

RISK ASSESSMENT AND MANAGEMENT

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1.0 INTRODUCTION

Risk analysis has been carried out with the following objectives.

Recommended measures for reducing risk during various stages of operation and to identify impact distances.

To enable the preparation of an "On Site Emergency Control Plan", which takes note of the risk potential and the impact distances, based on which every practical contingency is provided for involving roles for key personnel.

2.0 IDENTIFICATION OF VULNERABLE AREAS AND CONTINGENCIES

The following are the areas/situations of potential emergency

Fire Hazard

Raw Material

3.0 PRODUCE CONSEQUENCES ANALYSIS

3.1 FIRE HAZARD

The primary fire hazard is electrical fire.

3.2 LEAK OF METHANOL AND FORMALDEHYDE FUMES

Methanol may get fixed if may methanol fumes leaks in the storage and in pipe line.

Formaldehyde fumes cause eye and throat irritation if the famous leaks and the concentration exceeds 0.05 ppm.

3.3 RAW MATERIAL

The unit proposes to use the following chemical as raw material and its stock at any point of time is as follows:

01	Methanol	11T/Day
02	Silver	2.5kg

4.0 ON SITE EMERGENCY PLAN

4.1 INTRODUCTION

Normally it is not possible to completely eliminate emergency situations, but it is definitely possible to control them. Any emergency if uncontrolled may cause a disaster and disaster may create a catastrophe. Hence advance planning and proper training to each and every employee in this emergency function is very essential to prevent any misunderstanding and disorder during an emergency.

Keeping above in view, this plan is titled as "On Site Emergency Plan", outlines the basic course of action to be followed by VEERA CHEMICALS INDIA (P) LTD, Krishnagiri. Employees in case of major conditions which may occur either in or around the plant premises.

The highest ranking technical person in the plant at the time of emergency will have the overall responsibility of supervising and co-coordinating the course of action to be taken to tackle the emergency. Every one concerned should be thoroughly familiar with his responsibilities as mentioned in this plan.

4.2 WHAT IS ON SITE EMERGENCY

An emergency which may cause serious injuries, loss of life, extensive damage to property or environment, serious disruption inside the plant, or the events that are commonly having serious implications like major fire hazards, causing serious burns to personnel or resulting in collapse of structure or release of toxic substances in the environment, etc.

4.3 OBJECTIVE

- The main objective of the "On Site Emergency Plan" is effective mobilization of resources in order:
- To save lives
- To rescue victims
- To minimise injury
- To render timely treatment to the injured
- To contain the incident and to minimize the extent of the damage to the resources and the business.

- To inform the relatives of casualties
- To provide reliable information to Government official and Police.
- To alert the community around the actual danger
- To preserve relevant records, equipments and samples, which may be needed as evidence for subsequent investigation.

4.4 HAZARD POTENTIAL AREA AT VEERA CHEMICALS INDIA PVT LTD.

Following emergencies can occur at various locations in the plant:

A. FIRE AT:

Production Building

Raw Material Storage Godown

B. LEAK OF FORMALDEHYDE FUMES

C. FOOD POISONING AND CONTAMINATION OF WATER

Drinking water point in the plant

4.5 MAXIMUM INVENTORY OF RAW MATERIAL

Sl.No.	Name	Maximum Storage Capacity	Mode of Storage
1	Methanol	11 KID	stored in proof contained one time & usage stored
2	Silver	2.5 kg	one time dosage (not stored)

4.6 FACILITIES AVAILABLE TO TACKLE THE EMERGENCIES

All production buildings are provided with fixed CO2 fire extinguishers and First-Aid kits.

Krishnagiri Fire Station is available nearby

First Aid medicines are available.

Ambulance is available near by Government Hospital /ESI Hospital

All Buildings are having Emergency lights and torches

4.7 ACTION TO BE TAKEN IN CASE OF FIRE

All concerned persons should take the following steps in case of fire:

- a) Person who spots fire should not get panicked in case of fire.

First he should spot exact location of fire and assess the situation and then shout, "FIRE" at the top of his voice. Unit Head, Security should be informed.

On hearing for help/Supervisor and departmental head.

Send word to the supervisor and departmental head.

Immediately extinguish the fire with the help of the fire extinguishers available (or) inform to the Fire Station. Only trained and experienced employees should do this work.

Affected persons if any should be removed from the place and First Aid shall be given quickly by trained persons.

Other persons who are not concerned with actual fire fighting operations should evacuate the place.

The area should be cordoned off and No. unauthorised person should be allowed to reach near the place of fire.

4.8 ACTION TO BE TAKEN IN CASE OF METHANOL LEAKAGE

Eye contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.

Skin Contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious skin contact

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial area. Seek immediate medical attention.

Inhalation

If Inhaled, remove to fresh air, if not breathing, give artificial respiration, if breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give. seek immediate medical attention.

Ingestion

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

4.9 ACTION TO BE TAKEN IN CASE OF FORMALDEHYDE LEAKAGE**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion

If swallowed and the victim is conscious, dilute, inactivate, or absorb the ingested formaldehyde by giving milk, activated charcoal, or water. Any organic material will inactivate formaldehyde. Keep affected person warm and at rest. Get medical attention immediately. If vomiting occurs, keep head lower than hips.

Skin Contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Eye Contact

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician

Monitor arterial blood gases and methanol levels after significant ingestion. hemodialysis may be effective in formaldehyde removal. Use formic acid in urine and formaldehyde in blood or expired air as diagnostic tests.

4.10 ASSEMBLY POINT

Whenever any emergency is declared employees are required to assemble at security main gate.

4.11 EMERGENCY CONTROL CENTRE

Security Main Gate

Or

Administrative Office

4.12 EMERGENCY FIRST AID CENTRE

Security Main Gate

4.13 IDENTIFIED KEY PERSONNEL

1. Main Controller
Plant Manager
2. Incident Controller
Shift Supervisor

4.14 DUTIES OF KEY PERSONNEL

The Plant Manager/Shift Supervisor should go to the Emergency Control Centre as soon as he is aware of the emergency and take over whoever is deputing for him. His duties include.

1. Get complete information of incident.
2. Remain there and try to establish contact with incident controller and ask him about the help he may be needing to tackle the emergency.
3. Guide him about action to be taken.
4. If required call in key personnel and outside services like
 - a. Fire Brigade
 - b. Doctors
 - c. Ambulance
 - d. Water tankers
 - e. Police, etc.
5. Establish communication and liaison with agencies like
 - a. Inspector of Factories
 - b. Pollution Control Board
 - c. Police and other Government officials
6. Guide and control the traffic movement in the works.
7. Ensure that casualties are attended to
8. Ensure that the relatives of casualties are informed.
9. Arrange for personnel to be relieved in time and ensure that they are provided with food and drinks.
10. Control and clean up and rehabilitation of affected areas after the emergency.