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PREPAREDNESS AND ACTION AT POINTS OF ENTRY
(PORTS, AIRPORTS, GROUND CROSSINGS)

CHEMICAL PREPAREDNESS ASSESSMENT TOOL

D8.1: Chemical Preparedness Assessment Tool

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Work Package Leaders:

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1 INTRODUCTION

This is Deliverable 8.1 entitled **"Tool to assess chemical preparedness at ports, airports and ground crossings"** developed under *Work Package 8: Chemical threats at points of entry* of the EU HEALTHY GATEWAYS Joint Action (Grant Agreement Nr. 801493). The EU HEALTHY GATEWAYS Joint Action has received funding from the European Union, in the framework of the Third Health Programme (2014-2020).

The Chemical Preparedness Assessment Tool has been developed to collate information on the hazards that exist at PoE (ports/airports/Ground Crossings) and can provide local information for responders who are not at the scene and are being asked to undertake a risk assessment and make decisions. PoE can have a number of individual businesses operating on-site (particularly ports/airports) with some having transit storage of potentially hazardous and flammable materials within warehouses. Although there are regulatory frameworks that manage the storage, usage and transport of materials if there is an incident at the PoE (port/airport), having this information collated in one document could be critical during the acute phase.

This resource has been prepared to allow PoE to consider the hazards and how to reduce or manage the risks of an incident causing an on and off-site impact. It is recommended to share this information with front line responders as part of preparedness as opposed to during an incident.

2 BACKGROUND

2.1 EU LEGISLATION

Major accidents involving hazardous chemicals pose a major threat to humans and the environment and they can also cause major economic losses and disrupt sustainable growth. However, the use of large quantities of hazardous chemicals is inevitable in some industrial sectors, which are crucial for a modern industrialized society. In order to reduce the risk, measures are needed to prevent major accidents and to ensure adequate preparedness and response in the event of such accidents. In Europe, a major disaster in the Italian city of Seveso in 1976 prompted the adoption of The Seveso-III-Directive (2012/18/EU), which aims at the prevention of major accidents involving dangerous substances. However, as accidents may nevertheless occur, it also aims at limiting the consequences of such accidents not only for human health but also for the environment.

The Directive covers establishments where dangerous substances may be present (e.g. during processing or storage) in quantities exceeding certain threshold. Excluded from the Directive are certain industrial activities which are subject to other legislation providing a similar level of protection (e.g. nuclear

establishments or the transport of dangerous substances). Depending on the amount of dangerous substances present, establishments are categorized in lower and upper tier, the latter are subject to more stringent requirements. The legal framework established by the Directive creates a continuous improvement cycle of prevention, preparedness and response to major accidents. The cycle is closed by provisions on lesson learning.

Main obligations for operators

Operators are obliged to take all necessary measures to prevent major accidents and to limit their consequences for human health and the environment. The requirements include:

- Notification of all concerned establishments (Article 7);
- Deploying a major accident prevention policy (Article 8);
- Producing a safety report for upper-tier establishments (Article 10);
- Producing internal emergency plans for upper tier establishments (Article 12);
- Providing information in case of accidents (Article 16).

Main obligations for Member State authorities

Member States need to ensure that a number of requirements are fulfilled, those include:

- Producing external emergency plans for upper tier establishments (Article 12);
- Deploying land-use planning for the siting of establishments (Article 13);
- Making relevant information publicly available (Article 14);
- Ensuring that any necessary action is taken after an accident including emergency measures, actions to ensure that the operator takes any necessary remedial measures and informing the persons likely to the affected (Article 17);
- Reporting accidents to the Commission (Article 18);
- Prohibiting the unlawful use or operation of establishments (Article 19);
- Conducting inspections (Article 20).

Member States may maintain or adopt stricter measures than those contained in the Seveso Directive (European Commission, n.d.).

2.2 SITUATION IN SLOVENIA

In Slovenia, the Administration of the Republic of Slovenia for civil protection and disaster relief (ACPDR, 2022), which is a constituent body of the Ministry of Defense, performs administrative and professional protection, rescue and relief tasks as well as other tasks regarding protection against natural and other

disasters. ACPDR is divided into six internal organizational units (four sectors and two services) based in Ljubljana as well as 13 other branches operating throughout Slovenia. There are also notifications centers which perform a 24-hour duty service. They are responsible for coordinating the response in the event of accidents, collecting accident reports that request intervention and inform the competent national authority and other bodies. Information centers have contacts details of the competent services in the country, through which they activate various experts who cover different areas in response (health, environment etc.), including, the contact number of the expert on chemical incidents, provided by the National Institute for Public Health. Centers are also responsible for informing the public about the incident.

