

Emergency Response Plan

IAMC Toolkit

*Innovative Approaches for the Sound Management of
Chemicals and Chemical Waste*



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



Introduction

Accidents, failures, fires and other undesirable events can occur. An adequate organization, effective first-aid measures and well trained workers considerably reduce the damage.

This topic covers planning and post-event actions to be undertaken to minimize the accident or hazardous event consequences. The reader will learn which key information need to be included in an emergency plan and how to illustrate it in a company facility.

Hazard Management

1. Risk Identification and safety	2. Transport and storage	3. Fire and explosion protection	4. Emergency response
1.1 Chemical classification and labelling	2.1 Internal transport of chemicals	3.1 Fire protection	4.1 Emergency response plan
1.2 Risk assessment	2.2 Internal pedestrian routes	3.2 Fire protection in welding and cutting operations	
1.3 Safety rules	2.3 Storage	3.3 Explosion protection	
1.4 Personal protective equipment		3.4 Container cleaning	
1.5 Skin protection			
1.6 Emergency escape routes			
1.7 Solvents, acids, bases handling			
1.8 Safety in gas tank handling			



Contents

Context

Emergency Response Plan

- Fire protection and escape routes

- Warning organization

- First aid

- Training and behaviour

- Access for Rescue Services

- What to do in case of an emergency?

APELL (Awareness and Preparedness for Emergencies at Local Level)

Sources

Context



Context

- In industry, undesirable events can occur:
 - Incidents
 - Failures
 - Fires
 - Explosions



Objective of the emergency response plan:

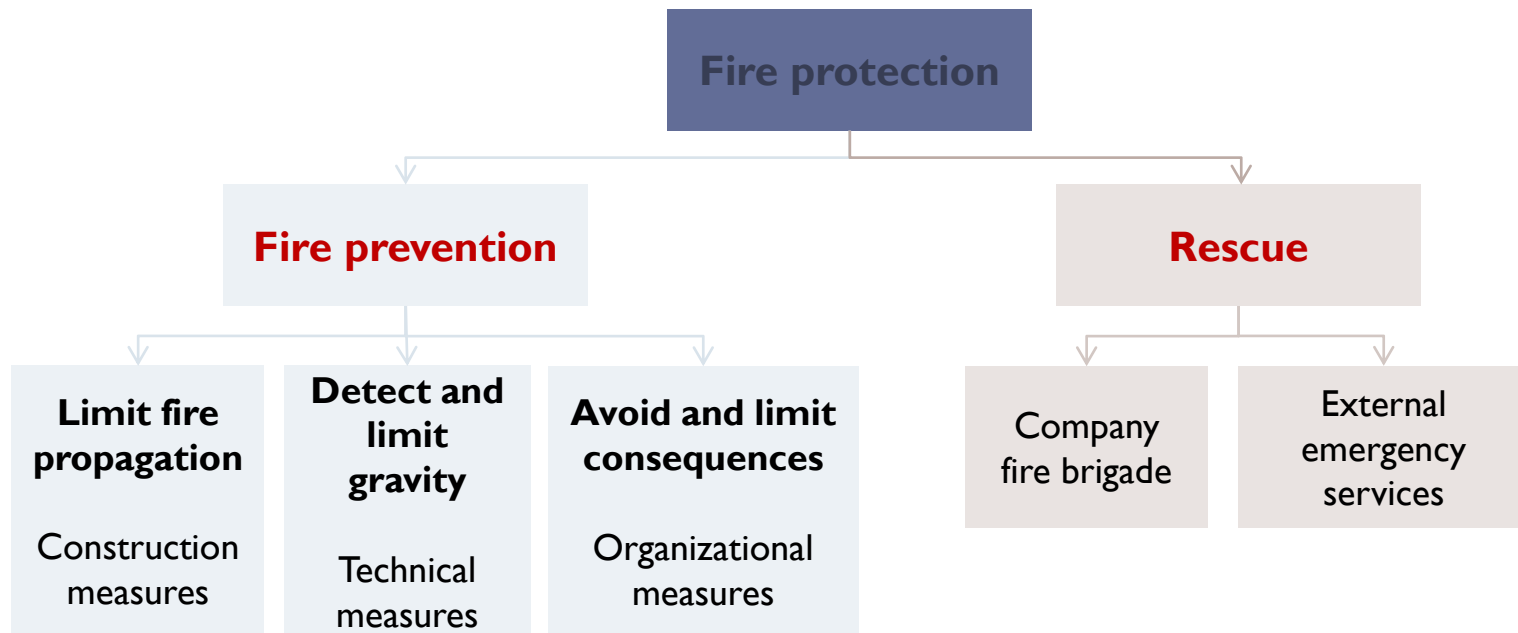
- Ensure that all measures have been taken to allow a fast and effective reaction in case of an emergency.

