

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT IDENTIFICATION

The following products are pesticide products registered by the U.S. EPA. All products contain p-dichlorobenzene as the active ingredient. It is a violation of Federal Law to use these products in a manner not consistent with the product label.

Product Name	EPA Registration No.	Willert Item No.
Enoz Moth Cake	1475-7	125
Enoz Moth Cake Refill	1475-7	125R
Enoz Moth Cake Cedar Scented	1475-113	139
Enoz Moth-Tek Paper Covered Moth Ball Packets Lavender Scented	1475-143	219
Enoz Moth-Tek Paper Covered Moth Ball Packets Cedar Scented	1475-143	220
Enoz Mildew Cake	1475-113	492
Enoz Moth Blok	1475-7	493
Enoz Moth Bar Cedar Scented	1475-113	495
Enoz Moth Bar Potpourri	1475-113	496
Enoz Para Moth Balls (5 oz. bag)	1475-39	505P
Enoz Moth Sachettes Lavender Scented	1475-144	656
Enoz Plastic Hang Up Moth Case	1475-113	4023
Enoz Moth & Deodorant Cakes Perfumed Refills for Plastic Hang-Up Case	1475-113	4133
Enoz No Cling Odor Moth Cake	1475-40	C39
Enoz Para Moth Balls (5 oz.)	1475-39	E28
Enoz Para Moth Balls (10 oz.)	1475-39	E30
Enoz Moth Ice Crystals	1475-1	F39
Enoz Moth Bar Lavender	1475-113	496
Paradichlorobenzene Moth-Ice Crystals (Bulk)	1475-1	PARABC
Paradichlorobenzene (Bulk)	1475-21	PARAD
Reefer-Galler No Moth Closet Hanger	1475-157	1002
Reefer-Galler No Moth Refills	1475-157	1021
Reefer-Galler Snowwhite Nuggets	1475-1	1123/1124
Reefer-Galler No Moth Hangerette	1475-7	1141
Reefer-Galler Moth-Tek Paper Covered Moth Ball Packets Cedar Scented	1475-143	1142
Reefer-Galler No Mildew Cake	1475-69	1210
Reefer-Galler Moth Cake	1475-113	1214
Reefer-Galler Old Fashioned Lavender Scented Moth Sachettes	1475-144	1412
Martha Stewart Everyday Paper-Covered Moth Ball Packets	1475-143-74082	MS590
Martha Stewart Everyday Hanging Moth Cakes	1475-113-74062	MS594
Martha Stewart Everyday Moth Ice Crystals	1475-1-74082	MS592
Martha Stewart Everyday Moth Bar	1475-113-74082	MS596
Martha Stewart Everyday Para Moth Balls	1475-39-74082	MS598

Willert Home Products
4044 Park Avenue
St. Louis, MO 63110

EMERGENCY TELEPHONE NUMBER: 314-772-2822 (8:30 AM to 4:30 PM CST)
CHEMTREC 800-424-9300

THE INFORMATION CONTAINED IN THIS MATERIAL SAFETY SHEET IS DIRECTED AT OCCUPATIONAL EXPOSURE AND MAY NOT BE APPLICABLE TO CONSUMER USE OF THE PRODUCTS.

SECTION 2: HAZARDOUS COMPONENT INFORMATION

<u>Hazardous Ingredients</u>	<u>CAS Number</u>	<u>Wt. %</u>
p-dichlorobenzene (1,4-dichlorobenzene)	106-46-7	95+

SECTION 3: HAZARDS IDENTIFICATION

Emergency Overview: White balls, blocks, crystals, nuggets or tablets. Some products may be incased in paper bags (packets) or plastic containers and some products contain fragrance. Harmful if swallowed or inhaled. Dust and vapors may cause eye and respiratory tract irritation. Flammable.

Potential Health Effects:

Relevant Routes of Exposure: Inhalation, Ingestion, Eye Contact, Skin Contact.

Acute Effects:

Ingestion: Symptoms may also include nausea, vomiting, diarrhea, and stomach distress.

Eyes: Vapors may cause irritation. Dust or particles can cause severe irritation.

Inhalation: Dust and vapors can cause respiratory tract irritation. Vapor concentrations of p-dichlorobenzene that exceed permissible exposure limits can cause central nervous system depression. Symptoms could include the dizziness, blurred vision, nausea, feeling of drunkenness, unconsciousness and even death.

Skin: Repeated or prolonged contact may cause a skin irritation.

