Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Personal protective equipment
	**Class B-2: Flammable liquid** **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**	13-351
Synonym	Not available.	**CAS #**	Not applicable.
Chemical family	Solvent.	**Validation date**	Nov. 08 2011
Chemical formula	Not applicable.	**Print date**	Nov. 08 2011
Manufacturer/Supplier	Recochem Inc. 850 Montee de Liesse Montreal, Quebec H4T 1P4 (514) 341-3550 www.recochem.com	**In case of emergency**	Recochem Inc. Communications and Regulatory Affairs Department (905) 878-5544
Material uses	Coatings: Solvent for lacquers and paints.		

Section 2. Hazards identification

Emergency Overview

WARNING!

FLAMMABLE LIQUID AND VAPOR. MAY BE HARMFUL IF SWALLOWED. MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

Flammable liquid. May be harmful if swallowed. Keep away from heat, sparks and flame. Do not ingest. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. May cause target organ damage, based on animal data. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential Acute Health Effects

See section 11 for more detailed information on health effects and symptoms.

Hazardous by the following route of exposure: 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 tc 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 collaboration with appropriate hospitals is recommended.

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

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Section 3. Composition, information on ingredients

Canada

Name	CAS number	Conc. (% w/w)
Toluene.	108-88-3	60 - 80
Methyl ethyl ketone	78-93-3	10 - 20
Methanol	67-56-1	5 - 9
Acetone	67-64-1	1 - 5

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First aid measures

Eye contact	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
Inhalation	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
Ingestion	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Notes to physician	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 5. Fire-fighting measures

Products of combustion	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Fire-fighting media and instructions	Use dry chemical, CO_2, water spray (fog) or foam.
Fire Hazards	Vapor may travel a considerable distance to source of ignition and flash back. Liquid will float and may reignite on surface of water.
Explosion Hazards	Vapours may travel along ground and flashback along vapour trail.

Section 6. Accidental release measures

Small spill and leak	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Continued on next page

Large spill and leak	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and Storage

Handling	Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
Storage	Do not store above the following temperature: 38°C (100.4°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Engineering controls	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Personal protection	
Eyes	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: splash goggles
Body	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Hands	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. >8 hours (breakthrough time): butyl rubber

United States

Product name	**Exposure limits**

Continued on next page

Toluene.	**OSHA PEL 1989 (United States, 3/1989).** TWA: 100 ppm 8 hour(s). TWA: 375 mg/m³ 8 hour(s). STEL: 150 ppm 15 minute(s). STEL: 560 mg/m³ 15 minute(s). **OSHA PEL Z2 (United States, 11/2006).** TWA: 200 ppm 8 hour(s). CEIL: 300 ppm AMP: 500 ppm 10 minute(s). **NIOSH REL (United States, 6/2008).** TWA: 100 ppm 10 hour(s). TWA: 375 mg/m³ 10 hour(s). STEL: 150 ppm 15 minute(s). STEL: 560 mg/m³ 15 minute(s). **ACGIH TLV (United States, 1/2008).** TWA: 20 ppm 8 hour(s).
Methyl ethyl ketone	**OSHA (United States, 2003).** TWA: 200 ppm 8 hour(s). TWA: 590 mg/m³ 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 200 ppm 8 hour(s). TWA: 590 mg/m³ 8 hour(s). STEL: 300 ppm 15 minute(s). STEL: 885 mg/m³ 15 minute(s). **ACGIH TLV (United States, 1/2008).** TWA: 200 ppm 8 hour(s). TWA: 590 mg/m³ 8 hour(s). STEL: 300 ppm 15 minute(s). STEL: 885 mg/m³ 15 minute(s). **NIOSH REL (United States, 6/2008).** TWA: 200 ppm 10 hour(s). TWA: 590 mg/m³ 10 hour(s). STEL: 300 ppm 15 minute(s). STEL: 885 mg/m³ 15 minute(s). **OSHA PEL (United States, 11/2006).** TWA: 200 ppm 8 hour(s). TWA: 590 mg/m³ 8 hour(s).
Methanol	**ACGIH TLV (United States, 1/2008). Absorbed through skin.** TWA: 200 ppm 8 hour(s). TWA: 262 mg/m³ 8 hour(s). STEL: 250 ppm 15 minute(s). STEL: 328 mg/m³ 15 minute(s). **OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.** TWA: 200 ppm 8 hour(s). TWA: 260 mg/m³ 8 hour(s). STEL: 250 ppm 15 minute(s). STEL: 325 mg/m³ 15 minute(s). **NIOSH REL (United States, 6/2008). Absorbed through skin.** TWA: 200 ppm 10 hour(s). TWA: 260 mg/m³ 10 hour(s). STEL: 250 ppm 15 minute(s). STEL: 325 mg/m³ 15 minute(s). **OSHA PEL (United States, 11/2006).**

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TWA: 200 ppm 8 hour(s).
TWA: 260 mg/m³ 8 hour(s).
OSHA (United States, 2003).
TWA: 200 ppm 8 hour(s).
TWA: 260 mg/m³ 8 hour(s).

