

**Applicant:** CHEMIEVOLVE INDUSTRIES

**Inventors:** Abhinav Kumar Saha, Saurabh Kumar

**Chemical Product Formula:** (C<sub>6</sub>H<sub>6</sub>O·CH<sub>2</sub>O)<sub>n</sub>

**Chemical Product Name:** Polyoxybenzylmethyleneglycolanhydride(Phenol-Formaldehyde Resin)

**EHS Summary:**

**Formaldehyde:** -

Health Considerations

Substance	Hazard	Potential Routes of Exposure	Symptoms of Exposure	Engineering Controls	PPE	Safe Work Practices
Formaldehyde	Inhalation - irritant & suspected carcinogen, Skin & Eye contact - irritant	Inhalation, Skin contact, Eye contact	Respiratory irritation, coughing, wheezing, skin irritation, eye irritation, cancer (long-term exposure)	Fume hood	Chemical resistant gloves, Safety glasses/goggles, Lab coat, Respirator (if applicable)	Use in fume hood, Label containers, Minimize quantities, Never mouth pipet, Clean up spills, Dispose of waste properly
Phenol	Skin contact - corrosive & can be absorbed, Inhalation & Eye contact - irritant	Skin contact, Inhalation, Eye contact	Skin burns, irritation, respiratory problems, eye damage	Fume hood, Eye wash station, Safety shower	Chemical resistant gloves, Safety glasses/goggles, Lab coat	Use in fume hood, Label containers, Minimize quantities, Never mouth pipet, Clean up spills, Dispose of waste properly
Ammonia (Basic Solution)	Inhalation - irritant to respiratory system, Skin & Eye contact - irritant	Inhalation, Skin contact, Eye contact	Respiratory irritation, coughing, wheezing, burning sensation in eyes and skin	Fume hood, Eye wash station, Safety shower	Chemical resistant gloves, Safety glasses/goggles, Lab coat	Use in fume hood, Label containers, Minimize quantities, Never mouth pipet, Clean up spills, Dispose of waste properly

## Environmental Considerations

Substance	Environmental Impact	Disposal Methods
Formaldehyde	Air pollutant, can contribute to smog formation	Treated in a permitted hazardous waste facility
Phenol	Toxic to aquatic life, can disrupt ecosystems	Incineration in an approved facility, (depending on local regulations)
Ammonia (Basic Solution)	Can cause excessive algal growth (eutrophication) in waterways	Neutralize before disposal according to local regulations

## Phenol:-

## Health Considerations

Substance	Hazard	Potential Routes of Exposure	Symptoms of Exposure	Engineering Controls	PPE	Safe Work Practices
Phenol	Skin contact - corrosive & can be absorbed, Inhalation & Eye contact - irritant	Skin contact, Inhalation, Eye contact	Skin burns, irritation, respiratory problems, eye damage	Fume hood, Eye wash station, Safety shower	Chemical resistant gloves, Safety glasses/goggles, Lab coat	Use in fume hood, Label containers, Minimize quantities, Never mouth pipet, Clean up spills, Dispose of waste properly
Formaldehyde	Inhalation - irritant & suspected carcinogen, Skin & Eye contact - irritant	Inhalation, Skin contact, Eye contact	Respiratory irritation, coughing, wheezing, skin irritation, eye irritation, cancer (long-term exposure)	Fume hood	Chemical resistant gloves, Safety glasses/goggles, Lab coat, Respirator (if applicable)	Use in fume hood, Label containers, Minimize quantities, Never mouth pipet, Clean up spills, Dispose of waste properly
Bakelite (if applicable to your situation)	Refer to SDS for	Inhalation, Skin contact	Refer to SDS for	Engineering controls may vary	PPE may vary depending on process	Follow recommended safe work

	specific hazards		specific symptoms	depending on process		practices for handling Bakelite based on its physical and chemical properties
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### Environmental Considerations

Substance	Environmental Impact	Disposal Methods
Phenol	Toxic to aquatic life, can disrupt ecosystems	Incineration in an approved facility, (depending on local regulations)
Formaldehyde	Air pollutant, can contribute to smog formation	Treated in a permitted hazardous waste facility
Bakelite (if applicable to your situation)	Limited data available, may leach chemicals if not disposed of properly	Landfill disposal may be appropriate for cured Bakelite in some cases, consult with a licensed waste disposal company

**References:** [https://pubchem.ncbi.nlm.nih.gov/compound/Diphenic-](https://pubchem.ncbi.nlm.nih.gov/compound/Diphenic-acid#section=HazardClasses-and-Categories)

[acid#section=HazardClasses-and-Categories](https://pubchem.ncbi.nlm.nih.gov/compound/Diphenic-acid#section=HazardClasses-and-Categories)

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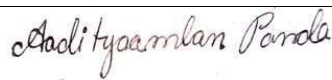
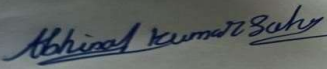
### List the contributions of each author:

- Saurabh Kumar determined the environmental impact and waste generation quantity.
- Abhinav Kumar Saha carried out the literature search, Health consideration and found the current regulations.
- Saurabh Kumar and Abhinav Kumar Saha estimated the overall health impact of the components involved.

Sign the pdf and upload.

## CHE261A Environmental Clearance

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