Carcinogenicity: Listed by NTP and IARC as a carcinogen.

Reproductive Effects: None known.

Target Organs: Ocular, respiratory, dermal, liver, kidneys, central nervous (CNS).

Medical Conditions Aggravated By Exposure: Liver, kidney, chronic respiratory disease.

SECTION 4: FIRST AID PROCEDURES

First Aid Procedures:

EYES: Immediately flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. Remove contact lenses, if present, after the first five minutes and continue rinsing the eye. Call a physician or poison control center immediately.

SKIN: Immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. If irritation occurs, get medical attention.

INHALATION: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

INGESTION: Do not give anything by mouth to an unconscious person. Call poison control center or doctor immediately for treatment advice. Have person rinse the mouth with water. If able to swallow, have the person sip a glass of water. Do not induce vomiting unless told to do so by a poison control center or doctor.

NOTE TO PHYSICIAN: Treatment is mainly symptomatic and supportive.

SECTION 5: FIRE HAZARDS,

Unusual Fire and Explosion Hazards: Flammable solid, liquid and vapors.

Fire Fighting Procedures:

NIOSH approved positive pressure, self-contained breathing apparatus and full protective turn-out gear.

Evacuate personnel to an area upwind to avoid smoke and vapors.

Remove containers of this material if it can be done safely.

Use water to keep fire exposed containers cool.

Protective clothing and equipment must be decontaminated if contact with the material or vapors has occurred.

Extinguishing Media: All common extinguishing media are suitable.

Conditions to Avoid: Elevated temperatures.

Hazardous Combustion Products: May produce irritating and toxic smoke and fumes. The composition of the combustion products have not been determined.

Flash Point: 65° C (Cleveland Open Cup)

Flammability Limits: **Lower:** Not determined **Upper:** Not determined

Autoignition Temperature: Not determined.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Pre-Entry Spill Procedure:

Shut off source of spill if it is safe to do so.

Eliminate sources of ignition.

Review Section 3 - Hazards Identification and Section 8- Exposure Control/Personal Protection before proceeding with the clean up.

Clean Up and Containment:

Scoop or shovel spilled material into suitable labeled containers with a tight fitting lid.

Secure the drum cover and move the container to a safe holding area.

Check area for residual material and repeat clean up if detected.

Environmental Concerns: None known.

Treatment and Disposal:

Decontaminate or dispose of all protective clothing and equipment.

See Section 13 - Disposal Recommendations for disposal information.

Reporting Requirements:

The United States Environmental Protection Agency (USEPA) has established a Reportable Quantity (RQ) for release of this material. See Section 15.

Report all releases, which are likely to endanger the public health, harm the environment, or cause complaint to the appropriate State or Local officials.

SECTION 7: HANDLING AND STORAGE**General Measures:**

Store at room temperature, in airtight containers and protect from light.

Do not generate dust or exposure to ignition source.

Keep away from heat, sparks, and flame.

Materials or Conditions to Avoid:

Contact with oxidizing and reducing agents.

Elevated temperatures.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**General Hygienic Practices:**

Do not get on eyes, skin, or clothing.

Do not breathe vapors, dust or fumes.

Wash thoroughly after handling.

Recommended Exposure Limits:

p-dichlorobenzene: ACGIH TLV: 10 ppm (60 mg/m³) 8-hr TWA A3*

*ACGIH has designated this component as an "A3" substance thereby including it among substances that are animal carcinogens with unknown relevance to man.

OSHA PEL: 75 ppm (450 mg/m³) 8-hr TWA

Mexican OEL: 450 mg/m³ 8-hr TWA

Mexican OEL: 675 mg/m³ 15-minute STEL

Personal Protective Equipment:

Eyewear: Chemical goggles.

Skin: Gloves are required if there is a potential for skin contact. A plastic or Vitron polyvinyl alcohol provides a physical barrier is required. Use disposable spun polyolefin (e.g. Tyvek) coveralls or equivalent to protect against contact. Consult the glove and clothing manufacturers, suppliers and/or industrial hygienist for further information.

Respiratory Protection: Respiratory protection is required whenever air contamination (dust, mist, or vapors) is generated by the process. A NIOSH approved high efficiency toxic dust/mist/fume respirator is recommended.

Work Practices and Engineering Controls:

- General room ventilation is adequate unless the process generates dust or fumes.
- Work-clothing should be removed in a change room on site and laundered professionally.
- Employees should shower and change into street clothes before leaving the facility.
- Prevent the accumulation of dust in the work area by thorough periodic cleaning of the area.

