

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 hole 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: 1 centimeters  
 Opening is 38.5 centimeters from tank bottom  
 Release Duration: ALOHA limited the duration to 1 hour  
 Max Average Sustained Release Rate: 17.8 kilograms/min  
     (averaged over a minute or more)  
 Total Amount Released: 587 kilograms  
 Note: The chemical escaped as a mixture of gas and aerosol (two phase  
 flow).

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Threat Modeled: Overpressure (blast force) from vapor cloud explosion
Type of Ignition: ignited by spark or flame
Level of Congestion: uncongested
Model Run: Heavy Gas
Red    : 22 meters --- (0.14 atmospheres)
Orange: 52 meters --- (0.05 atmospheres)

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