

# MANAGEMENT OF CHEMICAL DISASTERS

Ref: D M Act, 2005

National Disaster Management Guidelines (Chemical Disasters)

The Chemical Accidents (Emergency Planning, Preparedness, and Response) Rules, 1996

**OBJECTIVE : PREVENTION, PREPAREDNESS AND MITIGATION ALONG WITH RESPONSE, REHABILITATION AND RECONSTRUCTION OF CHEMICAL ACCIDENTS**

## Action Plan for Management of Chemical Disasters

SL NO	ACTION POINTS	DEPARTMENTS RESPONSIBLE	PRESENT STATUS	PROPOSED ACTION	COMPLIANCE VERIFICATION (TIMEBOUND)
01	<p><b>Development and Improvement of databases of Chemical Installations including isolated storages and Pipelines</b></p> <p><b>A. MANUFACTURING &amp; FORMULATION INSTALLATIONS</b></p> <ul style="list-style-type: none"> <li>➤ Industrial Installations</li> <li>➤ Industrial Projects under Commissioning</li> <li>➤ Industrial units under Operations</li> <li>➤ Industrial units under Maintenance</li> </ul> <p><b>B. MATERIAL HANDLING &amp; STORAGE IN MANUFACTURING FACILITIES &amp; ISOLATED STORAGES (including Ports, Docks &amp; Fuel Depots)</b></p> <ul style="list-style-type: none"> <li>➤ Warehouses</li> </ul>	<p><b>DoFB/ OSPCB/ Commerce &amp; Transport/ SUPPLY</b></p>	<p>Preliminary information available in State Disaster Management Plan Odisha – July 2014 Edition of OSDMA</p>	<p><b>Database with the following details:</b></p> <ul style="list-style-type: none"> <li>• Name &amp; details of the organisation</li> <li>• <b>Qty of hazardous chemicals / flammable substances (Vessel Capacity / Max / Inventory / Threshold)</b></li> <li>• Whether conform to latest Technology?</li> <li>• Material Safety Data Sheets (MSDSs)</li> <li>• <b>SOPs / SMPs</b></li> <li>• Safety Policies / Safety Committees</li> <li>• <b>On Site Emergency Plans</b></li> </ul>	<ul style="list-style-type: none"> <li>• Line Departments shall furnish relevant information within three months</li> <li>• Safety guidelines shall be prepared by Director of Factories &amp; Boilers for general operations like DRI Kilns, Induction Furnaces, Electric Arc Furnaces, Blast Furnaces, Power Plants,</li> </ul>

	<ul style="list-style-type: none"> <li>➤ Go-downs</li> </ul> <p><b>C. TRANSPORTATION</b></p> <ul style="list-style-type: none"> <li>➤ Road</li> <li>➤ Rail</li> <li>➤ Air</li> <li>➤ Water</li> <li>➤ Pipeline</li> </ul>			<ul style="list-style-type: none"> <li>• Off Site Emergency Plans</li> <li>• Preparation of State Response Plan on Chemical Disasters</li> <li>• Crisis Alert System (CAS) &amp; continued training programmes</li> <li>• Periodic <b>Mock Drills</b> (Off Site &amp; On Site)</li> <li>• <b>Self-declaration</b> on safe handling by the concerned establishments.</li> <li>• <b>Type of disasters</b> (Fire / Explosion / Toxic Release / Poisoning / Combination of two or more)</li> <li>• <b>Training &amp; Community Awareness</b></li> </ul>	<p>Chemical Plants (Chlorine, Ammonia etc)</p> <ul style="list-style-type: none"> <li>• OSDMA shall monitor.</li> </ul>
<b>02</b>	<b>Incorporation of Geographical Information System (GIS) Technology</b>	OSDMA	-	<b>Shall be prepared on receipt of information from the Line Department</b>	One month of receipt of information from line department
<b>03</b>	<b>Impact of Chemical Disasters (Risk mapping)</b> <ul style="list-style-type: none"> <li>➤ On Living Organisms (Humans, Livestock, Flora/Fauna)</li> <li>➤ Environment (Air, Soil, Water)</li> <li>➤ Losses to industry</li> </ul>	OSDMA	-	Casualties, injuries, damage to properties / environment	One month of receipt of information from line department
<b>04</b>	<b>Regulatory framework</b> <ul style="list-style-type: none"> <li>➤ Factories Act, 1948 (Hazardous Process)</li> <li>➤ Occupational Health Centers</li> </ul>	OSDMA	-	Section 41A not implemented DDMP of Health Deptt must address the issue	OSDMA shall coordinate and respective line departments shall

	<ul style="list-style-type: none"> <li>➤ Codes of Practices on handling chemicals</li> <li>➤ Management of Roads &amp; Highways</li> <li>➤ Transportation of Hazardous Chemicals</li> <li>➤ Hospitals for medical emergencies</li> <li>➤ Chemical Accidents (EPP&amp;R) Rules, 1996</li> </ul>			<p>Must be prepared and updated regularly. Inventory of hazardous substances be shared Inventory of hazardous substances be shared Self-certification be made SOP be prepared</p>	<p>proceed for amendment of relevant Rules.</p>
<b>05</b>	<p><b>Compliance assessment</b></p> <ul style="list-style-type: none"> <li>➤ Risk Assessment Studies</li> <li>➤ Hazard Analysis Studies</li> <li>➤ Safety Audit</li> <li>➤ Safety Reports</li> <li>➤ Mock Drills</li> <li>➤ SCG Meetings</li> <li>➤ DCG Meetings</li> <li>➤ LCG Meetings</li> <li>➤ Crisis Control Room</li> <li>➤ Web Based Accident Information System</li> <li>➤ Red Book</li> <li>➤ DOs and DON'Ts during Chemical Accidents</li> <li>➤ Awareness programs by industries for communities residing in the vicinity</li> </ul>	<p><b>DoFB/ OSPCB/ Commerce &amp; Transport/ SUPPLY</b></p>		<p>Concerned Line Departments shall enforce and OSDMA shall monitor.</p>	
<b>06</b>	<p><b>Technical Initiatives in Installations</b></p> <ul style="list-style-type: none"> <li>➤ Major Accident Hazard Control System</li> <li>➤ Hazard Analysis Studies of Industrial Pockets</li> <li>➤</li> </ul>			<p>Infrastructure facility augmented A sub-scheme entitled "Industrial Pocket-wise Hazard Analysis" has been in</p>	

