Carvern Petrochemical Co. Ltd., 833 Helena Street, Fort Erie, Ontario, L2A 5N1

MSDS Number: LA1550 Version: 2

1. Product Information

Material Name	:	**Unicat4 Combustion Catalyst**
WHMIS CODE	:	B.2 D.2B
Chemical Name / Synonyms	:	Xylene CAS number 001330207
Company	:	The Green Solutions Trading Company Ltd. Grange Offices Burgh on Bain Market Rasen Lincolnshire LN8 6LA
MSDS Request	:	+44 (0) 8703 831219
Customer Service	:	+44 (0) 8703 831219

Emergency Telephone Numbers:

Green Solutions (24 hr)	:	+44 (0) 8703 831219
Carvern Petrochemical International (24 hr)	:	+1 (905) 8712844

TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME	:	XYLENE
CLASSIFICATION	:	TGD CLASS 3
PIN	:	UN1307 PACKING GROUP III
CLASSIFICATION	:	WHMIS CLASS B-3: Flammable liquid with a flashpoint lower than 37.8°C (100°F) WHMIS CLASS D-2B: Material causing other toxic effects

2. HAZARDOUS INGREDIENTS

Chemical Name		**CAS Number**	**Concentration**
Xylene	:	001330207	92.00%
ORAL (LD50)	:	Acute: 4300mg/kg (Rat)	
DERMAL (LD50)	:	Acute: >2000mg/kg (Rabbit)	
VAPOUR (LC50)	:	Acute: 6700ppm 4 Hours (Rat)	
		CAS Number	
N-Butanol	:	71-36-3 Acute: 2510mg/kg (Rat Acute: 5300mg/kg (Rabbit) Acute: 8000ppm 4 Hours (Rat)	7.98%
		CAS Number	
Iron (2+) salt	:	14866-25-2	0.02%

3. PHYSICAL PROPERTIES

The following physical data are approximate only and do not represent specification values. They should only be used in the context of this Material Safety Data Sheet

Physical State	:	Liquid
Appearance and Odour	:	Green Aromatic Sweet
Boiling Point °C	:	138.5°C (281.3°F)
Specific Gravity (°C)	:	0.867 (Water = 1)
Solubility	:	Very slightly soluble in cold water
Evaporation Rate	:	0.7 (Butyl acetate = 1)
Vapour Density	:	3.66 (Air = 1)
Vapour Pressure	:	6mm of Hg (@ 20°C
Health Hazards	:	Vapours may cause drowsiness and dizziness. Irritating to skin. Harmful: may cause lung damage if swallowed.
Safety Hazards	:	Flammable. Vapours are heavier than air. Vapours may travel across the ground and reach remote ignition sources causing a flashback fire danger. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.
Environmental Hazards	:	Toxic to aquatic organisms.

4. FIRE AND EXPLOSION HAZARDS

Flash Point	:	Closed Cup: 27°C (80°F). Open Cup: 38°C (100°F)
Flammable Limits (% in Air)	:	Lower 1% Upper 7%
Auto-ignition Temp.	:	505°C
Flammable Classification	:	Flammable
	:	
Extinguishing Media	:	Flammable liquid, very slightly soluble in cold water.
	:	
SMALL FIRE	:	Use DRY chemicals, CO2, alcohol foam or water spray.
LARGE FIRE	:	Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, auto-ignition or explosion.
Fire Fighting Procedures	:	Wear MSHA/NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.
Explosive Hazard	:	Risks of explosion of the product in presence of mechanical impact: Not available. Explosive in presence of oxidizing materials.

5. REACTIVITY

Level of Stability	:	This product is stable
Conditions to Avoid	:	No additional remarks
Incompatibility	:	Reactive with oxidizing agents, acids
Hazardous Decomposition Products	:	Not Available
Hazardous Polymerisation	:	No

6. TOXICOLOGICAL PROPERTIES

Threshold Limit Value	:	TWA: 100 TWA: 435 Consult local authorities for acceptable exposure limits.
Effects of Exposure	:	Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.
CARCINOGENIC EFFECTS	:	Not available
MUTAGENIC EFFECTS	:	Not available
TERAGENIC EFFECTS	:	Not available
Developmental Toxicity	:	There is no known effect from chronic exposure to this product. Repeated or prolonged exposure is not known to aggravate medical condition.
Toxicologically	:	Not available
Other Health Hazards	:	Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

7. EMERGENCY FIRST AID

General Information	:	Keep victim calm. Obtain medical treatment immediately.
EYES	:	Check for and remove any contact tenses. Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Seek medical attention. **NO NOT USE** an eye ointment.
SKIN CONTACT **Slight, Chronic**	:	Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by gently washing with water and non-abrasive soap if available. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash with a disinfectant soap and cover contaminated skin with an anti-bacterial cream. **Seek medical attention**. Wash contaminated clothing before reusing.
INHALATION **Slight**	:	DO NOT DELAY. Remove casualty to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment. Allow the casualty to rest in a well-ventilated area. **Seek immediate medical attention**.
Chronic	:	Evacuate the casualty to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the casualty is not breathing, perform mouth-to-mouth resuscitation. **Seek immediate medical attention**.
INGESTION **Slight, Chronic**	:	**DO NOT** induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Loosen tight clothing such as a collar, tie, belt or waistband If the victim it not breathing, perform mouth-to-mouth resuscitation. **Seek immediate medical attention**.

8. PREVENTATIVE MEASURES

Personal Protective Equipment	:	Splash goggles. Lab coat. Vapour respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Gloves. Wear appropriate respirator when ventilation is inadequate.
Steps to be taken if material is spilled or released	:	Absorb with an inert material and put the spilled material in an appropriate waste disposal. Flammable liquid, very slightly soluble in cold water. Keep away from heat Keep a way from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or non-combustible material. DO NOT touch spilled material. Prevent entry into sewers, basements, or confined areas; dike if needed. Eliminate all sources of ignition. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.
Waste Disposal Methods	:	Recycle, if possible. Consult your local regional authorities.
Storage and Handling	:	Flammable materials should be stored in a separate safety storage cabinet and room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. Keep container dry. Keep in a cool place.
Special Engineering Controls	:	Provide exhaust ventilation or other engineering controls to keep the airborne concentration vapours respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the workstation location.

9. HEALTH HAZARDS

Inhalation	:	Slightly irritating to respiratory system. Vapours may cause drowsiness and dizziness.
Skin Contact	:	Irritating to skin.
Eye Contact	:	Moderately irritating to eyes.
Signs and Symptoms	:	Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.
Ingestion	:	Harmful: may cause lung damage if swallowed.

10. TREATMENT RATIO

Mixing Ratio	:	1 part Unicat4 treats 1600 parts fuel by volume.