The Disaster management (Civil Protection) system is one of the three pillars of the Republic of Slovenia national-security system (beside defense system and internal security system) that also encompasses protection, rescue and relief activities. The aim of the system is to reduce the number of disasters and to forestall or reduce the number of casualties and other consequences of such disasters. Disaster management (civil protection) in Slovenia is organized as an integrated system, which includes various parties: rescue units and services (professional and voluntary, civil protection), humanitarian organizations, research institutions, other organizations and governmental administrative bodies. The unified system is based on humanitarian principles and in line with international standards The responsibilities for the disaster management system lie with the government, local communities, commercial companies, and citizens. The system is based on a bottom-up approach and systematic (subsidiary) principle (European Commission, n.d.).

In Slovenia, in case of chemical accident, an online tool could be used (ACPDR, n.d.). It contains information on chemicals. Hazardous chemicals can be searched according to five different criteria (name, synonym, UN number, hazard, transport class) and various information on the chemical can be obtained: basic information on hazardous chemicals with labels, descriptions and symbols; description of necessary measures in case of an accident with a dangerous chemical substance; technical information on the hazardous chemical and additional information on hazardous chemicals that can be added by the user.

The public can be informed about the chemical accident via the SPIN system (password assigned to rescuers, firefighters, etc.). User describes the data on the accident and the public can follow (ACPDR, n.d.). In 2000, the Ministry of Transport issued Rules on fire and rescue services at public airports for airports in Slovenia (Uradni list RS, št. 42/00 in 18/01). These Rules regulate the conditions for performing the rescue and fire service, the minimum equipment and resources of the service at a public airport, the number of staff, the conditions to be met by those performing this service and fire protection measures.

3 AIM OF CHEMICAL PREPAREDNESS ASSESSMENT TOOL

The Chemical Preparedness Assessment Tool is designed to provide a framework for consistent planning of hazard-specific competencies and to provide a process for partners to participate in planning in an environment where hazards, threats and resources can be identified, discussed and planned for in advance. The tool could also be used for auditing, training and exercising purposes. This tool is designed and intended for use by public health planners, safety managers and officials working at the Point of Entry and/or state jurisdictional levels. The tool is flexible and can be adapted to meet the needs and perspectives of any potential users, that are interested in emergency planning.

Hazards vary according to the likelihood of occurrence, available resources for response, and possible health effects. A risk assessment first establishes priorities by planning for the most probable hazards with major health impacts and those that are less likely or have less of an impact on public health and may be postponed. The assessment can also be used to redirect resources that can be used for mitigation or as a basis for wider involvement of expert services in response and / or mitigation.

4 STEPS TO CONDUCT CHEMICAL ASSESSMENT

Before using the chemical preparedness assessment tool, it is recommended to form a steering committee with individuals who have appropriate experience and knowledge of chemicals or the port setting. Only then the use of the tool follows, where the geographical area is precisely defined and all hazards are entered in the table. Once the chemical assessment is completed, the table should be regularly reviewed and updated.

***Table 1**. Steps taken in an assessment and when to use the Tool.*

Step	Description	Instruction
Form a steering committee	Each POE and / or organization invited to participate can make a valuable contribution to the preparation of the evaluation, as it contributes its many and varied experiences. The POE or organization is not expected to have a full knowledge of the hazards and impacts on health and the environment, it is important to be familiar with the basic functions of emergency preparedness and response. In addition, those individuals involved in this assessment should have a basic knowledge of their organization, its main mission, objectives and targets, and the	**BEFORE USING THE TOOL**

	response capabilities that can be used in an emergency response.	
Specify the geographic area	POEs and other organizations need to determine the geographical boundaries of their responsibilities and / or the scope of planning.	**USE OF THE CHEMICAL PREPAREDNESS ASSESSMENT TOOL**
Identify the hazards you will include in the assessment	As the risk varies according to competences and geographical boundaries, the steering committee must decide which hazards to include in the assessment. In addition to probabilities and historical events, consider geographical, topographical and meteorological characteristics when selecting potential hazards.	
Planning, Review and Update	Continuous health risk assessment is essential, taking into account changes in population, demographic, environmental and specific factors. Improvements in planning, training and mitigation-based activities can also have a positive impact on health risks. When measurable changes occur, the tool needs to be updated and the prioritization re-evaluated.	**REVIEW AND UPDATE OF THE TOOL**