Emergency Response Plan



Fire Protection and Escape Routes (1)

- Every company should draw up a **fire protection concept** (planning of protection measures according to the identified hazards and protection objectives).



Fire Protection and Escape Routes (2)

- Escape routes and emergency exits should be provided and indicated with signs intended for this purpose.
- Emergency exits should be free of obstacles and could be open without any assistance.



Source: Suva

→ The emergency signs should be easily identifiable (especially in case of a power failure):

- Phosphorescent signs
- Emergency lighting

Fire Protection and Escape Routes (3)

- The buildings and facilities should be equipped with fire protection equipment:
 - Sprinklers
 - Extinguishers
 - Fire blankets
 - Firewalls



Fire alarm

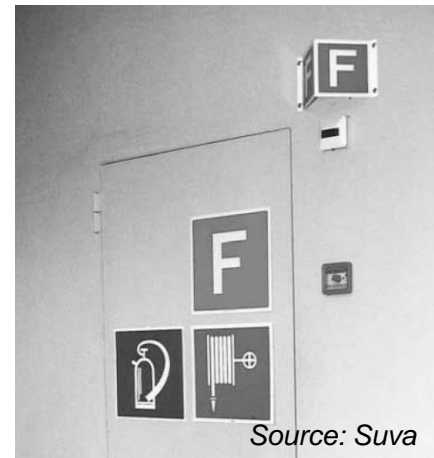
Source: CSD



Extinguisher

Source: CSD

The location of the extinguishers and their access paths should be indicated with signs intended for this purpose.



Source: Suva

Warning Organization

- Appropriate means of alarm should be available (e.g. telephones).
- A list of emergency phone numbers and a list of persons to contact in case of an emergency (name and phone number) should be kept updated and displayed next to the telephones and on the information panel.

**EMERGENCY
PHONE NUMBERS**

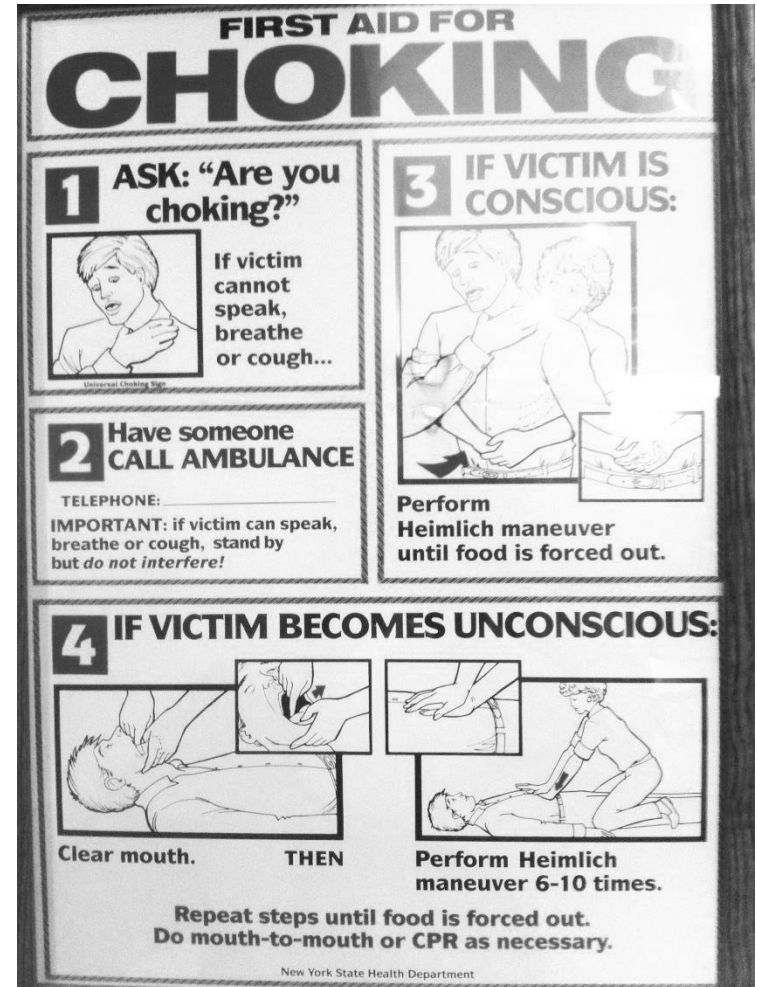
FIRE _____
POLICE _____
AMBULANCE _____
POISON CENTER _____

