

## **Responding to chemical threats**

### **General information and guidelines for the public**

The purpose of this document is to provide people with some general, practical information on the threats posed by a deliberate release of chemicals and on what to do in case they are endangered by such a release. The probability for the general population to be involved in a deliberate chemical incident is, however, extremely limited.

This document has been prepared in the absence of specific information of imminent deliberate releases of chemicals. This document has been prepared with the firm belief that providing, for your attention before incidents occur, information of the threats posed by a deliberate chemical release and advise on general behavior, can help you to protect yourself better during an emergency, and facilitate the action of the emergency services.

While this document provides some general indication and guidance, every actual situation can be different and may have specific characteristics. During emergencies, national and local authorities will deliver specific information, and the security and emergency services will tell you what to do: you are advised to follow their instructions. Therefore, keep yourself aware of alarms and security communications broadcasted in the public setting where you are. If circumstances permit, you should seek information from official sources. The following general information may give you some guidance in case that you cannot get advice from these sources, or while waiting for the arrival of the health emergency services.

This document has been prepared focusing on deliberate releases of chemicals, but much of this information can be of use in accidental chemical incidents as well. However, this document is not, by any means, a complete guide to the management of chemical incidents.

EU Member States have considered to give public information as appropriate to the national situation. The web sites where information from Member States is published are indicated at the end of this document.

#### **(1) General information**

- There are many different chemicals that could be used by terrorists as a threat/weapon. Chemicals most likely to be used for this purpose are generally gases or liquids. Powdered materials could also be used. These chemicals affect the body mainly through absorption via the skin or the breathing airways. Most have effects that manifest immediately or with a delay of hours.
- A deliberate release of these chemicals can be either overt or covert. In the first case people will be rapidly aware that chemicals have been deployed, while in the second the release is detected in retrospect due to the human or animal cases of illness or by routine monitoring.
- Although ingestion due to contaminated food or water or absorption through the skin by contact with contaminated surfaces are possible means to cause damage, most experts agree that inhalation of chemicals is the most likely and effective attack route.
- Most chemicals likely to be used as a threat/weapon are heavier than air and would tend to stay close to the ground, and flow into underground spaces.

- Basic decontamination procedures are generally the same no matter what the chemical substance. Thorough washing with large amounts of soap and water at around the body temperature is the best way to decontaminate and will greatly reduce the possibility of absorbing an agent through the skin.
- Generally, chemical substances tend to present an immediately noticeable effect, but some will take hours before symptoms appear. In either case, medical attention should be sought immediately, even if exposure is thought to be limited. You should ask a Poison Information Centre for advice if Centres in your area provide advice to the public.
- If there has been a chemical attack information will usually be provided over the radio or television so it is important to turn these on.

## **(2) Warning Signs of an Attack or Incident**

A chemical attack or incident will not always be immediately apparent. However, potential indicators of a chemical hazard due to the release of chemicals in the air include:

- An unusual number of people displaying similar symptoms, such as collapse, irritation, cough, nausea, difficult breathing, convulsions, disorientation, or poor vision
- Unusual spraying in the area. Unusual liquid, spray or vapours, leaving droplets or oily film on surfaces. Low-lying clouds or mist unrelated to weather; clouds of dust; or suspended, possibly coloured, particles
- Unusual odours, in combination with the above signs
- A warning signal e.g. a siren.
- Unusual occurrence of dead or dying animals in the area.

## **(3) What to do in case of attack**

In the event of a suspected or confirmed chemical attack, it is important to keep calm and follow procedures that have been laid down.

- Stay alert for attack warning signs. Early detection enhances survival.
- Protection of breathing airways is the single most important thing a person can do in the event of a chemical incident or attack. In most cases the only sure way to protect the airway is to walk quickly to put distance between you and the source of the chemical substance. While evacuating the area (if advised), cover your mouth and nose with a wet handkerchief, coat sleeve, or any piece of cloth to provide some moderate means of protection.
- Move away, upwind and uphill, if possible, from the source of the attack if you are outside.
- Keep open wounds clear of the chemical and contaminated material;
- Do not touch your eyes or mouth before decontamination.
- Do not touch or eat anything that could be contaminated.
- Do not smoke.
- Do not touch any sick or dead animals.

