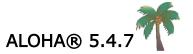
Thermal Radiation Threat Zone



Time: April 11, 2025 1546 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: Thermal radiation from jet fire

Red : less than 10 meters (10.9 yards) --- (7 kW/(sq m))

Orange: less than 10 meters (10.9 yards) --- (5.0 kW/(sq m) = 2 nd degree)

burns within 60 sec)

Threat Modeled: Thermal radiation from jet fire

Red : less than 10 meters(10.9 yards) --- (7 kW/(sq m)

Orange: less than 10 meters(10.9 yards) --- (5.0 kW/(sq



SITE DATA:

Location: AVENIDA DA FABRICA 298, PENA, PORTUGAL

Building Air Exchanges Per Hour: 0.38 (sheltered double storied)

Time: April 11, 2025 1546 hours ST (user specified)

CHEMICAL DATA:

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%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 3.3 meters/second from W at 3 meters

Ground Roughness: urban or forest
Air Temperature: 15° C
No Inversion Height

Cloud Cover: 5 tenths
Stability Class: D
Relative Humidity: 78%

SOURCE STRENGTH:

Leak from short pipe or valve in horizontal cylindrical tank

Flammable chemical is burning as it escapes from tank

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 40 centimeters from tank bottom

Max Flame Length: 1 meter

Burn Duration: ALOHA limited the duration to 1 hour

Max Burn Rate: 122 grams/min

Total Amount Burned: 7.29 kilograms

Note: The chemical escaped from the tank and burned as a jet fire.

THREAT ZONE:

Threat Modeled: Thermal radiation from jet fire

Red : less than 10 meters (10.9 yards) --- (7 kW/(sq m))

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burns within 60 sec)