Protective Measures During Repair and Maintenance: No special measures are required.
Follow the recommendation for personal protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- Physical State:** Balls, blocks, crystals, nuggets or tablets. (Some products may be incased in plastic containers.)
- Color:** White.
- Odor:** Pleasant characteristic odor (mothballs). Some products contain a fragrance.
- Taste:** Not determined.
- pH:** Not applicable.
- Volatile (Wt. or Vol.), %:** 100%.
- Moisture Content, (Wt.) %:** Not determined.
- Solubility in Water:** 0.08 g/l at 25⁰ C
- Solubility - other solvents:** Soluble in ethanol, benzene.
- Specific Gravity/Bulk Density:** Varies with product type.
- Vapor Pressure:** 0.59 mm Hg at 20⁰ C; 11.5 mm Hg at 60⁰ C
- Vapor Density (air = 1):** 5.1.
- Evaporation Rate:** p-dichlorobenzene sublimes at room temperature.
- Boiling Point:** 174⁰ C
- Melting Point:** 53.5⁰ C

SECTION 10: STABILITY AND REACTIVITY

General Stability Considerations: Stable at room temperature.

Incompatible Materials: Oxidizing and reducing agents.

Hazardous Decomposition Products: Not determined.

Hazardous Polymerization: Does not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

p-Dichlorobenzene: Acute Toxicity: Oral - rat LD₅₀ = 2512 mg/kg; Oral - rabbit LD₅₀ = 2812 mg/kg; Oral - mouse LD₅₀ = 2950-3220 mg/kg; Oral - guinea pig LD₅₀ = 7595 mg/kg; Dermal - rat LD₅₀ = >8g/kg; Inhalation - cat 30 minute LCL₀ = 37 g/m³; Oral guinea pig Intraperitoneal - mouse LDL₀ = 2800 mg/kg; Oral human LDL₀ = 857 mg/kg; Dermal - rabbit LD₅₀ = >2 g/kg mg/kg.

Reproductive/Teratogenicity Effects: p-Dichlorobenzene has not been shown to cause birth defects (teratogenic) in laboratory animals.

Mutagenicity/Genotoxicity Information: -Dichlorobenzene has not been shown to be mutagenic.

Carcinogenicity and Chronic Toxicity: Two-year oral dosing studies with p-dichlorobenzene, by the National Toxicology program (NTP), indicated clear evidence for carcinogenicity in the livers of male and female mice and in the kidneys of male rats. The relevance of these studies to humans has not been determined.

SECTION 12: ECOLOGICAL INFORMATION

Environmental Fate: p-Dichlorobenzene: Soil absorption: $\log K_{oc}$ (Fullerton soil, 0.06% organic carbon) = 850 ; $\log P_{oct}$ 3.39 at 20°C; Biodegradation: domestic sewage, Closed Bottle test, 28 day = 67% of ThOD.

Ecotoxicity: p-Dichlorobenzene: Grass shrimp (*Palaemonetes pugio*) 48 hour = 129 mg/L; earth worms (*Eisenia Andrei*) = 14 day LC_{50} = 12-347 ug/L; flathead minnow 48 hour LC_{50} = 34 mg/L; sheephead minnow 96 hour LC_{50} = 7.4 mg/L

SECTION 13: DISPOSAL RECOMMENDATIONS

Waste Disposal Method: Dispose of material, liners, and containers in accordance with all applicable federal, state, and local environmental regulations.

SECTION 14: TRANSPORTATION INFORMATION

The classifications provided in this section are for information purposes only. Apply the appropriate regulations to properly classify your shipment for transportation.

U.S. DOT Class: Environmentally Hazardous Substance, solid, n.o.s. (p-Dichlorobenzene), 9 UN3077, III*

U.S. DOT label: Class 9*

*Applies only to packages which contain 100 lbs. or more (RQ quantity, See Section 15).
Special Provisions: this material meets the definition of Marine Pollutant.

IATA: Environmentally Hazardous Substance, solid, n.o.s. (p-Dichlorobenzene), 9 UN3077, III*

IMDG Code: See DOT

SECTION 15: REGULATORY INFORMATION

FIFRA: These products are pesticides registered by the U.S. EPA. All products contain p-dichlorobenzene as the active ingredient. It is a violation of Federal Law to use these products in a manner not consistent with the product label.

