



MATERIAL SAFETY DATA SHEET

I PRODUCT INFORMATION

PRODUCT NAME: EZ SOL
PRODUCT USE: Heavy Oil Viscosity Reducer
CHEMICAL IDENTIFICATION: Straight Run Middle Distillate
MANUFACTURER INFORMATION: ENERCHEM INTERNATIONAL INC.
450, 440-2 Ave SW Calgary, Alberta T2P 5E9
(403) 269-1500

SUPPLIER'S INFORMATION: ENERCHEM INTERNATIONAL INC.
450, 440-2 Ave SW Calgary, Alberta T2P 5E9
(403) 269-1500

EMERGENCY NUMBER – CANUTEC: (613) 996-6666

II HAZARDOUS INGREDIENTS

<u>INGREDIENT</u>	<u>CAS#</u>	<u>% (vol/vol)</u>	<u>LD50</u>	<u>LC50</u>
Straight Run Middle Distillate	64741-44-2	60-100	Rat (oral): 5,000 mg/kg Rabbit (skin): 2,000 mg/kg	Rat (inh): 1,700 mg/m ³ / 4 hr.
Ethylbenzene	100-41-4	1-5	Rat (oral): 3,500 mg/kg	Rat (inh): 4,000 ppm / 4 hr.
Toluene	108-88-3	1-5	Rat (oral): 636 mg/kg	Rat (inh): 1,000 ppm / 6 hr.
Trimethylbenzene	95-63-6	1-5	Rat (oral): 5,000 mg/kg	Rat (inh): 18,000 mg/m ³ / 4 hr.
Xylene*	1330-20-7	1-5	Rat (oral): 4,300 mg/kg	Rat (inh): 5,000 ppm / 4 hr.

*mixed isomers - contains m-Xylene, o-Xylene, p-Xylene

III PHYSICAL DATA

PHYSICAL STATE	Liquid
ODOUR and APPEARANCE	Petroleum base odour, amber to brown
ODOUR THRESHOLD	ND
REID VAPOR PRESSURE (kPa)	2.0 to 4.0
VAPOR DENSITY (AIR=1.0)	> 1.0
EVAPORATION RATE (BUTYL ACETATE = 1.0)	< 1.0
BOILING POINT (°C)	68.9 to 441+
FREEZE / POUR POINT (°C)	-30 to -35
pH	ND
SPECIFIC GRAVITY	0.775 to 0.810
COEFFICIENT of WATER / OIL DISTRIBUTION	ND
ABSOLUTE DENSITY (kg/m ³ @ 15°C)	775 to 810
KINEMATIC VISCOSITY (cSt @ 20°C)	< 5.0
ANILINE POINT (°C)	60 to 65



IV FIRE or EXPLOSION HAZARD

MEANS OF EXTINCTION:	Dry chemical, carbon dioxide, water fog, foam.
FLASHPOINT (°C, Cleveland Open Cup):	> 18
UPPER EXPLOSION LIMIT (% VOL):	ND
LOWER EXPLOSION LIMIT (% VOL):	ND
AUTO-IGNITION TEMPERATURE (°C):	ND
HAZARDOUS COMBUSTION PRODUCTS:	Oxides of carbon and products of incomplete combustion.
EXPLOSION DATA:	Flammable vapours may explode in a confined area when mixed with air.
SENSITIVITY TO STATIC DISCHARGE:	May be sensitive to static discharge when vapours are present at the lower or upper explosive limits. Ground equipment before transfer.
SPECIAL PROCEDURES:	DO NOT enter any confined area without proper protective equipment.

V REACTIVITY DATA

STABILITY:	Stable
REACTIVITY:	Hazardous polymerization will not occur.
INCOMPATIBLE MATERIALS:	Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS:	On combustion, oxides of carbon.

VI TOXICOLOGICAL PROPERTIES

SKIN CONTACT

May cause delayed skin irritation and blistering. Repeated or prolonged contact may cause defatting and dermatitis.

SKIN ADSORPTION

Extensive, prolonged or repeated contact may result in significant absorption.

EYE CONTACT

Liquid and vapours may be irritating to the eyes. This product may cause irritation, redness and pain. Not known to cause permanent injury to eye tissue. Discomfort and blurring of vision may occur.

INHALATION

May be irritating to the nose, throat and respiratory tract. High vapour concentrations can displace oxygen and cause central nervous system depression, visual disturbances, nausea, vomiting, systematic poisoning and death. Saturated vapours can be encountered in confined spaces and/or under conditions of poor ventilation.

INGESTION

May be harmful if liquid is aspirated into the lungs or swallowed. May cause irritation, a burning sensation of the mouth and throat, abdominal pain, central nervous system depression, visual disturbances, nausea and vomiting.

CHRONIC OVER EXPOSURE EFFECTS

May cause depression, dizziness, numbness, tremors, impaired memory, headaches and nausea.

EXPOSURE LIMITS

Ethylbenzene: ACGIH TLV = 100 ppm (TWA), 125 ppm (STEL); OSHA PEL = 100 ppm (TWA), 125 ppm (STEL)

Toluene: ACGIH TLV = 50 ppm (TWA skin); OSHA PEL = 100 ppm (TWA), 150 ppm (STEL)

Trimethylbenzene: ACGIH TLV = 25 ppm; NIOSH REL = 25 ppm (TWA)

Xylene: ACGIH TLV = 150 ppm (STEL); OSHA PEL = 100 ppm (TWA), 150 ppm (STEL)

Check with your local regulatory agency for the limit in effect in your area.

