

DATA SHEET

CHLORINE (CL)

Definition

Chlorine is a heavier-than-air, greenish-yellow gas with a suffocating, acrid odour that stings and is a potent irritant.

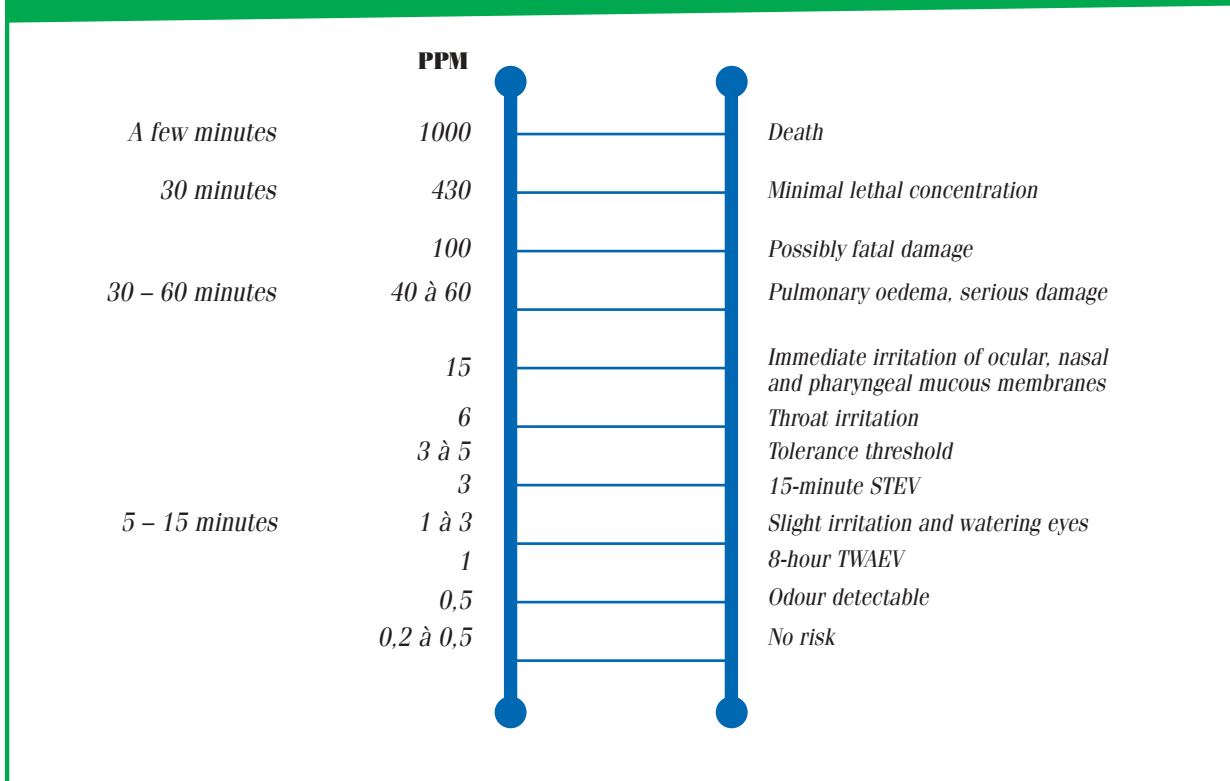
Use

Chlorine exists only as a compound in nature. It is manufactured through the electrolysis of salt water and used in chlorine by-products and as a disinfectant and decolorant.

How chlorine enters the body

Chlorine enters the body primarily via the respiratory tract. When chlorine comes into contact with moisture on the body or in mucous membranes, it is transformed into hydrochloric acid (HCl), causing irritation or inflammation.

EFFECTS OF CHLORINE ON HEALTH AS A FACTOR OF ITS CONCENTRATION IN THE ENVIRONMENT



Emergency intervention

What to do in the event of a chlorine leak

Chlorine's acrid odour generally alerts people to its presence in the air. However, it is possible to become accustomed to the odour and therefore lose the sensitivity necessary to detect the gas. This is dangerous because the effects are the same regardless of whether chlorine is detected. It is therefore important to protect yourself and follow the procedure below:

1. Take rapid action.
2. Follow the establishment's emergency measures plan and the procedure for evacuating injured persons.
3. Evacuate the contaminated zone.
4. Call 911.
5. Use adequate respiratory protection so as not to become a victim yourself.

First aid and emergency medical care

1 Inhalation

- Transport the victim immediately to a place with uncontaminated fresh air.

If the victim is conscious and breathing,

- settle him or her in a comfortable, semi-seated position,
- administer oxygen (if it is available and you have the necessary training), and
- have the victim breathe slowly and regularly.

If the victim is unconscious or not breathing,

- begin cardiopulmonary resuscitation (CPR);
- monitor the victim for shock.

2 Skin contact

- Decontaminate the victim in an emergency drench shower for 20 to 30 minutes.
- Remove the victim's clothing while he or she is in the shower.

3 Eye contact

- Rinse the victim's eyes copiously with warm water (between 21°C and 30°C), using an eye douche, for 15 to 20 minutes.
- If the victim is wearing contact lenses, remove them carefully.

IN ALL CASES

The first-aider must

- ensure the victim is comfortable (warm, resting);
- have the victim transported to the hospital emergency ward, indicating possible chlorine poisoning;
- obtain medical care as quickly as possible;
- report the accident to the immediate supervisor and to health services or personnel services.

Reference

Sans risque, N° 10, July 1998.

Association pulmonaire du Québec, *Les risques de maladies respiratoires au travail – Les gaz irritants*, 1985.

Robert Lauwerys, *Toxicologie industrielle et intoxications professionnelles*, 3^e édition, Paris-Milan-Barcelona-Bonn, Masson, 1992, p. 391.

Prepared by: Comité régional des soins infirmiers en santé au travail au regard des premiers secours et des premiers soins.



RÉGION DE LA MAURICIE ET DU CENTRE-DU-QUÉBEC
SANTÉ AU TRAVAIL