

**Environment and Health Risk Management Plan (EHRMP)**
**1. Environmental Impact and risk mitigation**

Risks	Project Specific Risk	Potential Impact	Mitigation Steps
Air Pollution	Accidental escape of recombinant microbes	Recombinant microbes in air	Closed operation in GMP/ GLP facility with proper AHU and terminal HEPA filter.
Water Pollution and Waste water treatment	Untreated effluent	Ground water contamination	Primary treatment at site followed by secondary treatment at common effluent treatment plant (CETP).
Chemical waste	Toxic process chemicals	Soil and Ground water contamination	Segregation, collection, secured storage and disposal to treatment storage facility or agencies authorised by regulators
Biological Waste	All type of microbiological waste, escape of recombinant microbes	Health risk and escape of recombinant microbes to environment	Decontamination of microbiological waste by autoclaving before disposal to common Biomedical waste treatment facility/TSDF. We follow the safety guideline of DBT / RCGM in dealing with recombinant microbes. Segregation of waste in color coded bags .
Heavy metals	Not applicable	Not applicable	No heavy metal containing material is in use
Radiation Waste	Not applicable	Not applicable	No radioactive material is in use
Destruction/alteration of surrounding ecosystem	Escape of recombinant microbes	Escape of recombinant microbes to environment	Closed operation in GMP/ GLP facility with proper AHU and terminal HEPA filter. We discharge waste generated after proper treatment and do not allow it to go to surrounding environment. So our operation does not destroy or alter the surrounding ecosystem
others	Not applicable	Not applicable	Not applicable



## 2. Occupational Health and Safety and risk mitigation

Risks	Project Specific Risk	Potential Impact	Mitigation Steps
Heat Hazards	Operation of boiler	Heat injury to operator	Trained boiler operators
Chemical hazards, including fire and explosions	Fire	Injuries, property loss	Fire extinguishers and Fire hydrant in place.
Pathogenic and biological hazards	Exposure to pathogens, recombinant microbes	Health Risk	Biosafety cabinets, Closed operations, controlled working environment. Use of disinfectants
Radiological hazards	Not applicable	Not applicable	No radioactive chemicals are in use
Noise	High noise	Hearing loss	Not applicable as there are no noise producing equipment. Use of ear plugs if required.
Process safety	Personnel handling high concentration product. Exposure to recombinant microbes	In toxication Health Risk	Closed system operations, Equipment controls in place. Use of PPE where required
others	Not applicable	Not applicable	Not applicable



**Community Health and Safety and risk mitigation**

<b>Risks</b>	<b>Project Specific Risk</b>	<b>Potential Impact</b>	<b>Mitigation Steps</b>
Safety Transportation Management System (for transport of hazardous material)	<p>Process and Lab waste transportation</p> <p>Fuel, chemicals, raw material</p> <p>Accidental spillage harvest / material contains recombinant microbes(GMOs)</p>	<p>Escape of recombinant microbes to environment.</p> <p>Spills</p>	<p>Transportation of waste by authorised RTA approved vehicles.</p> <p>Spill management.</p> <p>Use of bio hazardous bags with proper closure.</p> <p>Bag in bag where required.</p> <p>Proper disinfection procedures in place before transfer as required.</p>
Emergency preparedness and participation of local authorities and potentially affected communities	<p>Low hazard facility.</p> <p>Accidental spillage harvest / material contains recombinant microbes(GMOs)</p> <p>Fire/explosion</p>	<p>Localised</p> <p>Infection to immune compromised persons in case of accidental contact with recombinant microbes</p> <p>Casualties</p>	<p>Emergency preparedness plan, Mock drills.</p> <p>We follow the safety guideline of DBT / RCGM in dealing with recombinant microbes</p> <p>Closed system operations.</p> <p>Fire extinguishers and fire hydrant in place.</p> <p>Training to employees on fire fighting.</p> <p>Training on First Aid Imparted to employees</p>