- If evacuation from the immediate area is impossible, move indoors (if outside) and to a room on a higher floor. Remember many chemicals are heavier than air and will tend to stay close to the ground.
- Once indoors, close all windows and exterior doors and shut down air conditioning or heating systems to prevent circulation of external air. If possible set the ventilation system on 100% internal re-circulation. Tune-in TV or radio for further guidance.
- Do not use mobile or fixed telephones at the beginning of an incident because the telephone system can become overloaded and collapse and thus hinder emergency communications. Keep mobile phones switched on.
- In any case of even limited exposure to toxic chemical substances released deliberately, follow the advice of public health officers.

#### **(4) What to do if you or your clothes have come into contact with a chemical**

In case that **you or your clothes have come into contact with a chemical substance** you should remove and dispose of your clothing right away and then wash yourself. Removing your clothing and washing your body will reduce or remove the chemical so that it is no longer a hazard. This process is called decontamination. The most important and most effective decontamination for any chemical exposure is decontamination done within minutes of exposure.

In general, exposure to a chemical in its liquid or solid (especially powder or particle) form will require you to remove your clothing and then thoroughly wash your exposed skin. Exposure to a chemical in its vapour (gas) form generally requires you only to remove your clothing which may be an important source of the toxic vapour.

- *Removing your clothing:*
  - Quickly take off clothing and any items that have a chemical on it. Clothing should be cut off if possible, instead of being pulled over your head. In any case avoid inhalation and contact with eyes, nose and mouth.
  - If you are helping other people remove their clothing, try to avoid touching any contaminated areas, and remove the clothing as quickly as possible. If you have a pair of gloves, put them on first.
- *Washing yourself:*
  - As quickly as possible, wash any chemicals from your skin and hair with large amounts of running water, possibly lukewarm. Washing with soap and water will help protect you from any chemicals on your body.
  - If your eyes are burning or your vision is blurred, rinse your eyes with plain water for 10 to 15 minutes. If you wear contact lenses, remove them and put them with the contaminated clothing. Do not put the contact lenses back in your eyes (even if they are not disposable). If you wear spectacles, wash them with soap and water. You can put them back on after you wash them.
- *Disposing of your clothes:*
  - After you have washed yourself, place your clothing inside a plastic bag. Avoid touching contaminated areas of the clothing. If you can't avoid touching contaminated areas, or you aren't sure where the contaminated areas are, wear rubber gloves or put the clothing in the bag using tongs, tool handles, sticks, or similar objects. Anything that touches the

contaminated clothing should also be placed in the bag. If you wear contact lenses, put them in the plastic bag, too.

- Seal the bag with adhesive tape, and then, if possible, seal that bag inside another plastic bag. Disposing of your clothing in this way will help protect you and other people from any chemicals that might be on your clothes. Put the bag in a safe place outdoors.
- Seek advice from public health services on how to dispose of the bag.
- *Changing into uncontaminated clothing*  
Clothing stored in drawers or closets is likely to be uncontaminated.

**(5) Where EU Member States provide information to the public**

(familiarize yourself with instructions to the public given from official sources)

<b>DENMARK</b>	<a href="http://www.brs.dk/uk/warning/siren.htm">http://www.brs.dk/uk/warning/siren.htm</a>
<b>GERMANY</b>	<a href="http://www.bva.bund.de/zivilschutz/tips_fuer_jedermann/publikationen/unterseite17/index.html">http://www.bva.bund.de/zivilschutz/tips_fuer_jedermann/publikationen/unterseite17/index.html</a>
<b>GREECE</b> Civil Protection  KEEL	<a href="http://www.civilprotection.gr/instruction_xbrp.htm">http://www.civilprotection.gr/instruction_xbrp.htm</a>  <a href="http://www.keel.org.gr/bt">www.keel.org.gr/bt</a>
<b>HUNGARY</b> Office of the Chief Medical Officer of State  Ministry of Health, Social and Family Affairs  Fodor József National Center for Public Health  "Johan Béla" National Center for Epidemiology	<a href="http://efrirk.antsz.hu/portal/page?_pageid=240,38051&amp;_dad=portal&amp;_schema=PORTAL">http://efrirk.antsz.hu/portal/page?_pageid=240,38051&amp;_dad=portal&amp;_schema=PORTAL</a>  <a href="http://www.eszcsn.hu/eszcsn/eszcsn.main.page">http://www.eszcsn.hu/eszcsn/eszcsn.main.page</a>  <a href="http://www.fjokk.hu/">http://www.fjokk.hu/</a>  <a href="http://efrirk.antsz.hu/oek/">http://efrirk.antsz.hu/oek/</a>
<b>LITHUANIA</b>	<a href="http://www.sam.lt">http://www.sam.lt</a>
<b>UK</b>	<a href="http://www.pfe.gov.uk/pdfs/index.htm">http://www.pfe.gov.uk/pdfs/index.htm</a>

