



MEASURES TO BE TAKEN SPECIFIC

IN THE EVENT OF ACCIDENTAL EXPOSURE TO CERTAIN CHEMICAL SUBSTANCES

UNDERSTANDING THE ISSUE

The general measures to be taken must be adapted in the event of accidental exposure to the chemical substances below. These cases generally require specific and urgent medical care. They involve:

- hydrofluoric acid (HF),
- phenol,
- substances that react to water (sodium, phosphorus, etc.),
- cryogenic fluids.

IN CASE OF EXPOSURE TO HYDROFLUORIC ACID (HF)

■ SKIN EXPOSURE

- Rinse immediately with plenty of running water at room temperature, or failing that with saline solution, for 10 to 15 minutes without rubbing.
- Apply 2.5% calcium gluconate gel in a thick layer. If the fingers have been contaminated, place them in a glove filled with gel.
- Cover with a dry dressing.

Re-apply the gel every 2 to 3 hours. The treatment's efficacy can be judged in particular by pain becoming less intense.

WARNING: the person assisting the victim must protect themselves to avoid any contact with hydrofluoric acid (wearing acid-resistant neoprene gloves), especially during the rinsing process.

■ EYE SPLASH

- Rinse immediately with plenty of running water at room temperature or with saline solution, for 10 to 15 minutes. Medical advice is all the more necessary that the risk of after-effects can be high (loss of an eye).

Early management is essential to avoid serious injury, all the more so because, initially, it may go unnoticed before spreading and becoming extremely painful.

Any contamination of more than 1% of the body's surface (equivalent to the size of the victim's palm) or any exposure to a concentrated solution aerosol (> 50%) requires the victim to be hospitalised (risk of systemic intoxication and life-threatening injury). In all cases, medical advice is essential in the event of exposure to hydrofluoric acid.

URGENT
medical advice

■ ACCIDENTAL INGESTION

- Make the victim ingest a 10% calcium gluconate solution or a 5% calcium chloride solution but never solid calcium chloride.



IN CASE OF EXPOSURE TO PHENOL

- For a limited area of undamaged skin, a few millilitres of a Polyethylene Glycol (PEG) 400 or glycerol water solution can be used for the decontamination process. However, it must be followed by immediate rinsing with plenty of water for 10 to 15 minutes, to avoid any absorption through the skin.

WARNING: the injury may not be painful because of a local anaesthetic effect.

Medical advice
required

IN CASE OF EXPOSURE TO SUBSTANCES REACTIVE TO WATER (sodium, phosphorus, etc.)

- Rinse immediately with plenty of running water at room temperature for at least 15 minutes, despite the possibility of reactive or corrosive elements being generated and the exothermic nature of the reaction.
- In case of contamination from a powder substance, gentle brushing or wiping is recommended before rinsing.
- In case of sodium or phosphorus becoming encrusted in the skin where it could burn, a small water jet (such as a dental jet) could be used.

IN CASE OF EXPOSURE TO CRYOGENIC FLUIDS

- In case of contact with skin or mucous membranes, remove the victim from the refrigerated environment and rinse for 10 to 15 minutes with tepid water (ideally, 38°C) to avoid frostbite. The area affected may be plunged in a basin of water at 38°C.
 - Later, a petroleum gauze dressing may be used.
 - Watch out for any changes in the next 24 hours (clear blisters and a slight oedema may appear). In case of total loss of feeling, a reddish blister, oedema and skin damage becoming rough and blackish, consult a physician immediately.
- There must be no smoking following the accident, to promote healing.*
- In the event of liquid nitrogen being accidentally spilled in a room, beware of the risk of anoxia (a drop in oxygen). In the room, use an oxygen detector to permanently check that the oxygen level is adequate (oxygen concentration > 18% vol).

REMEMBER

A workplace accident must be declared to the Human Resources Department as soon as possible (preferably within 24 hours), by submitting a medical certificate and a workplace accident declaration form:



https://intranet.cnrs.fr/Cnrs_pratique/recruiter/Pages/D%C3%A9claration-d%E2%80%99accident-du-travail-et-de-maladie-professionnelle.aspx «**Déclaration d'accident du travail et de maladie professionnelle**»