Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Personal protective equipment
	**Class D-2A: Material causing other toxic effects (Very toxic).** **B-3 combustible liquid when heated above melting point**	

Section 1. Product and Company Identification

Product name / Trade name	Paradichlorobenzene	**Associated Product's Item Code**	21-155
Synonym	Not available.	**CAS #**	Not available.
Chemical family	Aromatic.	**Validation date**	Feb. 11 2009
Chemical formula	$C_6H_4Cl_2$	**Print date**	Feb. 11 2009
Manufacturer	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	Consumer products: Deodorizer. Moth preventative.		

Section 2. Hazards identification

Emergency Overview	WARNING ! MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. May cause target organ damage, based on animal data.
Potential Acute Health Effects	**See section 11 for more detailed information on health effects and symptoms.** Hazardous by the following route of exposure: of ingestion, . Slightly hazardous by the following route of exposure: of skin contact (irritant), of eye contact (irritant, corrosive), of inhalation (lung irritant). Non-corrosive to skin.
Note to Physician	Not available.

Section 3. Composition, information on ingredients

Canada

Name	CAS number	%
1,4-dichlorobenzene	106-46-7	100

There are no ingredients or additional 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.

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Section 4. First aid measures

Eye contact	Immediately flush eyes with plenty of water for at least 60 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Inhalation	Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Ingestion	Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
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 oxides halogenated compounds carbonyl halides
Fire-fighting media and instructions	Use an extinguishing agent suitable for the surrounding fire.
Fire Hazards	When heated to decomposition it emits acrid smoke and irritating fumes.
Explosion Hazards	Not available.

Section 6. Accidental release measures

Small spill and leak	Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large spill and leak	Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. 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. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Storage	Store in accordance with local regulations. 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. 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.

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Section 8. Exposure controls, personal protection

Engineering controls

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

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, gases or dusts.
Recommended: safety glasses with side-shields

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): nitrile rubber

Product name	**Exposure limits**
Canada	
1,4-dichlorobenzene	**ACGIH (Canada, 2003).** TWA: 10 ppm 8 hour(s). TWA: 60 mg/m³ 8 hour(s). **CA Alberta Provincial (Canada, 10/2006).** 8 hrs OEL: 10 ppm 8 hour(s). 8 hrs OEL: 60 mg/m³ 8 hour(s). **CA British Columbia Provincial (Canada, 7/2007).** TWA: 10 ppm 8 hour(s). **CA Ontario Provincial (Canada, 3/2007).** TWAEV: 10 ppm 8 hour(s). **CA Quebec Provincial (Canada, 12/2006).** TWAEV: 20 ppm 8 hour(s). TWAEV: 120 mg/m³ 8 hour(s).
United States	
1,4-dichlorobenzene	**OSHA (United States, 2003).** TWA: 75 ppm 8 hour(s). TWA: 450 mg/m³ 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 450 mg/m³ 8 hour(s). **ACGIH TLV (United States, 1/2007).** TWA: 10 ppm 8 hour(s). TWA: 60 mg/m³ 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** STEL: 110 ppm 15 minute(s). STEL: 675 mg/m³ 15 minute(s). TWA: 75 ppm 8 hour(s). **OSHA PEL (United States, 11/2006).** TWA: 75 ppm 8 hour(s). TWA: 450 mg/m³ 8 hour(s).

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Section 9. Physical and chemical properties

Physical State and Appearance	Solid. [Crystalline solid.]	**Odour**	Chlorinated hydrocarbon odour. [Strong]
Molecular weight	147.01 g/mole	**Taste**	Not available.
pH	Not available.	**Colour**	White. [Light]
Boiling/condensation point	173°C (343.4°F)	**Volatility**	Not available.
Melting/freezing point	53°C (127.4°F)	**Evaporation rate**	Not available.
Relative density	1.46	**Odour Threshold**	15 ppm
Vapour Pressure	0.08 kPa (0.6 mm Hg)	**Viscosity**	Not available.
Vapour Density	5.07 [Air = 1]	**Solubility**	Easily soluble in the following materials: methanol, diethyl ether and acetone. Insoluble in the following materials: cold water and hot water.
VOC Content	Not available.	**Other Properties**	Not available.