	<ul style="list-style-type: none"> <li>➤</li> <li>➤ GIS-based Emergency Management System</li> <li>➤</li> <li>➤</li> <li>➤ Environment Risk Reporting and Information Systems (ERRIS)</li> <li>➤</li> <li>➤</li> <li>➤ Emergency Response Centres (ERCs) &amp; Poison Control Centres</li> <li>➤</li> <li>➤</li> <li>➤</li> <li>➤</li> <li>➤ Capacity Development</li> <li>➤ Control Room Concept</li> <li>➤ National Networking of Emergency Operation Centres (EOCs)</li> <li>➤ Responsible Care (RC)</li> <li>➤ Mutual Aid Response Group (MARG)</li> </ul> <hr/>			<p>operation at MoEF since Eighth Five Year Plan. Pilot study in Gujarat, Maharashtra, Tamilnadu &amp; Andhra is completed. Extended to NCT of Delhi, Rajasthan, UP, Haryana, Karnataka, Kerala, WB, Assam, MP &amp; Punjab. Prepared by Indian Chamber of Commerce (ICC), Kolkatta for chemical units in Haldia and Durgapur, which was funded by the European Union with technical collaboration of The Netherlands and Italy. ERC serves as a link between DCG and industry during an emergency. Five ERCs established in Manali (TN), Bhopal, Mahad (Maharashtra), Vishakhapatnam (AP) &amp; Hyderabad (AP). National Poison Information Centre is established at AIIMS, New Delhi.</p> <p>Financial assistance has been provided to the offices of CIFs like Maharashtra, TN, AP, Gujarat, Rajasthan &amp; Delhi.</p>	<p><b>Study in Odisha may be requested.</b></p> <p><b>A centre may be established at AIIMS, Bhubaneswar</b>  <b>Similar facility be extended in Odisha</b></p>
<b>07</b>	<b>Initiatives in Road Transport Sectors</b>	Transport Deptt	-	Information on transportation of hazardous	<b>Immediate</b>

	<ul style="list-style-type: none"> <li>➤ Vulnerability and Risk Assessment of Transportation of HAZCHEM</li> <li>➤ Hazardous Material (HAZMAT) Emergency Response Van</li> </ul>			chemicals for last five years shall be compiled and action plan shall be prepared by Transport Deptt for safe transportation.	
<b>08</b>	<b>SDMAs/DDMAs</b>	Collectors of respective districts / OSDMA	-	OSDMA shall issue letters to all collectors. Existing DDMAs shall be assessed with reference to chemical accidents.	<b>Immediate</b>
<b>09</b>	<b>Redressal of Gaps in Statutes</b> <ul style="list-style-type: none"> <li>➤ State Guidelines on Occupational Safety &amp; Health and Medical Management</li> <li>➤ Regulations on Storage &amp; Transportation of Cryogenics</li> <li>➤ Safety Guidelines for transportation of HAZCHEM fluids through under-ground pipelines</li> <li>➤ Regulation on Risk Assessment &amp; Classification, Labeling and Packaging</li> <li>➤ Statutory Powers to Factory Inspectors to issue Improvement Notices under Rule 19 of MSIHC Rules</li> <li>➤ Regulations to discard Obsolete and Unsafe Technology</li> <li>➤ Identification of Technical Competent Authorities &amp; Standardization of Reporting Mechanism</li> <li>➤ Regulations on Grant of Compensation</li> </ul>	Respective line departments	-	OSDMA shall issue letters to the respective departments to address the existing gap and monitor periodically.	<b>Immediate</b>

	<ul style="list-style-type: none"> <li>➤ Performance Award Scheme</li> <li>➤ Standardization of Inspection Systems</li> <li>➤ Requirement of Single Inspection System</li> <li>➤ Reporting of Accidents during Commissioning &amp; Decommissioning</li> <li>➤ Off-Site Emergency Drills</li> <li>➤ Medical Emergency Plans in DDMP</li> <li>➤ <b>A Land-use Policy shall be developed</b></li> <li>➤ <b>Proper &amp; Safe disposal of Hazardous Waste</b></li> <li>➤ <b>Penalize the defaulter units</b></li> </ul>			Legislation on buffer zone will be introduced to restrict the slum colonies. Existing slum colonies to be relocated.	
<b>10</b>	<p><b>Preparedness</b></p> <p><b>Education – DM must be a subject at School level Class VIII, IX, X &amp; Technical &amp; Medical Officers</b></p> <p><b>Self inspection &amp; Corporate Social Responsibility</b></p> <p><b>Capacity Development : Infrastructure Skilled</b></p> <p><b>Manpower</b></p> <p style="padding-left: 100px;"><b>Material</b></p> <p><b>Logistics</b></p> <p><b>Awareness Generation</b></p> <p><b>Medical emergencies</b></p> <p><b>Public Liability Insurance Act, 1991</b></p>	Concerned departments	-	OSDMA shall issue letters to the concerned departments for compliance.	<b>Immediate</b>