Acetone

ACGIH TLV (United States, 1/2008).
TWA: 500 ppm 8 hour(s).
TWA: 1188 mg/m³ 8 hour(s).
STEL: 750 ppm 15 minute(s).
STEL: 1782 mg/m³ 15 minute(s).
OSHA PEL 1989 (United States, 3/1989).
TWA: 750 ppm 8 hour(s).
TWA: 1800 mg/m³ 8 hour(s).
STEL: 1000 ppm 15 minute(s).
STEL: 2400 mg/m³ 15 minute(s).
NIOSH REL (United States, 6/2008).
TWA: 250 ppm 10 hour(s).
TWA: 590 mg/m³ 10 hour(s).
OSHA PEL (United States, 11/2006).
TWA: 1000 ppm 8 hour(s).
TWA: 2400 mg/m³ 8 hour(s).

Canada
Occupational exposure limits

		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	**List name**	**ppm**	**mg/m³**	**Other**	**ppm**	**mg/m³**	**Other**	**ppm**	**mg/m³**	**Other**	**Notations**
Toluene.	US ACGIH 1/2008	20	-	-	-	-	-	-	-	-	
	AB 6/2008	50	188	-	-	-	-	-	-	-	[1]
	BC 6/2008	20	-	-	-	-	-	-	-	-	
	ON 6/2008	50	-	-	-	-	-	-	-	-	
	QC 6/2008	50	188	-	-	-	-	-	-	-	[1]
Methyl ethyl ketone	US ACGIH 1/2008	200	590	-	300	885	-	-	-	-	
	AB 6/2008	200	590	-	300	885	-	-	-	-	
	BC 6/2008	50	-	-	100	-	-	-	-	-	
	ON 6/2008	200	590	-	300	885	-	-	-	-	
	QC 6/2008	50	150	-	100	300	-	-	-	-	
Methanol	US ACGIH 1/2008	200	262	-	250	328	-	-	-	-	[1]
	AB 6/2008	200	262	-	250	328	-	-	-	-	[1]
	BC 6/2008	200	-	-	250	-	-	-	-	-	[1]
	ON 6/2008	200	260	-	250	325	-	-	-	-	[1]
	QC 6/2008	200	262	-	250	328	-	-	-	-	[1]
Acetone	US ACGIH 1/2008	500	1188	-	750	1782	-	-	-	-	
	AB 6/2008	750	1800	-	1000	2400	-	-	-	-	
	BC 6/2008	250	-	-	500	-	-	-	-	-	
	ON 6/2008	500	-	-	750	-	-	-	-	-	
	QC 6/2008	500	1190	-	1000	2380	-	-	-	-	

[1]Absorbed through skin.

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Section 9. Physical and chemical properties

Physical State and Appearance	Liquid.	**Odour**	Characteristic.
Molecular weight	Not applicable.	**Taste**	Not available.
pH	Not available.	**Colour**	Colorless.
Boiling/condensation point	Lowest known value: 56°C (132.8°F) (2-propanone). Weighted average: 98.11°C (208.6°F)	**Volatility**	100% (w/w)
Melting/freezing point	Not available.	**Evaporation rate**	Highest known value: 5.6 (2-propanone) Weighted average: 2.5 compared with butyl acetate
Relative density	0.8 to 0.82	**Odour Threshold**	Not available.
Vapor pressure	Not available.	**Viscosity**	Not available.
Vapour Density	Not available.	**Solubility**	Easily soluble in the following materials: methanol, diethyl ether, n-octanol, acetone. Insoluble in the following materials: water.
VOC content	95 % (w/w)	**Other Properties**	Not available.