The product is:	Combustible liquid. when melted
Auto-ignition temperature	>500°C (>932°F)
Flash Point	Closed cup: 65.6°C (150.1°F) [TAG]
Flammable limits	Lower: 2.5% Upper: 16%
Fire hazards in the presence of various substances	Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and oxidizing materials. Non-flammable in the presence of the following materials or conditions: heat and shocks and mechanical impacts. When heated to decomposition it emits acrid smoke and irritating fumes.

Section 10. Stability and reactivity

Stability	The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions of instability	Not available.
Incompatibility with various substances	Slightly reactive or incompatible with the following materials: oxidizing materials, metals and alkalis. Avoid contamination with reactive substances.
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

Product/ingredient name	Result	Species	Dose	Exposure
1,4-dichlorobenzene	LD50 Dermal	Rabbit	>2 g/kg	-
	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Dermal	Rat	2000 mg/kg	-
	LD50 Dermal	Rat	6000 mg/kg	-
	LD50 Intraperitoneal	Rat	2562 mg/kg	-
	LD50 Oral	Rabbit	2830 mg/kg	-
	LD50 Oral	Rat	3863 mg/kg	-
	LD50 Oral	Rat	500 mg/kg	-
	TDLo Intraperitoneal	Rat	1 mg/kg	-
	TDLo Intraperitoneal	Rat	4 mg/kg	-
	TDLo Intraperitoneal	Rat	2 mg/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
1,4-dichlorobenzene	A3	2B	-	-	Possible	-

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.

Environmental effects : No known significant effects or critical hazards.

Canada

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure

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1,4-dichlorobenzene	-	Acute EC50 1100 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute EC50 0.7 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 7.4 to 7.9 ppm Marine water	Fish - Cyprinodon variegatus	96 hours
	-	Acute LC50 6.4 to 8.3 ppm Fresh water	Fish - Lepomis macrochirus	96 hours
	-	Acute LC50 1.67 to 1.9 ppm Fresh water	Fish - Salvelinus fontinalis	96 hours
	-	Acute LC50 1120 to 1200 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 1120 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 22.2 mg/L Fresh water	Fish - Danio rerio	96 hours
	-	Acute LC50 880 ug/L Fresh water	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 11000 to 19000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 10900 to 12200 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 10500 to 11800 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 13500 to 15500 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 2200 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 4.3 to 4.8 mg/L Fresh water	Fish - Lepomis macrochirus	96 hours

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

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Section 13. Disposal considerations

Waste information The generation of waste should be avoided or minimized wherever possible. 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.

Section 14. Transport information

Canada TDG Classification	
Class	-
Subsidiary class	-
Proper Shipping Name (Canada) TDG	
UN number	Not regulated.
Packing Group	-
Special provisions	Not available.

IMDG Classification	
Class	Class 9: Miscellaneous hazardous material.
Subsidiary class	-
Proper Shipping Name IMDG	Environmentally hazardous substances, solid, n.o.s. (1,4-Dichlorobenzene).
UN number	UN 3077
Packing Group	III
Marine pollutant	Marine Pollutant (IMDG)
Special provisions	**Emergency schedules (EmS)** none **Marine pollutant** Marine pollutant (P) **Remarks** In containers of 5 L (5Kg) capacity or less this product is classified as a "Consumer Commodity" under IMDG regulations.

United States DOT (Classification)	
Class	Class 9: Miscellaneous hazardous material.
Subsidiary class	-
Proper Shipping Name (United States) DOT	Environmentally hazardous substances, solid, n.o.s. (p-Dichlorobenzene) (1,4-Dichlorobenzene).
UN number	UN 3077
Packing Group	III
Special provisions	Regulated only when in single package of 100lb(45.36kg) or more Reportable quantity 100 lbs. (45.4 kg)

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

Section 15. Regulatory information

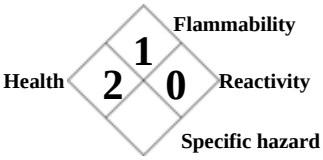
WHMIS Classification (Canada)	Class D-2A: Material causing other toxic effects (Very toxic). B-3 combustible liquid when heated above melting point
Canada Domestic Substances List (DSL) Status	This product and/ or all of its components are on the DSL.

HCS Classification (U.S.A.)	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	1
Reactivity	0
Personal protection	E

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



Section 16. Other information

Validated and verified by Compliance and Technical Information Manager on Feb. 11 2009 **ph.# 905-791-1788.** **Printed** Feb. 11 2009

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MSDS are available at www.recochem.com