



Regd. Off. : 1501, Vikram Tower, Rajendra Place,
New Delhi-110008, (India)
Phones: 91-11-41538383 (8 Lines) Fax: 41538600, 25727781
E-mail: info@bharatgroup.co.in
Website: www.bharatgroup.co.in

Material Safety Data Sheet

• 1 Identification of substance:

- **Product details:**

- **Product name:** Para-Chlorophenyl acetic acid (PCPAA)

- **Manufacturer/Supplier:**

Bharat Rasayan Limited, 1501, Vikram Tower, Rajendra Place, New Delhi - 110 008, India; Phone: +91 - 11 - 43661120, 1104; Fax: +91 - 11 - 43661100

• 2 Composition/Data on components:

- **Chemical characterization:**

- Description: (CAS#)

Para-Chlorophenyl acetic acid (CAS# 1878-66-6): 99.5%

- **Identification number(s):**

- **EINECS Number:** 217-521-6

• 3 Hazards identification

- **Hazard description:** Xi Irritant

- **Information pertaining to particular dangers for man and environment**
R 36/37/38 Irritating to eyes, respiratory system and skin.

- **Classification system**

- **HMIS ratings (scale 0-4)**

(Hazardous Materials Identification System)

Health (acute effects) = 1

Flammability = 1

Reactivity = 1



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• **4 First aid measures**

- **After inhalation**
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
- **After skin contact**
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
- **After eye contact**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing** Seek immediate medical advice.

• **5 Fire fighting measures**

- **Suitable extinguishing agents**
Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards caused by the material, its products of combustion or resulting gases:**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Hydrogen chloride (HCl)
- **Protective equipment:**
Wear self-contained respirator.
Wear fully protective impervious suit.

• **6 Accidental release measures**

- **Person-related safety precautions:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **Measures for environmental protection:**
Do not allow material to be released to the environment without proper governmental permits.
- **Measures for cleaning/collecting:** Ensure adequate ventilation.

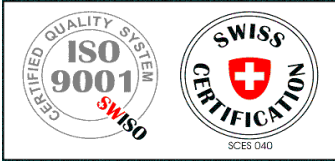


Bharat
RASAYAN LIMITED

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• **7 Handling and storage**

- **Handling**
- **Information for safe handling:**
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
- Ensure good ventilation at the workplace.
- **Information about protection against explosions and fires:**
Keep ignition sources away.
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
No special requirements.
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.



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• **8 Exposure controls and personal protection**

- **Additional information about design of technical systems:**
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:

- **Additional information:** No data
- **Personal protective equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
Use suitable respirator when high concentrations are present.
- **Protection of hands:**
Impervious gloves
Check protective gloves prior to each use for their proper condition.
- **Material of gloves**
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

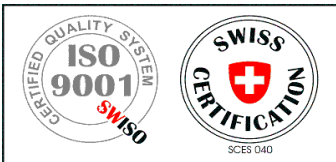


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• **9 Physical and chemical properties:**

- **General Information**
- **Form:** Powder
- **Color:** White
- **Odor:** mild chemical odor.

	<u>Value/Range</u>	<u>Unit</u>	<u>Method</u>
• Change in condition			
• Melting point/Melting range:	104-106	°C	
• Boiling point/Boiling range:	Not determined		
• Sublimation temperature / start:	Not determined		
• Flash point:	Not applicable		
• Ignition temperature:	Not determined		
• Decomposition temperature:	>275	°C	
• Danger of explosion:	Product does not present an explosion hazard.		
• Explosion limits:			
• Lower:	Not determined		
• Upper:	Not determined		
• Vapor pressure:	Not determined		
• Bulk Density:	0.78		
• Solubility in / Miscibility with	Soluble in toluene, acetone		
• Water:	Insoluble in water		



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10 Stability and reactivity

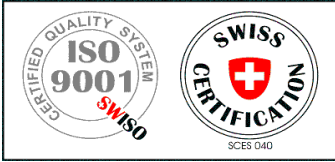
- **Thermal decomposition / conditions to be avoided:**
Decomposition will not occur if used and stored according to specifications.
- **Materials to be avoided:** Oxidizing agents
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:**
Carbon monoxide and carbon dioxide
Hydrogen chloride (HCl)

• 11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:**
Other than potential irritation (see above), no information on illness or injury to humans from acute or chronic exposure to this product is available.

• 12 Ecological information:

- **General notes:**
Do not allow material to be released to the environment without proper governmental permits.



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• **13 Disposal considerations**

- **product:**
- **Recommendation** Consult state, local or national regulations to ensure

Proper disposal.

- **Uncleaned packaging:**
- **Recommendation:**
Disposal must be made according to official regulations.

• **14 Transport information**

Not a hazardous material for transportation.

- **DOT regulations:**
- **Hazard class:** None

- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** None

- **Maritime transport IMDG:**
- **IMDG Class:** None

- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** None

- **Transport/Additional information:**
Not dangerous according to the above specifications.



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- **15 Regulations**

- **Product related hazard information:**
- **Hazard symbols:** Xi Irritant
- **Risk phrases:**
36/37/38 Irritating to eyes, respiratory system and skin.
- **Safety phrases:**

 - 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 - 37 Wear suitable gloves.
- **National regulations**
- **Information about limitation of use:**
For use only by technically qualified individuals.

- **16 Other information:**

The information provided in this MSDS is of general nature not specific for a particular purpose or situation, and believed to be correct and faithful. Bharat Rasayan Limited does not make any warranty or guarantee of any kind regarding fitness or completeness of information. Bharat Rasayan Limited disclaims any liability to the result(s) obtained or arising out of any use of the product or reliance on data/information contained in this MSDS.

Prepared by : BRL Safety Division

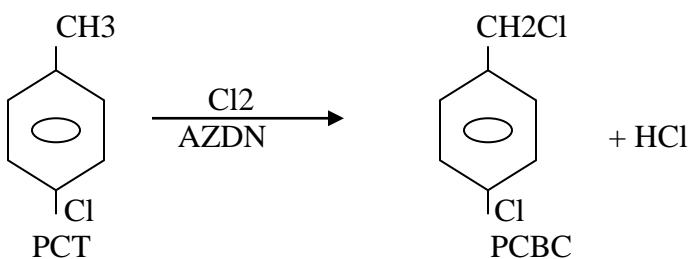
Date of Preparation: Aug 21, 2017



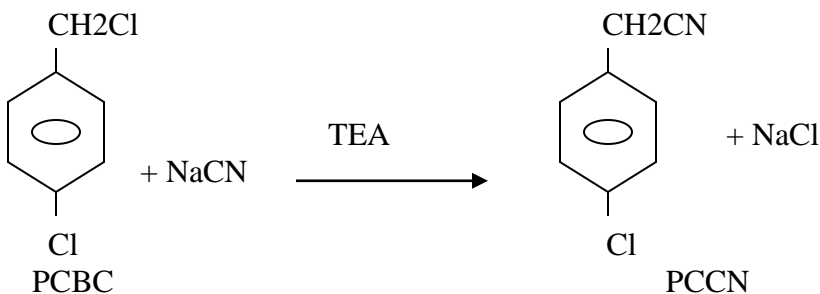
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Chemical Reaction:

Step-I Chlorination PCT to PCBC



Step-II Cyanation PCBC to PCCN



Step-III Hydrolysis PCCN to PCPAA

