Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Protective Clothing
	**CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).** **Class D-1B: Material causing immediate and serious toxic effects (TOXIC).** **Class D-2A: Material causing other toxic effects (VERY TOXIC).** **Class D-2B: Material causing other toxic effects (TOXIC).**	

Section 1. Product and Company Identification

Product Name / Trade name	**Lacquer Thinner**	**Associated Product's Item Code**	**13-554**
Synonym	Western formulation lacquer thinner	**CAS #**	Mixture.
Chemical Family	Mixture. (Solvent.)	**DSL**	CEPA DSL: Toluene; 2-butanone; Methanol
Chemical Formula	Not applicable.	**Validation Date**	**4/22/2002.**
Manufacturer	Recochem Inc. 850 Montee de Liesse Montreal, Quebec 514-341-3550	**Print Date**	6/5/2002.
Material Uses	Coatings: Solvent for lacquers and paints.	**In Case of Emergency**	Recochem Inc. Communications and Regulatory Affairs Department (905) 791-1788

Section 2. Hazardous Ingredients

Name	CAS #	% by Weight	Exposure Limits	
			Canadian Values (ACGIH)	U.S. Values (OSHA)
1) Toluene	108-88-3	60-80	TWA: 50 ppm from ACGIH (Canada, 1999). Period: 8 hour(s). Additional Hazards: Skin TWA: 188 mg/m³ from ACGIH (Canada, 1999). Period: 8 hour(s). Additional Hazards: Skin	1) Toluene: TWA: 200 ppm from OSHA (United States, 1999). Period: 8 hour(s). STEL: 300 ppm from OSHA (United States, 1999). Period: 15 minute(s).
2) Methanol	67-56-1	15-25	TWA: 200 ppm from ACGIH (Canada, 1999). Period: 8 hour(s). Additional Hazards: Skin STEL: 250 ppm from ACGIH (Canada, 1999). Period: 15 minute(s). Additional Hazards: Skin TWA: 262 mg/m³ from ACGIH (Canada, 1999). Period: 8 hour(s). Additional Hazards: Skin STEL: 328 mg/m³ from ACGIH (Canada, 1999). Period: 15 minute(s). Additional Hazards: Skin	2) Methanol: TWA: 200 ppm from OSHA (United States, 1999). Period: 8 hour(s). Additional Hazards: Skin TWA: 260 mg/m³ from OSHA (United States, 1999). Period: 8 hour(s). Additional Hazards: Skin
3) Methyl Ethyl Ketone	78-93-3	10-20	TWA: 200 ppm from ACGIH (Canada, 1999). Period: 8 hour(s). STEL: 300 ppm from ACGIH (Canada, 1999). Period: 15 minute(s). TWA: 590 mg/m³ from ACGIH (Canada, 1999). Period: 8 hour(s). STEL: 885 mg/m³ from ACGIH (Canada, 1999). Period: 15 minute(s).	3) Methyl Ethyl Ketone: TWA: 200 ppm from OSHA (United States, 1999). Period: 8 hour(s). TWA: 590 mg/m³ from OSHA (United States, 1999). Period: 8 hour(s).

Section 3. Emergency Overview

Hazard Overview

DANGER.! POISON.

EXTREMELY FLAMMABLE LIQUID AND VAPOUR, VAPOUR MAY CAUSE FLASH FIRE. May be fatal or cause blindness if swallowed. Vapour harmful.

Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing. Avoid prolonged contact with eyes, skin, and clothing. DO NOT ingest. Avoid breathing vapour or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Aspiration hazard if swallowed- can enter lungs and cause damage.

Potential Acute Health Effects

Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation. Prolonged inhalation exposure can lead to central nervous system (CNS) depression.

Note to Physician

Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause mild to severe pulmonary injury and possible death.

This product contains methanol.

