

Material Safety Data Sheet

p-Dichlorobenzene

ACC# 17640

Section 1 - Chemical Product and Company Identification

MSDS Name: p-Dichlorobenzene

Catalog Numbers: AC113190000, AC113190010, AC113190025, AC113190050, S79996, S799961, S799962, B249-3, NC9910420, XXB24925KG

Synonyms: p-DCB; 1,4-Dichlorobenzene; Dichlorocide, Paracide; Paradichlorobenzol; p-Chlorophenyl chloride; 1,4-DCB.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
106-46-7	p-Dichlorobenzene	97	203-400-5

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white solid. Flash Point: 65 deg C.

Warning! Causes eye, skin, and respiratory tract irritation. Excessive exposure may cause liver and kidney damage. May cause cancer based on animal studies. May cause lung damage. Material is a solid at room temperature that melts upon moderate heating into a combustible liquid with a flash point below 200°F(93.3°C). Sublimes (goes directly from solid to vapor form) readily at room temperature.

Target Organs: Kidneys, liver, lungs, respiratory system, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation. Exposure to high vapor concentrations may cause

irritation. Solid particles of p-DCB are reported to be painful to the eyes.

Skin: Solid produces burning sensation when held in contact with the skin, but irritation is slight. A 69-year-old man contacting p-DCB in a treated chair developed skin lesions including swelling and discoloration; kidney damage also was reported. (Documentation of the TLV)

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage.

Inhalation: Causes respiratory tract irritation. May cause liver and kidney damage. Inhalation of vapors causes irritation of eyes, throat, and skin. Exposure may cause anorexia, nausea, vomiting, weight loss and hepatic necrosis with jaundice. Exposure may cause headache and rhinitis (inflammation of the mucous membrane of the nose). Signs and symptoms of overexposure listed by supplier include headache, dizziness/incoordination, nausea/vomiting, loss of consciousness, vertigo, confusion, anxiety, labored breathing, drowsiness.

Chronic: Possible cancer hazard based on tests with laboratory animals. May cause anemia and other blood cell abnormalities. Chronic inhalation may lead to decreased pulmonary function. Animal studies indicate that the product may affect the liver and kidneys. Prolonged inhalation studies in animals produced lung effects. A NIEHS study examined the relationship between blood concentration of 1,4-DCB and lung function measurements in 953 adult humans and found that 1,4-DCB was associated with reduced lung function. The impaired function occurred even when adults' history of smoking was considered.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Dusts at sufficient concentrations can form explosive mixtures with air. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Combustible liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined

areas.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: 65 deg C (149.00 deg F)

Autoignition Temperature: 640 deg C (1,184.00 deg F)

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 2; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid breathing dust. Avoid breathing vapor. Keep away from heat and flame.

Storage: Keep away from heat and flame. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
p-Dichlorobenzene	10 ppm TWA	150 ppm IDLH	75 ppm TWA; 450 mg/m ³ TWA

OSHA Vacated PELs: p-Dichlorobenzene: 75 ppm TWA; 450 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: white

Odor: mothball-like - penetrating odor

pH: Not available.

Vapor Pressure: 1 mm Hg @ 25 deg C

Vapor Density: 5.1 (air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 174 deg C

Freezing/Melting Point: 53 deg C

Decomposition Temperature: Not available.

Solubility: Insoluble.

Specific Gravity/Density: 1.458 @ 20°C

Molecular Formula: C₆H₄Cl₂

Molecular Weight: 147.00

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: High temperatures, ignition sources, dust generation.

Incompatibilities with Other Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Hydrogen chloride, chlorine, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 106-46-7: CZ4550000

LD50/LC50:

CAS# 106-46-7:

Inhalation, rat: LC50 = 5000 mg/m³/4H;

Oral, mouse: LD50 = 2950 mg/kg;

Oral, rabbit: LD50 = 2830 mg/kg;

Oral, rat: LD50 = 500 mg/kg;

Skin, rabbit: LD50 = >2 gm/kg;

Skin, rat: LD50 = 2000 mg/kg;

Oral LD50, rat: 3826 mg/kg. Dermal LD50, rabbit: > 5010 mg/kg. Inhalation LC50, rat: > 6 mg/l/4H Practically nontoxic based on animal inhalation exposure studies with vapor. Eye irritation, rabbit: Moderately irritating. Skin irritation, rabbit: Slightly irritating to rabbit skin in 4 hour test. Testing by Solutia Inc.

Carcinogenicity:

CAS# 106-46-7:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** carcinogen, initial date 1/1/89
- **NTP:** Suspect carcinogen
- **IARC:** Group 2B carcinogen

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: No data available.

Mutagenicity: The weight of the evidence indicates that this material is not mutagenic in in-vitro and in-vivo assays.

Neurotoxicity: No data available.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Daphnia: Daphnia: 7.4 mg/l; 48h; EC50Fish: Rainbow trout: 1.12 mg/l; 96h; LC50Fish: Fathead Minnow: 4.0 mg/l; 96h; LC50Fish: Bluegill/Sunfish: 4.3 mg/l; 96h; LC50 No data available.

Environmental: Inherently biodegradable.

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must

consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series:

CAS# 106-46-7: waste number U072.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SO p-Dichlorobenzene	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SO
Hazard Class:	9	9
UN Number:	UN3077	UN3077
Packing Group:	III	III
Additional Info:		p-Dichlorobenzene

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 106-46-7 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

CAS# 106-46-7: 40 CFR 799.5115

Section 12b

CAS# 106-46-7: Section 4, 0.1 % de minimus concentration

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 106-46-7: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 106-46-7: immediate, delayed, fire.

Section 313

This material contains p-Dichlorobenzene (CAS# 106-46-7, 97%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR

Clean Air Act:

CAS# 106-46-7 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 106-46-7 is listed as a Hazardous Substance under the CWA. CAS# 106-46-7 is listed as a Priority Pollutant under the Clean Water Act. CAS# 106-46-7 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 106-46-7 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

WARNING: This product contains p-Dichlorobenzene, a chemical known to the state of California to cause cancer.

California No Significant Risk Level: CAS# 106-46-7: 20 æg/day NSRL

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN N

Risk Phrases:

R 36 Irritating to eyes.

R 40 Limited evidence of a carcinogenic effect.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 36/37 Wear suitable protective clothing and gloves.

S 46 If swallowed, seek medical advice immediately and show this container or label.

S 60 This material and its container must be disposed of as hazardous waste.

WGK (Water Danger/Protection)

CAS# 106-46-7: 2

Canada - DSL/NDSL

CAS# 106-46-7 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B3, D2B, D2A.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 106-46-7 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 12/12/1997

Revision #8 Date: 5/16/2007

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.