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: TRANSPORTATION INFORMATION

CFR

Proper Shipping Name: UN 1223, KEROSENE, 3, PG III
Class: 3
UN Number: 1223
Packing Group: III
Label Code:



TDG

Proper Shipping Name: UN 1223, KEROSENE, 3, PG III
Class: 3
UN Number: 1223
Packing Group: III
Label Code:



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

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification: Class B2 - Flammable Liquids.
Class D2B - Skin irritant.

Hazard Symbols:



United States

This MSDS 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.)
Kerosine (petroleum)	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.
Hydrogen sulfide (H2S)	500	100	100	313s	U135	10000
Benzene	Not listed.	Not listed.	10	313	U019	Not listed.
Xylenes	Not listed.	Not listed.	100	313	U239	Not listed.

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
Kerosine (petroleum)	8008-20-6	Listed.
Hydrogen sulfide (H2S)	7783-06-4	E
Benzene	71-43-2	E
Xylenes	1330-20-7	Listed.

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
Kerosine (petroleum)	8008-20-6	Listed.
Hydrogen sulfide (H2S)	7783-06-4	SHHS
Benzene	71-43-2	SHHS
Xylenes	1330-20-7	SHHS

Note: SHHS = Special Health Hazard Substance



Husky Energy

MATERIAL SAFETY DATA SHEET

Solvent A

Date of Preparation: March 19, 2012

Pennsylvania

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

Component	CAS No.	RTK List
Kerosine (petroleum)	8008-20-6	Listed.
Hydrogen sulfide (H ₂ S)	7783-06-4	E
Benzene	71-43-2	ES
Xylenes	1330-20-7	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
Benzene	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.

Expiry Date: March 18, 2015

Version: 1.0

MSDS Prepared by: Deerfoot Consulting Inc.

Phone: (403) 720-3700