SARA TITLE III: Section 302. Not listed as an Extremely Hazardous Substance.
Section 311, 312 - Acute Health Hazard. Chronic Health Hazard. Fire Hazard.
Section 313. 1,4-dichlorobenzene

CERCLA Hazardous Substance: Listed in Table 302.4 of 40 CFR Part 302 as a hazardous substance with a reportable quantity of 100 lbs. 1,4-dichlorobenzene (Release of more than the Reportable Quantity to the environment in a 24 hour period requires notification to the National Response Center (800-424-8802 or 202-426-2675).

RCRA Hazardous Substance: Hazardous waste number: U072
Compound: p-dichlorobenzene

California Prop. 65 List: Listed (carcinogen)

Massachusetts Substance List: Listed.

New Jersey Right to Know Hazardous Substance List: Listed.

Pennsylvania Hazardous Substance List: Listed.

Canadian WHMIS List: Class D1B – Toxic Materials. Sensitization to product: None known.
Reproductive toxicity: None known. Odor threshold: Not known. Product use: Urinal blocks, moth control.

SECTION 16: OTHER INFORMATION

HMIS RATINGS:

Health Hazard: 2
Flammability Hazard: 2
Reactivity Hazard: 0
Additional Information: C

Willert MSDS No. 2, Ver. 1
Date: 12-6-05
Supercedes: Not applicable

LIST OF ACRONYMS

ACGIH: American Conference of Governmental Industrial Hygiene
AIHA WEEL: American Industrial Hygienists Association - Workplace Environmental Exposure Level
ANSI: American National Standards Institute
C: Ceiling
California Prop. 65: California Safe Drinking Water and Toxic Enforcement Act (Prop 65)
Canadian WHMIS: Canadian Workplace Hazardous Materials Information System Ingredient Disclosure
CASRN: Chemical Abstracts Service Registry Number
CERCLA: Comprehensive Emergency Response, Compensation and Liability Act
DOT: U. S. Department of Transportation
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
N/A: Not Applicable
NOR: Not Otherwise Regulated
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: OSHA Permissible Exposure Limit
RCRA: Resource Conservation and Recovery Act
RQ: Reportable Quantity
SARA: Superfund Amendment Reauthorization Act
STEL: Short-Term Exposure Limit
TLV: Threshold Limit Values (registered trademark of ACGIH)
TPQ: Threshold Planning Quantity
TSCA: Toxic Substances Control Act
TWA: Time Weighted Average

The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No warranty, guaranty, or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable federal or state laws.

DO NOT DISTRIBUTE THIS PAGE

References – EPA Registered PDCB Products

PPG MSDS Para-Dichlorobenzene, 11/11/98.

Solutia Inc. MSDS Sanochlor Insecticides (Para-Dichlorobenzene) Ref. No. 00000000273, 12-03-2004

R. Dart, Medical Toxicology, 3rd Edition, Lippincott Williams & Wilkins, Philadelphia, 2004.

Rom, W. N. Environmental and Occupational Medicine. Little, Brown and Company, Boston, MA.

Handbook of Chemistry and Physics, 77th Edition, CRC Press, 1997.

The Merck Index - An Encyclopedia of Chemicals, Drugs, and Biologicals - Thirteenth Edition. Merck & Co., Inc., Rahway, NJ, 2001.

M. D. Ford, K.A. Delaney, L.J. Ling, T.Erickson, Clinical Toxicology, , W.B. Saunders Company, Philadelphia, 2001.

Gosselin, R. E., R. P. Smith, H. C. Hodge. Clinical Toxicology of Commercial Products - Fifth Edition. Williams & Wilkins, Baltimore, MD. 1984.

Ellenhorn, M. J.. Ellenhorn's Medical Toxicology - Diagnosis and Treatment of Human, 2nd Edition Poisoning. Elsevier Science Publishing Company, Inc., New York, NY, 1997.

Deichmann, W. B. and H. W. Gerarde. Symptomatology and Therapy of Toxicological Emergencies. Academic Press, New York, NY, 1964.

Grant, W.M., Toxicology of the Eye - Third Edition. Charles C. Thomas, Springfield, IL, 1986.
NLM Data Bases Searched: CHEMID, RTECS, TOXLINE, HSDB.

Verschueren, K., Handbook of Environmental Data on Organic Chemicals, 4th Edition, John Wiley & Sons, Inc., NY, 2001.

Leber, A.P. and J.S. Bus, Halogenated Benzenes, Chapter 62, Patty's Toxicology, 5th Edition, Vol. 5, John Wiley & Sons, Inc., NY, 2001.