Acute exposure to methanol, either through ingestion or breathing high airborne concentrations can result in symptoms appearing between 40 minutes and 72 hours after exposure. Symptoms and signs are usually limited to CNS, eyes and gastrointestinal tract. Because of the initial CNS's effects of headache, vertigo, lethargy and confusion, there may be an impression of ethanol intoxication. Blurred vision, decreased acuity and photophobia are common complaints. Treatment with ipecac or lavage is indicated in any patient presenting within two hours of ingestion. A profound metabolic acidosis occurs in severe poisoning and serum bicarbonate levels are a more accurate measure of severity than serum methanol levels. Treatment protocols are available from most major hospitals and early

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collaboration with appropriate hospitals is recommended.

This product contains Toluene, a known central nervous system (CNS) depressant. Handle situation of misuse accordingly.

Section 4. First Aid Measures

Eye Contact	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention.
Skin Contact	Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
Inhalation	Allow the victim to rest in a well-ventilated area. If irritation persists, seek medical attention.
Ingestion	DO NOT induce vomiting. If affected person is conscious give plenty of water to drink. NEVER give an unconscious person anything to ingest. If vomiting occurs, keep head lower than hips to help prevent aspiration. SEEK IMMEDIATE MEDICAL ATTENTION.

Section 5. Fire Fighting Measures

Products of Combustion	These products are carbon oxides (CO, CO_2).
Fire Fighting Media and Instructions	Flammable liquid, insoluble in water. SMALL FIRE: Use DRY chemicals, CO_2, alcohol resistant foam or water spray. LARGE FIRE: Use water spray or fog.
Fire Hazards	Vapour may travel considerable distance to source of ignition and flash back.
Explosion Hazards	Vapours may travel along ground and flashback along vapour trail.

Section 6. Accidental Release Measures

Small Spill and Leak	Absorb with an inert material and put the spilled material in an appropriate waste disposal.
Large Spill and Leak	Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Place in appropriate container and dispose of in accordance with regional regulations.

Section 7. Handling and Storage

Handling	Handle and open container with care. Keep away from sources of ignition. After handling, always wash hands thoroughly with soap and water. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.
Storage	Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Do not store above 38°C (100.4°F).

Section 8. Exposure Controls, Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	
Eyes	Splash goggles.
Body	No special protective clothing is required.
Respiratory	Organic vapour cartridge respirator.
Hands	Gloves (impervious).

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.	**Odor**	Characteristic.
Molecular Weight	Not applicable.	**Taste**	Not available.
pH (1% Soln/Water)	Not available.	**Color**	Colourless.
Boiling/Condensation Point	The lowest known value is 64.5°C (148.1°F) (Methanol). Weighted average: 96.91°C (206.4°F)	**Volatility**	100% (w/w).

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Melting/Freezing Point	May start to solidify at -86°C (-122.8°F) based on data for: 2-butanone. Weighted average: -94.29°C (-137.7°F)	**Evaporation Rate**	The highest known value is 2.7 (2-butanone) Weighted average: 2.28compared to Butyl acetate.
Specific Gravity	0.8 to 0.82 (Water = 1)	**Odor Threshold**	The highest known value is 2000 ppm (Methanol) Weighted average: 259.82 ppm
Vapor Pressure	5.6 kPa (42 mmHg) (@ 20°C)	**Viscosity**	Dynamic: The highest known value is 0.59 cP (Toluene) Weighted average: 0.56 cP
Vapor Density	The highest known value is 3.1 (Air = 1) (Toluene). Weighted average: 2.74 (Air = 1)	**Solubility**	Easily soluble in methanol, diethyl ether, n-octanol, acetone. Insoluble in water.
VOC Content	810 to 860 (g/l).	**Other Properties**	Not available.

The Product is:	Flammable.
Autoignition Temperature	The lowest known value is 385°C (725°F) (Methanol).
Flash Points	CLOSED CUP: -2°C (28.4°F). (Tagliabue)
Flammable Limits	The greatest known range is LOWER: 6% UPPER: 36% (Methanol)
Fire Hazards in Presence of Various Substances	Extremely flammable in presence of open flames, sparks and static discharge, of heat. Non-flammable in presence of shocks.