IRRITANCY

Liquid and vapour may cause irritation of the skin, eyes, nose, throat and respiratory system.

SENSITIZATION TO MATERIAL

No information is available.

CARCINOGENICITY, TERATOGENICITY, EMBRYOTOXICITY, REPRODUCTIVE TOXICITY and MUTAGENICITY

Ethylbenzene is listed as a Group 2B possible carcinogen by IARC. Toluene is listed as a Group 3 carcinogen by IARC (not classifiable as to carcinogenicity to humans)

TOXICOLOGICALLY SYNERGISTIC PRODUCTS

No information is available.

VII PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT

Chemical cartridge respirator with organic vapour cartridge for up to 200 ppm. For emergency or planned entry into unknown concentrations, use a self-contained breathing apparatus.

EYE/FACE PROTECTION: Chemical goggles or a facemask.

SKIN PROTECTION: Gloves, coveralls, boots, etc. as needed to prevent skin exposure.

SPECIFIC ENGINEERING CONTROLS

General ventilation is normally adequate for small-scale use at room temperature or below. Local exhaust ventilation is normally needed with large-scale use or at elevated temperatures.

LEAK AND SPILL PROCEDURES

Provide adequate ventilation, protective clothing and respirators. Remove sources of heat and flame. Absorb liquid on dry clay, sand, sawdust or other absorbent material.

WASTE DISPOSAL

Combustible wastes may be burned in an approved incineration facility. Consult local environmental authorities before disposal.

HANDLING PROCEDURES AND EQUIPMENT

Use minimal quantities in designated areas with adequate ventilation and away from sources of heat or sparks. Containers should be covered when not in use.

STORAGE REQUIREMENTS

Store in a tightly closed container in a cool area away from immediate work areas and incompatible materials. No sources of heat, flame or sparks should be present in the storage area.

EMPTY CONTAINERS

The container for this product can present an explosion or fire hazard even when empty. **DO NOT** cut, puncture or weld on or near the container. Since emptied containers retain product residue, follow label warnings even after the container has been emptied.

VIII FIRST AID MEASURES

SKIN CONTACT

Flush contaminated area with warm water for at least 15 minutes. Under running water, remove contaminated clothing, shoes and leather goods. If irritation persists, obtain medical attention.

EYE CONTACT

Immediately flush the contaminated eye(s) with warm water for at least 15 minutes. If irritation persists, obtain medical attention.

INHALATION

Remove source of contamination or remove victim to fresh air. If breathing has stopped begin artificial respiration IMMEDIATELY. Obtain medical attention IMMEDIATELY.

INGESTION

Never give anything by mouth if victim is unconscious or convulsing. Rinse mouth thoroughly with water. **DO NOT INDUCE VOMITING.** Vomiting should only be induced under the direction of a physician or a poison control centre. Have victim drink 300 mL of water to dilute material. Obtain medical attention IMMEDIATELY.

GENERAL

Provide general supportive measures (comfort, warmth, rest). Consult a doctor for all exposures except minor instances of inhalation or contact.

IX PREPARATION INFORMATION

PREPARED BY

ENERCHEM INTERNATIONAL INC. TECHNICAL SERVICES GROUP – (780) 980-1682

ORIGINAL DATE PREPARED LATEST DATE REVISED

November 21, 2003

August 12, 2009

X CLASSIFICATIONS

WHMIS

CLASS B, DIVISION 2:	Flammable Liquid
CLASS D, DIVISION 2A:	Very Toxic Material (carcinogenicity, embryotoxicity in animals)
CLASS D, DIVISION 2B:	Toxic Material (skin and eye irritant)

TDG

Proper Shipping Name:	PETROLEUM DISTILLATES, N.O.S.
UN#:	1268
Class:	3
Packing Group:	II

XI ADDITIONAL INFORMATION

MSDS PREPARATORY STATEMENT

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ABBREVIATIONS and DEFINITIONS

<	less than
>	greater than
cSt	centistokes
°C	degrees Celcius
kg	kilograms
kPa	kilopascals
mL	millilitres
m ³	cubic metres
NAP	not applicable
NAV	not available
ND	not determined
PEL	permissible exposure limit
ppm	parts per million
REL	recommended exposure limit
STEL	short term exposure limit
TLV	threshold limit values – ACGIH term used to express the airborne concentration of a material to which nearly all persons can be exposed day after day without adverse effects
TWA	time-weighted average exposure – the airborne concentration of a material to which a person is exposed when calculated as a weighted average over a period of time

REFERENCES USED

ACGIH	American Conference of Governmental Industrial Hygienists (US)
CANUTEC	Canadian Transport Emergency Centre
CAS	Chemical Abstracts Service
CPR	Controlled Products Regulations
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health (US)
NTP	National Toxicology Program (US)
OSHA	Occupational Safety and Health Administration (US)
RTECS	The Registry of Toxic Effects of Chemical Substances
TDG	Transportation of Dangerous Goods
WHMIS	Workplace Hazardous Materials Information System ∞