**Additional information** on public health web sites in the EU member States can be found in:  
[https://webgate.cec.eu.int/ewrs/links\\_org.cfm](https://webgate.cec.eu.int/ewrs/links_org.cfm)

**(6) Other web sites on Chemical incidents preparedness and response**

**EC:**

<http://europa.eu.int/comm/environment/seveso/index.htm#2>

**WHO:**

Public health response to biological and chemical weapons: WHO guidance (2004) -  
<http://www.who.int/csr/delibepidemics/biochemguide/en/index.html>

**USA**

<http://www.bt.cdc.gov/planning/index.asp>

<http://www.fema.gov/areyouready/>

**7) Directory of Poison Information Centres (updated in December 2004)**

<b>City</b>	<b>Country</b>
	<b>AUSTRIA</b>
<b>Vienna <i>Wien</i></b>	Vergiftungsinformationszentrale (Poisons Information Centre) Emergency telephone: +43 1 40 6 4343
	<b>BELGIUM</b>
<b>Brussels</b>	Centre Anti-Poisons/Antigifcentrum Emergency telephone: +32 70 245 245
	<b>BULGARIA</b>
<b>Sofia</b>	National Toxicological Information Centre Emergency telephone number: +359 2 9154409 website: <a href="http://www.pirogov.net">www.pirogov.net</a>
	<b>CZECH REPUBLIC</b>
<b>Prague <i>Praha</i></b>	Poisons Information Centre Emergency telephone: +42 02 2491 9293 or + 42 02 2491 5402

	<b>DENMARK</b>
<b>Copenhagen</b>	Danish Poison Centre Clinic for Occupational and Environmental Medicine, Bispebjerg Hospital Telephone: +45 3531 3531
	<b>FINLAND</b>
<b>Helsinki</b>	HUCS Poison Information Centre Emergency telephone: +358 9 471 977 (24-hour service)
	<b>FRANCE</b>
	Details of all Poisons Centres in France can be found at <a href="http://www.centres-antipoison.net">www.centres-antipoison.net</a>
<b>Angers</b>	Centre Antipoison et de Toxicovigilance de Angers Emergency telephone: +33 2 4148 2121
<b>Bordeaux</b>	Centre Antipoison Emergency telephone: +33 5 5696 4080
<b>Grenoble</b>	Centre de Toxicovigilance et de Toxicologie Clinique de Grenoble
<b>Lille</b>	Centre Antipoison - Toxicovigilance Emergency telephone: 0 825 812 822 (France) website: <a href="http://www.chru-lille.fr/cap/lille.htm">www.chru-lille.fr/cap/lille.htm</a>
<b>Lyon</b>	Centre Antipoison Emergency telephone: +33 4 72 11 69 11
<b>Marseille</b>	Centre Antipoison et de Toxicovigilance de Marseille Emergency telephone: +33 4 9175 2525
<b>Nancy</b>	Centre Antipoison et de Toxicovigilance de Nancy Emergency telephone: +33 3 8332 3636
<b>Paris</b>	Centre Antipoison et de Toxicovigilance de Paris Emergency telephone: +33 1 4005 4848
<b>Reims</b>	Centre de Toxicovigilance et de Toxicologie Clinique de Reims
<b>Rennes</b>	Centre Antipoison et de Toxicovigilance de Rennes Emergency telephone: +33 2 9959 2222
<b>Rouen</b>	Centre de Toxicovigilance et de Toxicologie Clinique de Rouen
<b>Strasbourg</b>	Centre Antipoison et de Toxicovigilance de Strasbourg Emergency telephone: +33 38837 3737