Section 10. Stability and Reactivity

Stability	The product is stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Reactive with oxidizing agents, acids

Section 11. Toxicological Information

Routes of Entry	Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 2600 mg/kg [Rat.]. (Toluene) Acute dermal toxicity (LD50): >5000 mg/kg [Rabbit.]. (2-butanone)

Acute Effects on Humans

Eyes	Hazardous in case of eye contact (irritant).
Skin	Hazardous in case of skin contact (irritant, permeator). Can cause dermatitis. Skin inflammation is characterized by itching, scaling, reddening or occasionally, blistering.
Inhalation	Hazardous in case of inhalation. Prolonged inhalation exposure can lead to central nervous system (CNS) depression.
Ingestion	Hazardous in case of ingestion. May be fatal or cause blindness if swallowed. Aspiration hazard if swallowed- can enter lungs and cause damage.

Chronic Effects on Humans

Hazardous in case of skin contact (irritant, permeator), of ingestion.
Skin irritation caused by chronic skin exposure can lead to sensitivity to temperature and increased susceptibility to allergens.
CARCINOGENIC EFFECTS: Classified A4 (Not classifiable for human or animal.) by ACGIH [Toluene]. Classified A4 (Not classifiable for human or animal.) by ACGIH, D (Not classifiable for human or animal.) by EPA [2-butanone]. Classified A5 (Not suspected for human.) by ACGIH, 4 (Probably not for human.) by IARC, None. by OSHA [Methanol]. Classified A4 (Not classifiable for human or animal.) by ACGIH.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Teratogenic in mice at levels below maternal toxicity.
DEVELOPMENTAL TOXICITY: Fetotoxic in mice at levels below maternal toxicity.
The substance may be toxic to central nervous system (CNS).
Repeated or prolonged exposure to the substance can produce target organs damage.

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Section 12. Ecological Information

Ecotoxicity	Not available.

Section 13. Disposal Considerations

Waste Information	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

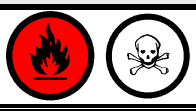
TDG Classification (Canada)	Class 3: Flammable liquid.
PIN (Canada)	Shipping name: Paint related material UNNA: UN 1263 PG: II
Special Provisions for Transport (Canada)	In plastic containers of 500 ml or metal containers of 1 L capacity or less this product is classified as a "Consumer Commodity" under TDG regulations.

IMDG Classification	3.2
PIN	Shipping name: Paint related material UNNA: UN 1263 PG: II
Marine Pollutant	Not pollutant.

DOT Classification (U.S.A)	Class 3: Flammable liquid.
PIN	Paint related material , 3, UN 1263, II, Not pollutant.
Special Provisions for Transport (U.S.)	Containers of 1 L or less ship as: Class: ORM-D Name: Consumer Commodity

Section 15. Other Regulatory Information and Pictograms

WHMIS Classification (Canada)	CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). Class D-1B: Material causing immediate and serious toxic effects (TOXIC). Class D-2A: Material causing other toxic effects (VERY TOXIC). Class D-2B: Material causing other toxic effects (TOXIC).

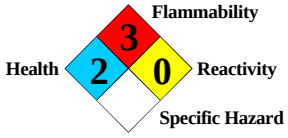


HCS Classification (U.S.A.)	Class: Flammable liquid having a flash point lower than 37.8°C (100°F). Class: Toxic. Class: Irritating substance. Class: Target organ effects.
USA Regulatory Lists	TSCA inventory: Toluene; 2-butanone; Methanol

Hazardous Material Information System (U.S.A.)

Health	2
Flammability	3
Reactivity	0
Personal Protection	G

National Fire Protection Association (U.S.A.)



Section 16. Other Information

Validated and verified by Product Development and Technical Coordinator on 4/22/2002.	**Printed 6/5/2002.**

Notice to Reader

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MSDS are available at www.recochem.com