

## Flammable Threat Zone

ALOHA® 5.4.7



Time: February 12, 2025 1804 hours ST (user specified)

Chemical Name: ETHYLENE OXIDE

Carcinogenic risk - see CAMEO Chemicals

Wind: 3.3 meters/second from w at 3 meters

### THREAT ZONE:

Threat Modeled: Flammable Area of Vapor Cloud

Model Run: Heavy Gas

Red : 11 meters --- (50 % by vol)

Note: Threat zone was not drawn because effects of near-field patchiness make dispersion predictions less reliable for short distances.

Threat Modeled: Flammable Area of Vapor Cloud

Model Run: Heavy Gas

Red : 11 meters --- (50 % by vol)

Note: Threat zone was not drawn because effects of near-field patchiness make dispersion predictions less reliable for short distances.

Location: AVENIDA DA FABRICA 298, PENA, PORTUGAL  
Building Air Exchanges Per Hour: 0.38 (sheltered double storied)  
Time: February 12, 2025 1804 hours ST (user specified)

Chemical Name: ETHYLENE OXIDE  
CAS Number: 75-21-8 Molecular Weight: 44.05 g/mol  
AEGL-1 (60 min): N/A AEGL-2 (60 min): 45 ppm AEGL-3 (60 min): 200 ppm  
IDLH: 800 ppm LEL: 30000 ppm UEL: 1000000 ppm  
Carcinogenic risk - see CAMEO Chemicals  
Ambient Boiling Point: 9.8° C  
Vapor Pressure at Ambient Temperature: greater than 1 atm  
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

Wind: 3.3 meters/second from w at 3 meters  
Ground Roughness: urban or forest      Cloud Cover: 5 tenths  
Air Temperature: 15° C      Stability Class: D  
No Inversion Height      Relative Humidity: 78%

Leak from short pipe or valve in horizontal cylindrical tank  
Flammable chemical escaping from tank (not burning)  
Tank Diameter: 0.77 meters                      Tank Length: 2 meters  
Tank Volume: 930 liters  
Tank contains liquid                      Internal Temperature: 15° C  
Chemical Mass in Tank: 700 kilograms  
Tank is 85% full  
Circular Opening Diameter: 0.05 inches  
Opening is 38.5 centimeters from tank bottom  
Release Duration: ALOHA limited the duration to 1 hour  
Max Average Sustained Release Rate: 122 grams/min  
    (averaged over a minute or more)  
Total Amount Released: 7.29 kilograms  
Note: The chemical escaped as a mixture of gas and aerosol (two phase  
flow).

Threat Modeled: Flammable Area of Vapor Cloud  
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