<b>Toulouse</b>	Centre Antipoison et de Toxicovigilance de Toulouse Emergency telephone: +33 5 61777447 website: <a href="http://www.chu-toulouse.fr">www.chu-toulouse.fr</a>
	<b>GERMANY</b>
<b>Berlin</b>	Giftberatung Virchow-Klinikum, Emergency telephone: Telephone: +49 30/45006 53555
<b>Berlin</b>	Klinische Toxikologie und Giftnotruf Berlin Emergency telephone: +49 61 311 9240 website: <a href="http://www.giftnotruf.de">www.giftnotruf.de</a>
<b>Bonn</b>	Informationszentrale gegen Vergiftungen Emergency telephone: +49 228 19240 website: <a href="http://www.meb.uni-bonn.de/giftzentrale/">www.meb.uni-bonn.de/giftzentrale/</a>
<b>Erfurt</b>	Gemeinsames Giftinformationzentrum der Länder Mecklenburg-Vorpommern, Sachsen-Anhalt und Thüringen, Emergency telephone: +49 361 730 730
<b>Freiburg</b>	Vergiftungs-Informations-Zentrale Emergency telephone: +49 761 19240 website: <a href="http://www.giftberatung.de">www.giftberatung.de</a>
<b>Göttingen</b>	Giftinformationszentrum-Nord Emergency telephone: +49 551 19240 website: <a href="http://www.giz-nord.de">www.giz-nord.de</a>
<b>Homburg / Saar</b>	Informations und Beratungszentrum für Vergiftungsfälle Emergency telephone: +49 6841 19240
<b>Mainz</b>	Beratungstelle bei Vergiftungen, Klinische Toxikologie und Beratungsstelle bei Vergiftungen der Länder Rheinland-Pfalz und Hessen, Emergency telephone: +49 6131 19240 website: <a href="http://www.giftinfo.unimainz.de/">www.giftinfo.unimainz.de/</a>
<b>Munich</b>	Toxikologische Abteilung der II Medizinische Klinik Emergency telephone: +49 89 19240 website: <a href="http://www.toxinfo.org">www.toxinfo.org</a>
<b>Nuremberg</b>	Giftnotruf Nürnberg, Emergency telephone: +49 911 398 2665 or +49 911 398245, or +49 911 19240 website: <a href="http://www.giftinformation.de">www.giftinformation.de</a>

	<b>GREECE</b>
<b>Athens</b>	Poisons Information Centre website: <a href="http://www.cc.uoa.gr/health/poisonic/">http://www.cc.uoa.gr/health/poisonic/</a>
	<b>HUNGARY</b>
<b>Budapest</b>	Department of Health Toxicology Information Service National Institute of Chemical Safety “Fodor József” National Center for Public Health Emergency telephone number: 80 20 11 99 (from Hungary), +36 14 76 11 20 or +36 14 76 6464, or +36 14 76 6400 website: <a href="http://www.okbi.cjb.net/">http://www.okbi.cjb.net/</a>
	<b>ICELAND</b>
<b>Reykjavik</b>	Iceland Poisons Information Centre Emergency telephone: +354 525 1111, +354 543 2222 website: <a href="http://www2.rsp.is/eitrunarm/eiture.htm">http://www2.rsp.is/eitrunarm/eiture.htm</a>
	<b>IRELAND</b>
<b>Dublin</b>	National Poisons Information Centre Emergency telephone: +353 1 8379966 website: <a href="http://www.beaumont.ie/public/npic.htm">www.beaumont.ie/public/npic.htm</a>
	<b>ITALY</b>
<b>Bergamo</b>	Centro Antiveleni di Bergamo Telephone: +39 035 26 9469 website: <a href="http://www.ospedaliriuniti.bergamo.it/azienda/Dipartimenti/Tossicol/index4.htm">http://www.ospedaliriuniti.bergamo.it/azienda/Dipartimenti/Tossicol/index4.htm</a>
<b>Bologna</b>	Centro Antiveleni Emergency telephone: +39 051 6478955
<b>Catania</b>	Centro Antiveleni Emergency telephone: +39 095 7594120
<b>Cesena</b>	Centro Antiveleni Emergency telephone: +39 054 735 2612
<b>Chieti</b>	Centro Antiveleni Emergency telephone: +39 0871 551219
<b>Genoa</b>	Centro Antiveleni Emergency telephone: +39 010 352 808