First Aid

- **Written instructions** explaining the **first aid measures** should be affixed next to the means of alarm.
- **First aid kits** should be available, regularly checked and replenished. Their location should be wisely chosen and indicated by appropriate signs.



Source: UNIDO



Source: UNIDO

Training and Behaviour (1)

- Staff should be **regularly reminded** of the alarm procedure:
 - List with emergency phone numbers
 - Using the means of alarm
 - Information procedure in case of an emergency
 - Assembly point



Source: Suva

Training and Behaviour (2)

- Staff must be informed about emergency measures in case of a fire:
 - Location and use of fire extinguishers
 - Use of emergency exits
- Every employee should be made aware of first aid measures:
 - Location and use of first aid kits
 - What to do in case of an incident
 - Rapid crisis intervention



Source: Suva

Training and Behaviour (3)

- New employees should be informed about the emergency plan:
 - Warning organization
 - What to do in case of a fire
 - First aid measures
- Drills should be organized to practise:
 - The accurate evaluation of the situation
 - First aid measures
 - The timeliness of alert
 - The effective collaboration with rescue teams (e.g. fire brigade)

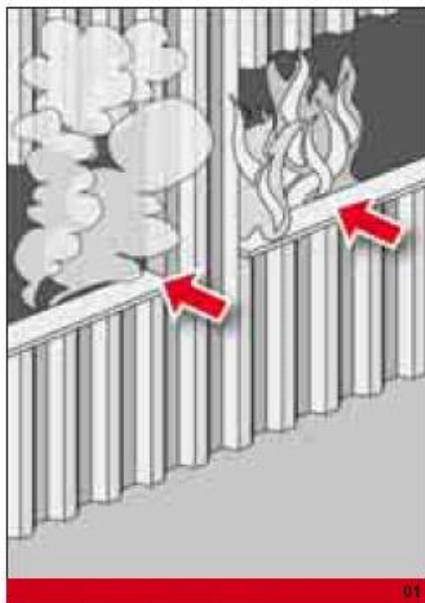
Access for Rescue Services

- The rescue services, ambulances and firemen should be able to freely access the buildings and installations.



Source: UNIDO

What to Do in Case of an Emergency

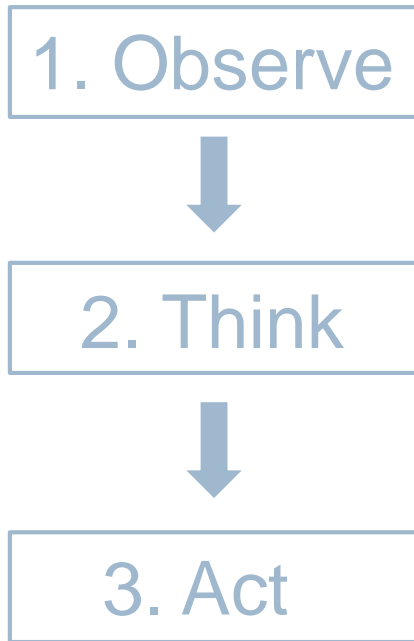


Source: CFST



Source: CFST

What to Do in Case of an Emergency?



