

MATERIAL SAFETY DATA SHEET

Manufacturer / Supplier: Hamilton Works 530 Gage Avenue North P. O. Box 450 Hamilton, Ontario, Canada L8L 7W9 Telephone: (905) 527-8335 Ext. 3119 (for updates & copies) Emergency: (905) 527-8335 Ext. 2268	and	Manufacturer / Supplier: Lake Erie Works General Delivery Nanticoke, Ontario, Canada N09A 1L0 Telephone: (905) 527-8335 Ext. 5083 (for updates & copies) Emergency: (519) 587-4541 Ext. 5060
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SECTION I – MATERIAL IDENTIFICATION AND USE

Material:	Light Oil / Benzol
WHMIS Class:	B2, D2A
Chemical Name:	Aromatic Hydrocarbon Mixture
Chemical Family:	Coal Tar Distillate
Chemical Formula Mixture:	Not applicable
Molecular Weight:	Not available
Trade Name and Synonyms:	Not available
Material Use:	Coke Oven by-product / chemical feedstock

SECTION II – HAZARDOUS INGREDIENTS OF MATERIAL

INGREDIENT	% WEIGHT	CAS NO.	TLV (ACGIH)	OEL (ONT)	LD ₅₀ (oral rat)	LC ₅₀ (rat)
Benzene (ONT REG 839/90)	80-85	71-43-2		1 ppm	4,894 mg/kg	16,000 ppm 4 hr
Toluene	8-11	108-83-3		50 ppm	7,000 mg/kg	8,000 ppm 4 hr
Naphthalene	2-3	91-20-3		10 ppm	533 mg/kg	Not available
Ethylbenzene	0.1-1	100-41-4		100 ppm	2,272 mg/kg	Not available
Styrene	1-2	100-42-5		50 ppm	5,000 mg/kg	2,000 ppm 4 hr
Xylene	1-5	1330-20-7		100 ppm	1,700 mg/kg	5,000 ppm 4 hr
Hydrogen Cyanide	<0.1	74-90-8		4.7C skin ppm	Not available	Not available
Indene	1-5	95-13-6		10 ppm	Not available	Not available
Carbon Disulphide	0.1-3	75-15-0		10 skin ppm	Not available	Not available
Light Oil (Coal)	100	65996-78-3		Not applicable		

SECTION III – PHYSICAL DATA

Physical State:	Liquid
Odour and Appearance:	Aromatic; yellow liquid
Odour Threshold:	1 - 5 ppm
Specific Gravity:	0.887
Vapour Pressure (mm) :	100 mm @ 26°C
Vapour Density (Air = 1):	2.7
Evaporation Rate:	0.28 (Ether = 1)
Boiling Point (°C):	78 - 185°C (for product)
Freezing / Melting Point (°C):	Not available
Solubility in Water (20°C):	Not available
% Volatile (by volume):	>98%
pH:	Not applicable
Coefficient of Water / Oil Distribution:	Not available

PRODUCT:

LIGHT OIL / BENZOL

SECTION IV – FIRE AND EXPLOSION HAZARD OF MATERIAL

Flammability:	Extremely flammable - vapours are denser than air and will accumulate in low areas.
Means of Extinction:	Carbon dioxide or dry chemical.
Special Procedures:	Call Fire Department. Self-contained breathing apparatus (e.g. Scott Air Pak) is required.
Flashpoint (°C) and Method:	(PMCC) for Benzene -11°C
Upper Explosion Limit (% by volume):	7.1%
Lower Explosion Limit (% by volume):	1.3%
Auto Ignition Temperature (°C):	498°C (Benzene)
Hazardous Combustion Products:	Cyanides, Carbon Monoxide, Carbon Dioxide
Explosion Data – Sensitivity to Mechanical Impact:	No
Sensitivity to Static Discharge:	Yes

SECTION V – REACTIVITY DATA

Chemical Stability:	Stable
Incompatibility to Other Substances:	Chlorine, Perchlorates, Oxidizers
Conditions to Avoid:	Not available
Hazardous Decomposition Products:	Cyanides, Carbon Monoxide, Carbon Dioxide

SECTION VI – TOXICOLOGICAL PROPERTIES OF PRODUCT

Effects of Acute Exposure to Product:	Harmful vapours. Vapours have anaesthetic effect. Absorption of liquid through the skin can contribute to exposure. Vapours in high concentrations may cause headache, dizziness or nausea. Vapours may cause irritation to the eyes and respiratory tract. Eye contact may cause severe irritation. Liquid can be absorbed through the skin. May cause a burn-like injury if trapped against skin.
Effects of Chronic Exposure to Product:	Prolonged and repeated exposure to vapour may cause injury to blood-forming tissues including anemia and possibly leukemia.
Sensitization to Product:	Not available
Synergistic Materials:	Insufficient information
Carcinogenicity:	Benzene (under IARC and ACGIH)
Reproductive Effects:	Insufficient information
Teratogenicity:	Insufficient information
Mutagenicity:	Possible

SECTION VII – PREVENTATIVE MEASURES

Personal Protective Equipment:	Not available
Gloves:	Impervious (Neoprene or Nitrile)
Eye (specify):	Faceshield and goggles
Footwear (specify):	Not available
Other (specify):	Wear protective clothing and apron. Do not wear contaminated clothing. Use barrier cream for protection against contact. Work area should be posted NO SMOKING. Keep away from heat, sparks and open flame. Open containers slowly to relieve any pressure buildup. Containers should be electrically bonded and grounded. Employees should receive periodic instruction in handling precautions, potential hazards and good hygiene practices.
Respiratory:	Cartridge respirator may be used for protection against light concentrations of vapour or mist (up to a Benzene concentration of 10 ppm); Scott Air Pak is required where high concentrations have accumulated.
Storage:	Store in a cool, well-ventilated area where containers are protected. Keep small quantities in properly labelled dispenser cans.
Engineering Controls, e.g. ventilation, enclosed process (specify):	Ensure adequate ventilation. Use only intrinsically safe equipment for pumping.
Leak and Spill Procedure:	Scott Air Pak is required for all but minor spills. Eliminate all ignition sources. Pump or flush to Oil Recovery.
Waste Disposal:	Contact plant personnel responsible for environmental matters (e.g. Utilities, Environmental Control as appropriate).
TDG Classification:	UN1136, II, 3

SECTION VIII – FIRST-AID MEASURES

Skin:	Remove any contaminated clothing promptly. Flush thoroughly with water. Obtain medical attention.
Eye:	Flush with water for 15 minutes while holding eyelids open. Obtain medical attention.
Inhalation:	Remove to fresh air. Give artificial respiration if not breathing. Obtain medical attention.

Ingestion: DO NOT induce vomiting. Obtain medical attention.

SECTION IX – PREPARATION DATE OF MSDS

Prepared by: C. D. Cummins Safety & Industrial Hygiene Department	Phone Number: (905) 527-8335 Ext. 3783	Date: 2008-05-08	Revision No.: 11
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