<b>La Spezia</b>	Centro Antiveleni Emergency telephone: 0187-533297
<b>Lecce</b>	Centro Antiveleni Emergency telephone: +39 0832 66 1374 or +39 0832 35 1105
<b>Milan</b>	Centro Antiveleni Emergency telephone: +39 02 6610 1029
<b>Naples</b>	Centro Antiveleni Emergency telephone: +39 081 7472868, or +39 081 7472870
<b>Pavia</b>	Centro Antiveleni Emergency telephone: +39 0382 24444
<b>Pordenone</b>	Centro Antiveleni Emergency telephone: +39 0434 550301
<b>Roma</b>	Centro Antiveleni Policlinico Umberto I Emergency telephone: +39 06 49978000  Centro Antiveleni Policlinico A. Gemelli Tel: +39 06 3054343
<b>Trieste</b>	Centro Antiveleni Emergency telephone: +39 04 0378 5373
	<b>LATVIA</b>
<b>Riga</b>	Latvian Poisons Information Centre Emergency telephone: +371 7042673
	<b>LITHUANIA</b>
<b>Vilnius</b>	Poisons Control and Information Bureau Emergency telephone: +370 52 36 20 52 website: <a href="http://www.tox.lt">www.tox.lt</a>
	<b>NORWAY</b>
<b>Oslo</b>	National Poisons Information Centre Emergency telephone: +47 22 591300 website: <a href="http://www.giftinfo.no">www.giftinfo.no</a>

	<b>POLAND</b>
<b>Gdańsk</b>	1st Department of Internal Diseases and Acute Poisonings Medical Academy - Gdańsk Emergency telephone: +48 58 301 65 16 or +48 58 349 2831
<b>Kraków</b>	Department of Clinical Toxicology Jagellonian University Medical College Emergency telephone: +48 12 411 99 99
<b>Łódź</b>	National Poisons Information Centre Emergency telephone: +48 42 63 14 724
<b>Lublin</b>	Acute Poisonings Unit Emergency telephone: +48 81 740 2676
<b>Poznań</b>	Oddział Chorób Zawodowych i Toksykologii (Department of Occupational Diseases & Toxicology) Emergency telephone: +48 61 84 769 46
<b>Rzeszów</b>	Intensive Care Unit and Centre for Acute Poisonings Emergency telephone: +48 17 86 64 404
<b>Sosnowiec</b>	Regionalny Ośrodek Ostrego Zatrucia (Regional Poisons Centre) Emergency telephone: +48 32 266 11 45
<b>Warsaw Warszawa</b>	Warsaw Poisons Control Centre (Wojewodzki Ośrodek Toksykologii) Emergency telephone: +48 22 619 66 54
<b>Wrocław</b>	Acute Poisonings Unit Centre for Emergency Medicine Emergency telephone: +48 71 343 30 08 or +48 71 789 02 14
	<b>PORTUGAL</b>
<b>Lisbon</b>	Centro de Informação Antivenenos Emergency telephone: 808 250 143 (calling from Portugal), +351 21 330 3284 (international)
	<b>SLOVAKIA</b>
<b>Bratislava</b>	Toxicological Information Centre Emergency telephone: +421 2 54 77 4 166

	<b>SLOVENIA</b>
<b>Ljubljana</b>	Poison Centre Emergency telephone: + 386 41 635 500 website: <a href="http://www.zastrupitve.net">www.zastrupitve.net</a>
	<b>SPAIN</b>
<b>Barcelona</b>	Servicio de Información Toxicológica Emergency telephone: +34 93 317 4400
<b>Madrid</b>	Servicio Nacional de Información Toxicológica Emergency telephone: +34 91 562 0420
<b>Seville</b> <i>Sevilla</i>	Servicio Nacional de Información Toxicológica
	<b>SWEDEN</b>
<b>Stockholm</b>	Emergency telephone: +46 8 7360384 (International), 112 (National)
	<b>UNITED KINGDOM</b>
	The public should contact: NHS Direct on 0845 4647 (England and Wales) or NHS 24 on 08454 24 24 24 (some parts of Scotland). NHS Direct web site: <a href="http://www.nhsdirect.nhs.uk/">http://www.nhsdirect.nhs.uk/</a> NHS 24 web site: <a href="http://www.nhs24.com">http://www.nhs24.com</a>
<b>Belfast</b>	Belfast National Poisons Information Service (Belfast Centre)
<b>Birmingham</b>	National Poisons Information Service (Birmingham Centre)
<b>Cardiff</b>	National Poisons Information Service (Cardiff Centre)
<b>Edinburgh</b>	National Poisons Information Service (Edinburgh Centre) website: <a href="http://www.spib.axl.co.uk">www.spib.axl.co.uk</a> for TOXBASE website: <a href="http://www.show.scot.nhs.uk/spib/">www.show.scot.nhs.uk/spib/</a> for NPIS, Edinburgh centre
<b>London</b>	National Poisons Information Service (London Centre)
<b>Newcastle</b>	National Poisons Information Service (Newcastle Centre)