	Call the emergency services	Emergency/Ambulance 144 Police 117 European emergency call 112 Doctor: _____ Hospital: _____	Swiss Air Rescue Service 1414 Fire brigade 118 Poisoning 145
<p>Where is the victim/the scene of the fire? Who is calling (name)? What has happened? When did it happen? How many people are affected? Additional dangers, hazardous materials? My number to call back?</p>			
	Accident	<ol style="list-style-type: none"> Secure the hazard area Call the emergency services ☎ 144 First Aid <ul style="list-style-type: none"> Stop any bleeding, turn the victim on their side if unconscious If unconscious and if breathing is not normal: <ul style="list-style-type: none"> C: Heart massage (circulation) A: Open the airways (airways) B: Respiration (breathing) D: Defibrillation Brief paramedic(s)/ambulance staff Location of first-aid material/equipment 	
	Fire	<ol style="list-style-type: none"> Call the fire brigade ☎ 118 Take endangered persons with you to a safe place Close all windows and doors Brief the fire brigade, extinguish the fire 	
	Evacuation	<ol style="list-style-type: none"> Notify endangered persons and take them with you Leave the building using the stairs Make your way to the Assembly Point Assembly Point: _____ _____ _____	
Person responsible for ensuring that the emergency numbers, first aid equipment, fire extinguishers and instructions are up to date: _____			

APELL

Awareness and Preparedness for
Emergencies at Local Level



APELL (1)

- **What is APELL?**

- APELL is a programme developed by UNEP in conjunction with governments and industries.
- “APELL is a modular, flexible methodological tool for preventing accidents and, failing this, to minimize their impacts. This is achieved by assisting decision-makers and technical personnel to increase community awareness and to prepare co-ordinated response plans involving industry, government, and the local community, in the event that unexpected events should endanger life, property or the environment.” (Source: www.unep.org/apell, May 2015)
- “The APELL process is designed to build on any and all existing emergency plans to create a single coordinated local plan. There may be national government emergency plans in place but there is always the need for an effective structure at the local level. Industrial facilities should already have on-site emergency plans. Local authorities and rescue services should have plans to deal with the consequences of major emergencies. [...] The APELL process ensures that all existing plans contribute to the overall integrated, cooperative plan.” (Source: www.unep.org/apell, May 2015)

APELL (2)

- **How does APELL work?**

The APELL process consists of **ten steps**:

1. “Identify the emergency response participants and establish their roles, resources, and concerns.
2. Evaluate the hazards and risks that may result in emergency situations in the community.
3. Have participants review their own emergency response plans to ensure a coordinated response.
4. Identify the required response tasks not covered by existing plans.
5. Match these tasks to the resources of the identified participants.
6. Make the changes necessary to improve existing plans, integrate them into an overall community plan and gain agreement.
7. Commit the integrated community plan to writing and obtain approval from local governments.
8. Educate participating groups about the integrated plan and ensure that all emergency responders are trained.
9. Establish procedures for periodic testing, review, and updating of the plan.
10. Educate the community about the integrated plan.” *(Source: www.unep.org/apell, May 2015)*



APELL (3)

Download the APELL Handbook:

<http://www.unep.fr/shared/publications/pdf/WEBx0064xPA-APELLtech.pdf>



Source: based on UN GHS, 2013



Key Messages

- Escape routes and emergency exits should be provided and indicated with signs intended for this purpose.
- Emergency exits should be free of obstacles and openable without any assistance.
- Staff should be regularly reminded of the alarm procedure and first aid actions.

Source: based on UN GHS, 2013



Sources

Sources

- CSD Engineers, Switzerland/ISSPPRO, Germany, 2015
- Suva: Liste de contrôle: Plan d'urgence, Switzerland, 2011
- Suva: What to do in an emergency, Switzerland, 2013
- www.unep.org/apell, May 2015



Images

- CSD Engineers, Switzerland, 2015
- United Nations Industrial Development Organization (UNIDO), 2015
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