The product is:	May be combustible at high temperature.
Auto-ignition temperature	Lowest known value: 385°C (725°F) (Methanol).
Flash point	Closed cup: -2°C (28.4°F). (Tagliabue)
Flammable limits	Not available.
Fire hazards in the presence of various substances	Extremely flammable in the presence of open flames, sparks and static discharge, of heat. Non-flammable in the 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.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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Section 11. Toxicological Information

Canada

Acute toxicity

Toluene.	LC50 Inhalation Vapor	Rat	49 g/m3	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Methyl ethyl ketone	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
	LD50 Oral	Rat	2740 mg/kg	-
Methanol	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Dermal	Rabbit	15840 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
Acetone	LC50 Inhalation Vapor	Rat	50100 mg/m3	8 hours
	LD50 Oral	Rat	5800 mg/kg	-
	LDLo Dermal	Rabbit	20 mL/kg	-

Conclusion/Summary Not available.

Chronic toxicity

Conclusion/Summary Not available.

Carcinogenicity

Conclusion/Summary Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Toluene.	A4	3	-	-	-	-
Methyl ethyl ketone	A4	-	D	-	-	-
Methanol	A5	4	-	-	-	None.
Acetone	A4	-	-	-	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive Toxicity

Conclusion/Summary : Not available.

Section 12. Ecological information

For accidental discharges into the environment, see Section 6:"Accidental Release Measures" for suggested instructions.

Ecotoxicity : No known significant effects or critical hazards.

Canada

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure

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Toluene.	Acute EC50 6000 ug/L Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 15500 ug/L Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 5500 ug/L Fresh water	Fish - Oncorhynchus kisutch - FRY - 1 g	96 hours
Methyl ethyl ketone	Acute LC50 >520000 ug/L Fresh water	Daphnia - Daphnia magna - <24 hours	48 hours
	Acute LC50 >400 ppm Marine water	Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling) - 8 to 15 mm	96 hours
	Chronic NOEC 400 ppm Marine water	Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling) - 8 to 15 mm	96 hours
Methanol	Acute LC50 2500000 ug/L Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 3289 to 4395 mg/L Fresh water	Daphnia - Daphnia magna - Neonate - <24 hours	48 hours
	Acute LC50 >100000 ug/L Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	96 hours
Acetone	Acute LC50 7550000 ug/L Fresh water	Crustaceans - Asellus aquaticus	48 hours
	Acute LC50 10000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 >100000 ug/L Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	96 hours

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Section 13. Disposal considerations

Waste information The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

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Section 14. Transport information

Canada TDG Classification

Class	Class 3: Flammable liquid.
Subsidiary class	-
Proper Shipping Name (Canada) TDG	Paint related material
UN number	UN 1263
Packing Group	II
Special provisions	In containers of 5 L (5Kg) capacity or less this product is classified as a "Limited quantity""Consumer Commodity" under TDG regulations.

IMDG Classification

Class	Class 3: Flammable liquid.
Subsidiary class	-
Proper Shipping Name IMDG	Paint related material
UN number	UN 1263
Packing Group	II
Marine pollutant	Not a pollutant.
Special provisions	**Remarks** In containers of 5 L (5Kg) capacity or less this product is classified as a "Consumer Commodity" under IMDG regulations.

No placard (handling and hazard label) required.

United States DOT (Classification)

Class	Class 3: Flammable liquid.
Subsidiary class	-
Proper Shipping Name (United States) DOT	Paint related material
UN number	UN 1263
Packing Group	II
Special provisions	In containers of 1 L (1Kg) this product is qualified as a "consumer commodity" ORM-D under DOT RQ (Reportable quantity) DOT, Acetone 5000 lbs. (2270 kg), Methanol 5000 lbs. (2270 kg), Toluene. 1000 lbs. (454 kg)

International Air Transport Association (IATA)	For air shipment classification and associated regulations, please refer to the latest edition of IATA Dangerous Goods Regulations.

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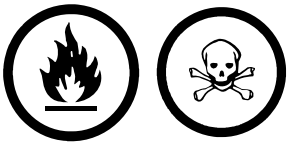
Section 15. Regulatory information

WHMIS Classification (Canada)	Class B-2: Flammable liquid 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).
Canada Domestic Substances List (DSL) Status	This product and/ or all of its components are on the DSL.



HCS Classification (U.S.A.)	Flammable liquid Target organ effects
U.S.A. Regulatory Lists	This product and/ or all of its components are on the TSCA inventory list.

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 Compliance and Technical Information Manager Nov. 08 2011 **ph.# 905-878-5544.**

Printed Nov. 08 2011

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

MSDS are available at www.recochem.com