5 CHEMICAL PREPAREDNESS ASSESSMENT TOOL

Table 2. *Chemical Preparedness Assessment Tool*

	Detail Description	**Content**
Name of Point of Entry (POE)	**Insert name of POE**	
Type of POE (port, airport, ground crossing)	Insert type of POE (port, airport, ground crossing)	
Address	Insert address of POE	
Point of Entry description	Briefly describe the nature of the site and Point of Entry activities (commercial, passenger, military, other)	
	Add any other relevant information such as whether the site has any on site meteorological equipment, environmental monitoring or dispersion modelling capabilities, fire –fighting and containment capabilities	
	Briefly describe other industries/commercial uses that operate within the Point of Entry (port/airport/Ground Crossing) boundary (manufacturing, storage facilities, SEVESO sites)	
	Briefly describe transport within the Point of Entry (rail stations, bus, parking for commercial vehicle and parking for the public)	
	Number of people operating within the Point of Entry boundary, any day/night or weekday/weekend variability	
Nearby receptors (Briefly describe the surrounding location and identify any of the following in the vicinity of the Point of Entry)	Distance/direction of any industrial/commercial uses that operate nearby including manufacturing, storage facilities and SEVESO sites	
	Off-site population number of people, any day/night or weekday/weekend variability.	
	Distance/direction of transport infrastructure such as transport infrastructures such as railways, major roads etc.	
	Distance/direction of environmental receptors (lakes, rivers, aquifers), and the local topography (e.g. flat/hilly)	
	Distance/direction of holiday facilities including camping and caravan sites	

	Distance/direction of any community use activities (e.g. marina, recreational open space, tourist attraction, public swimming areas, leisure activities (boat trips), shopping areas, cultural centers	
	Distance/direction of any vulnerable farming/agriculture areas e.g. fishing areas, fisheries, commercial shellfish beds around the port	
	Distance of sensitive receptors such as schools, nurseries/daycare centers, hospitals, nursing homes, prisons…	
Map of the area	Add a map of the area around the Point of Entry, ideally the receptors/other hazards could be added to the map	
Principal chemical hazards (Describe each individual chemical or chemical mixture known to be stored on the site. Prioritize those that pose the greatest potential off site danger and those held in the highest quantity.)	Chemical name and CAS number	
	Amounts stored/held on site	
	Material Safety Data Sheet (MSDS)	
	Acute Exposure Guideline levels (AEGLs) – if exist	
	Physical properties	
	Route of exposure	
	Acute health effects	
	Initial medical management	
Initial risk assessment and public health actions	Incident Scenarios - Briefly describe the most likely scenario(s): • scenario could be a (fire/release/spill) • Chemical name • Consequences • On site containment	
	Public communication & risk management • Explain how stakeholders would be informed • Explain how public would be warned on and off site • Describe any other protective action(s) that will be taken (e.g. cordons, targeted evacuation, decontamination etc.)	
	Any on site plans that exist should be hyperlinked here	
Key Contacts	Contact agencies should be listed with contact numbers both in and out of hours	
	Summarize arrangements for off-site command and control structure meeting. Are there any rendezvous points identified in the Point of Entry that emergency services should be aware of?	

6 TESTING OF THE TOOL

The tool was tested in Slovenia by experts from the main port (Port of Koper) and airport (Ljubljana Airport). We received a reply that the tool is useful and they have no comments on it. Additionally, both tested port and airport have their own rules for responding to accidents, details are explained below.

The main port in Slovenia, Port of Koper, has chemical assessment tools in use. The port has its own security service, which takes care of security, protection and rescue in the event of an accident. In case of any emergency, their security service activates the relevant services and informs the relevant institutions and individuals. This service takes care of security 24/7. Some parts of the port also belong to SAVESO - they must have a safety report, scenarios and an impact area, and they must inform everyone in the impact area.

The Ljubljana Airport has its own fire brigade, which takes care of fire safety and also has other security services, which immediately react in the event of a chemical accident and inform the Administration of the Republic of Slovenia for civil protection and disaster relief (ACPDR, emergency call 112). All shipments arriving at the airport have a cargo list - AWB and in the case of dangerous goods with a declaration of dangerous goods - DGD. In addition, the consignment is marked with an IMP code indicating which hazard class it is. All these documents contain information on the hazardous substance and, based on the hazard classes, a table of emergency measures has been prepared, in accordance with IATA recommendations.

7 CONCLUSION

This chemical preparedness assessment tool could also be used for training and exercising (not just for preparedness or risk assessment) of PoE staff, as it can remind us of the many considerations that must be taken when dealing with chemicals. This tool could also link the national public health agency to the PoE, making it more than just an on-site tool in the event of an accident, but rather a tool for identifying strategic gaps and operational needs and facilitate planning.

