



ECOLOMONDO
Corporation

**Thermal Decomposition Process (TDP) Oil Product
Material Safety Data Sheet (MSDS)**

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1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: TDP Oil
 Chemical Synonym: Tire Oil
 Chemical Family: Petroleum Product
 Chemical Formula: N/A

Emergency Telephone Numbers:
 Health: 450-587-5999

Manufacturer: Ecolomondo Corporation
 999, Montée de la Pomme D'Or
 Contrecoeur, Quebec, Canada
 J0L 1C0
 Date of MSDS revision: 02/03/2015

Transportation: Canada: Canutec 613-996-6666
 USA: Chemtrec 800-424-9300
 MSDS Assistance: 450-587-5999

2- COMPOSITION/INFORMATION ON INGREDIENTS

Mixture of petroleum products, saturated and unsaturated hydrocarbons with the following explosive limits: LEL 1.0% and UEL 6.0%

Permissible Exposure Limit (PEL):

Chemical Parameters	CAS#	% Weight	OSHA		ACGIH		
			TWA	STEL	TWA	STEL	IDLH
Benzene	71-43-2	1-2	1	5	10	N/A	3000
Ethyl Benzene	100-41-4	1-5	100	125	100	125	2000
Naphthalene	91-20-3	<5	10	N/A	10	15	500
n-Pentane	109-66-0	<2	1000	N/A	600	750	5000
Styrene	100-42-5	<5	100	N/A	50	100	5000
Toluene	100-88-3	<5	100	150	50	150	2000
Xylene	1330-20-7	<5	100	150	100	150	2000

TWA, STEL and IDLH values are given in ppm (parts per million)

OSHA - Occupational Safety and Health Administration

ACGIH - American Conference of Industrial Hygienists

TWA – Time Weighted Average for an 8-hour exposure

STEL – Short Term Exposure Limit – 15 minutes/60 minute interval/4 times per day maximum

IDLH – Immediate Danger to Life and Health – 30 minutes exposure threshold

Styrene: 200 ppm ceiling; 600 ppm maximum peak for 5 minutes in any 3 hours

Toluene: 300 ppm ceiling; 500 ppm maximum peak for 10 minutes in any 3 hours

3- HAZARD IDENTIFICATION AND RATINGS

TDP Oil is a dark brown liquid with a strong characteristic odour. The degree of airborne exposure is dependent upon the temperature of the oil and area open for vapours to escape.

Hazard ratings	HMIS	NFPA
Health	2	2
Flammability	3	3
Reactivity	0	0

HMIS: Hazardous Materials Identification System

NFPA: National Fire Protection Association

HMIS HAZARD INDEX

- 4 Severe
- 3 Serious
- 2 Moderate
- 1 Slight
- 0 Minimal

ACUTE EFFECTS

- Eyes: mild to severe irritation, redness, burning, blurred vision
- Skin: mild irritation, burning, drying, flaking, staining
- Inhalation: over exposure can cause dizziness, disorientation, headache, nausea, fatigue and lung congestion
- Ingestion: over exposure can cause irritation to mouth, throat, stomach, headache, gastrointestinal irritation, narcosis, vomiting, diarrhea, jaundice, coma and haemolytic anemia

CHRONIC EFFECTS:

- Eyes: not determined
- Skin: not determined
- Inhalation: continued inhalation can adversely affect liver, kidney and lungs
- Ingestion: benzene is a carcinogen and exposure to benzene concentrations ranging from 210 to 650 ppm, increases the incidence of leukemia. Daily mean styrene exposure levels of 10 to 300 ppm resulted in adverse effects on visio-motor speed, memory and intellectual function. Toluene exposure of pregnant employees has resulted in adverse fetal developmental effects.

4- FIRST AID MEASURES

Eyes: flush with eye solution or large amounts of water. Continue until irritation subsides. Get medical attention immediately.

Skin: immediately wash with warm water and soap. Remove contaminated clothing. Get medical attention if symptoms occur. Wash contaminated clothing before reuse.

Inhalation: remove to fresh air. Get medical attention if symptoms occur.

Ingestion: seek medical attention. Do not induce vomiting. Do not give mouth-to-mouth.

5- FIRE FIGHTING MEASURES

Flash point: 60-70 °F

Method: ASTM D93-07

Flammability limits: Not determined

Auto ignition temperature: 800 °F

Special fire fighting procedures: wear protective gear including oxygen-breathing apparatus.

Extinguishing media: foam, CO₂, dry chemical, water fog to control vapors.

