

# EMERGENCY RESPONSE GUIDE 124 PAGE 1 OF 2

## GASES-TOXIC AND/OR CORROSIVE-OXIDIZING

### POTENTIAL HAZARDS

#### HEALTH

- **TOXIC**; maybe fatal if inhaled or absorbed through skin.
- Fire will produce irritating, corrosive and/or toxic gases.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Runoff from fire control may cause pollution.

#### FIRE OR EXPLOSION

- Substance does not burn but will support combustion.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- These are strong oxidizers and will react vigorously or explosively with many materials including fuels.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Some will react violently with air, moist air and/or water.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

### PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number.**
- Isolate spill or leak area immediately for at least 100 to 200 meters (330 to 660 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

#### PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing which is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing is recommended for fire situations **ONLY**; it is not effective in spill situations.

#### EVACUATION

##### Spill

- See the Table of initial isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

##### Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

### EMERGENCY RESPONSE

#### FIRE

Small Fires: Water only; no dry chemicals, CO<sub>2</sub>, or Halon<sup>4</sup>.

- Contain fire and let burn. If fire must be fought, water spray or fog is recommended.
- Do not get water inside containers.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

#### Fire involving Tanks

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- **ALWAYS** stay away ends of tanks.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn.

#### SPILL OR LEAK

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch or walk through spilled material.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift.
- Do not direct water at spill or source of leak.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.
- Ventilate the area.

#### FIRST AID

- Move victim to fresh air. • Call emergency medical care.
- Apply artificial respiration if victim is not breathing.
- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocked mask equipped with one-way valve or other proper respiratory medical device.
- Administer oxygen if breathing is difficult.
- Clothing frozen to the skin should be thawed before being removed.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet. • Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

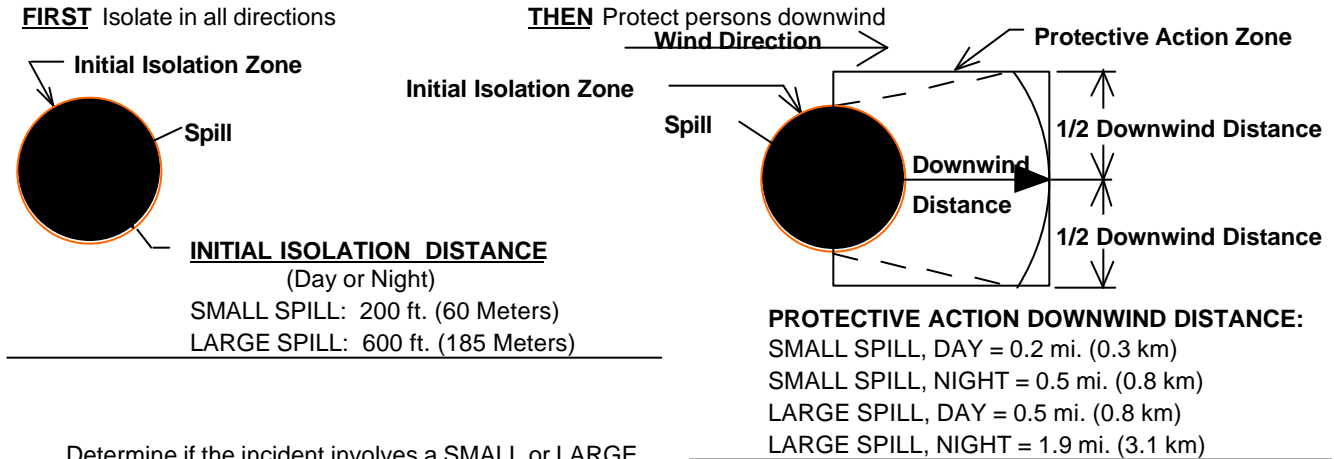
**MILITARY EMERGENCY RESPONSE NUMBER 1-800-851-8061**

# EMERGENCY RESPONSE

## GASES-TOXIC AND/OR CORROSIVE-OXIDIZING

### TABLE

#### HAZARDOUS SPILL - INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES



Determine if the incident involves a **SMALL** or **LARGE** spill and if **DAY** or **NIGHT**. Generally, a **SMALL SPILL** is one which involves a single, small package (i.e., up to a 208 liter (55 U.S. gallon drum), a small cylinder, or a small leak from a large package. A **LARGE SPILL** is one which involves a spill from a large package, or multiple spills from many small packages. **DAY** is any time after sunrise and before sunset. **NIGHT** is any time between sunset and sunrise.

Establish the **INITIAL ISOLATION DISTANCE** and direct all persons to move, in a **crosswind direction**, away from the spill to the distance specified. Next establish the **PROTECTIVE ACTION ZONE** (i.e., the area in which people are at risk of harmful exposure) as illustrated above.

The **Initial Isolation Zone** and **Protective Action Distances** suggested are useful to protect people from vapors resulting from spills involving Chlorine C12, which is considered poisonous/toxic by inhalation (PIH).

The Initial Isolation Zone is the immediate area, **SURROUNDING** the incident, in which people may be exposed to dangerous (upwind) and life threatening (downwind) concentrations of material.

The Protective Action Zone is the area, **DOWNWIND** from the incident, in which persons may become incapacitated and unable to take protective action and/or incur serious or irreversible health effects.

**INITIATE PROTECTIVE ACTIONS** to the extent possible, beginning with those closest to the spill site and working away from the site in a downwind direction.

When a Water-Reactive PHI producing material is spilled into a river or stream, the source of gas may move with the current or stretch from the spill point downstream for a substantial distance.

This information provides first responders with initial guidance until technically qualified emergency response personnel are available. Distances show areas likely to be affected during the first 30 minutes after Chlorine C12 is spilled and could increase with time. Adjusting distances for a specific incident involves many interdependent variables and should be made only by personnel technically qualified to make such adjustments.

Due to many variables that are interdependent, no precise guidance can be provided to aid in adjusting the distances shown above. As a general guide; if the material becomes involved in a **FIRE**, the toxic hazard may become less important than the fire or explosion hazard. Or, if more than one tank car, cargo tank, portable tank, or large cylinder involved in the incident is leaking, **LARGE SPILL** distances may need to be increased.

**Note:**

The information provided on this page is not an exact retype of the NAERG 96 manual, and it does not include information pertaining to Chlorine that is not provided by Stoodly Industrial and Welding Supply, Inc. For complete information see NAERG 96