8 USEFUL LINKS

Title	Link	Brief description
Guidance For Dealing with Chemicals and Chemical Incidents at Airports, Ports and Ground Crossings		Document on scientific, technical and other aspects relevant to dealing with chemical incidents at Points of Entry. Potential applications of the document may include the preparation and pre-planning phase, to engage with public health agencies and other relevant stakeholders who are responsible for the development of local, regional and national plans relevant to chemical incidents. The document could be used for training purposes and contingency planning.
The Seveso-III-Directive 2012/18/EU	https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32012L0018	Aims at the prevention of major accidents involving dangerous substances. However, as accidents may nevertheless occur, it also aims at limiting the consequences of such accidents not only for human health but also for the environment
The Seveso Directive – A contribution to Technological Disaster Risk Reduction	https://ec.europa.eu/environment/seveso/	More about Saveso Directive
The Seveso Directive	https://ec.europa.eu/environment/seveso/legislation.htm	Summary of requirements
Administration of the Republic of Slovenia for civil protection and disaster relief (ACPDR)	https://www.gov.si/en/state-authorities/bodies-within-ministries/administration-for-civil-protection-and-disaster-relief/o-upravi-za-zascito-in-resevanje/	About the Administration for Civil Protection and Disaster Relief
The National Disaster Management System, Slovenia	https://ec.europa.eu/echo/what/civil-protection/national-disaster-management-system/slovenia_sl	Organization of the Disaster management (civil protection) in Slovenia
Hazardous Chemicals	http://nevsnov.sos112.si/	Search for hazardous chemicals (in Slovenian language)
Information about the chemical accident via the SPIN system	https://spin3.sos112.si/javno/pregled	User describes the data on the accident and the public can follow.

Rules on fire and rescue services at public airports for airports in Slovenia	http://www.pisrs.si/Pis.web/pregledPredpisa?id=PRAV2833	These Rules regulate the conditions for performing the rescue and fire service, the minimum equipment and resources of the service at a public airport, the number of staff, the conditions to be met by those performing this service and fire protection measures.
ChemSub Online	http://chemsub.online.fr/	A free web-based database which allows you to retrieve information on chemical substances based on Chemical name or CAS number.
Acute Exposure Guideline levels (AEGLs)	https://www.epa.gov/aegl/access-acute-exposure-guideline-levels-aegls-values#chemicals	Individual Acute Exposure Guideline Level (AEGLs) values that are intended to protect most individuals in the general population, including those that might be particularly susceptible to the harmful effects of the chemicals.
HEALTH HAZARD ASSESSMENT & PRIORITIZATION	http://publichealth.lacounty.gov/eprp/hazardassessment.htm	Health Hazard Assessment and Prioritization (hHAP) instrument to provide a practical and innovative approach to hazard vulnerability assessment
HazMat Emergency Preparedness Training and Tools for Responders	https://www.atsdr.cdc.gov/hazmat-emergency-preparedness.html	This web page discusses training programs and tools developed by the Agency for Toxic Substances and Disease Registry (ATSDR) to help communities develop sound, evidence-based assumptions in preparing for hazardous materials (HazMat) emergencies and disasters.
CDC Emergency Preparedness and Response	https://emergency.cdc.gov/chemical/prep.asp	A list of preparation and planning resources related specifically to chemical emergencies
Chemical Emergencies Overview	https://www.cdc.gov/chemicalemergencies/index.html	This page provides information to help people be prepared to protect themselves during and after such an event.

9 REFERENCES

- Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC Text with EEA relevance (2012/18/EU). Available from: https://ec.europa.eu/environment/seveso/
- European Commission. (n.d.). Major accident hazards, The Seveso Directive – Summary of requirements Available from: http://ec.europa.eu/environment/seveso/legislation.htm
- ACPDR, 2022. Administration of the Republic of Slovenia for civil protection and disaster relief
- European Commission. (n.d.). The National Disaster Management System, Slovenia. Available from: https://ec.europa.eu/echo/what/civil-protection/national-disaster-management-system/slovenia_sl
- ACPDR. (n.d.). NevSnov. Available from: http://nevsnov.sos112.si/
- ACPDR. (n.d.). SPIN. Available from: https://spin3.sos112.si/javno/pregled
- Pravilnik o reševalni in gasilski službi na javnem letališču (Uradni list RS, št. 42/00 in 18/01 – ZLet) Available from: http://www.pisrs.si/Pis.web/pregledPredpisa?id=PRAV2833
- ChemSub, 2000. ChemSub Online. Available from: http://chemsub.online.fr/
- EPA, 2021. Acute Exposure Guideline levels (AEGLs). Available from https://www.epa.gov/aegl/access-acute-exposure-guideline-levels-aegls-values#chemicals