Stop flow of oil

Unusual fire and explosion hazards: not determined.

6- ACCIDENTAL RELEASE MEASURES

Small spill control and recovery: use oil absorbent to contain and soak up oil. Do not use a combustible material. Wear appropriate personal protective equipment.

Large spill control and recovery: safely eliminate the source of the leak. Eliminate ignition sources. Prevent runoff from entering storm sewers and ditches. Water fog can be used to control vapors.

7- HANDLING AND STORAGE

Stability: material is stable under normal storage and handling situations. Avoid contact with acids and oxidizing agents.

Hazardous decomposition products: CO, H₂S and nitric oxides

Storage: store in tight sealed container at ambient temperature in well ventilated areas. Do not store near flame or heat and direct sunlight.

Handling: only in well ventilated areas. Keep container closed when not dispensing product. Avoid body contact. Use grounding devices when transferring material.

8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: use process enclosures, explosion proof local exhaust and general ventilation to maintain airborne concentrations below the applicable exposure limits.

Store away from heat and flame

Administrative controls: training of personnel must be conducted before routine and non-routine handling.

Respiratory protection: maintain concentrations of individual pollutants below exposure limits, at workplace. As safety measure, use SCBA or respirator when liquid is warm.

Protective equipment: apron or overalls to prevent staining and exposure to skin; Rubber nitrile or Viton protective gloves should be used. Goggles, safety glasses, face shield recommended as eye protection. A full face respirator suggested, if eye irritation occurs.

9- PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark brown
Physical state	Liquid
Odour	Pungent, petroleum products
Specific gravity	0.911 kg/L @ 15 °C
Calorific value	19,475 Btu/lb (45.3 MJ/kg)
API gravity	32.4
Kinematic viscosity	6.64 cSt @ 50 °C
Ash content	< 0.01 %
Flash point	60-70 °F (15-20 °C)
Boiling point	53 °C to > 400 °C
Total sulfur content	0.9065 wt%
Polycyclic Aromatic Hydrocarbons (PAH)	13.7 ppm
Total chlorine content	84 ppm
Solubility in water	None
Auto ignition temperature	800 °F (427 °C)
Vapor density	0.091 lb/ft ³ (1.46 kg/m ³)

10- TOXICOLOGY/CARCINOGENITY INFORMATION

Toxicology: nervous system, blood disorders, liver and kidney damage.

Eyes: mild to severe irritation.

Skin: lethal limits at dermal LD50s in rabbits: > 8,263 mg/kg benzene, 17,800 mg/kg ethyl benzene, > 20 mg/kg naphthalene and 14 mg/kg toluene.

Inhalation: LC50s for rats: 10,000 ppm benzene and 4,000 ppm ethyl benzene.

Ingestion: LD50s for rats: 930 mg/kg benzene, 3,500 mg/kg ethyl benzene, 1,250 mg/kg naphthalene and 316 mg/kg styrene.

11- ECOLOGICAL INFORMATION

Ecotoxicological information: acute lowest effect levels for freshwater organism: 5,300 µg/L benzene, 32,000 µg/L ethyl benzene, 2,300 µg/L naphthalene, 17,500 µg/L toluene. Product has the potential to cause large fish kills, if released in substantial quantities to waterways (i.e. potentially dangerous to aquatic organisms). However, long term or chronic effects are not expected.

Distribution: the chemical constituents of TDP Oil are volatile in nature and are expected to be readily released to the atmosphere from water (the oil floats at the surface and is not miscible with water) and soil. It is expected that the bio concentration potential of the product is low; therefore, retention in plants and animals is minimal.

Chemical fate information: degradation is expected in the environment. Biodegradation is expected, if conditions are favourable.

12- DISPOSAL CONSIDERATIONS

Resource Conservation and Recovery Act (RCRA) hazardous waste classifies this product as D-001 or D-018 and is subject to land disposal restrictions under 40 CFR 268. Waste must be disposed of in accordance with federal, state, provincial and local environmental control regulations. Empty containers retain residue and can be dangerous; therefore, they must be handled with care. Empty drums should be completely drained, properly closed and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner in accordance with governmental regulations. Do not pressurize, cut, weld, braze solder, drill, grind or expose to heat, sparks, static electricity or other sources of ignition.

13- TRANSPORTATION INFORMATION

DOT shipping name	Flammable Liquid
DOT label	Flammable Liquid
DOT placard	Flammable
DOT Hazard Class	3
Packing Group	II
Shipping name and product label	Thermal Decomposition Process (TDP) Oil
#UN	3295