

Overpressure (Blast Force) Threat Zone

ALOHA® 5.4.5



Time: March 10, 2016 1425 hours ST (using computer's clock)

Chemical Name: METHANE

Wind: 5 meters/second from WSW at 10 meters

THREAT ZONE:

Threat Modeled: Overpressure (blast force) from vapor cloud explosion

Type of Ignition: ignited by spark or flame

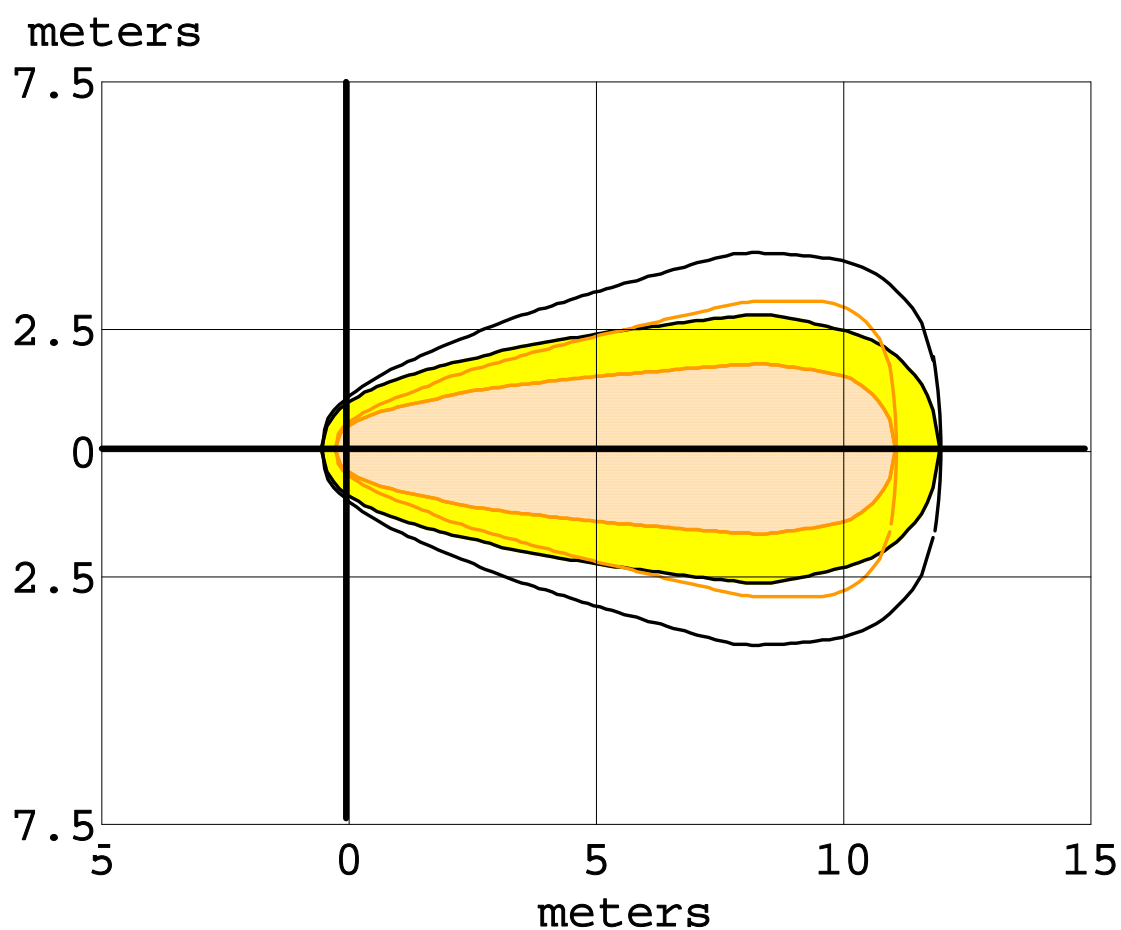
Level of Congestion: uncongested




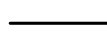
Model Run: Gaussian

Red : LOC was never exceeded --- (14000 pascals)

Orange: 11 meters --- (5000 pascals)

Yellow: 12 meters --- (3500 pascals)



-  greater than 14000 pascals
-  greater than 5000 pascals
-  greater than 3500 pascals
-  wind direction confidence lines

**SITE DATA:**

Location: AVION, FRANCE
Building Air Exchanges Per Hour: 0.83 (unsheltered single storied)
Time: March 10, 2016 1425 hours ST (using computer's clock)

CHEMICAL DATA:

Chemical Name: METHANE Molecular Weight: 16.04 g/mol
PAC-1: 2900 ppm PAC-2: 2900 ppm PAC-3: 17000 ppm
LEL: 50000 ppm UEL: 150000 ppm
Ambient Boiling Point: -161.5° 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: 5 meters/second from WSW at 10 meters
Ground Roughness: open country Cloud Cover: 5 tenths
Air Temperature: 20° C Stability Class: D
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:

Direct Source: 1000 cubic meters/hr Source Height: 0
Source State: Gas
Source Temperature: equal to ambient
Source Pressure: equal to ambient
Release Duration: 60 minutes
Release Rate: 11.1 kilograms/min
Total Amount Released: 666 kilograms

THREAT ZONE:

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Time: March 10, 2016 1531 hours ST (using computer's clock)

Chemical Name: METHANE

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Type of Ignition: ignited by spark or flame

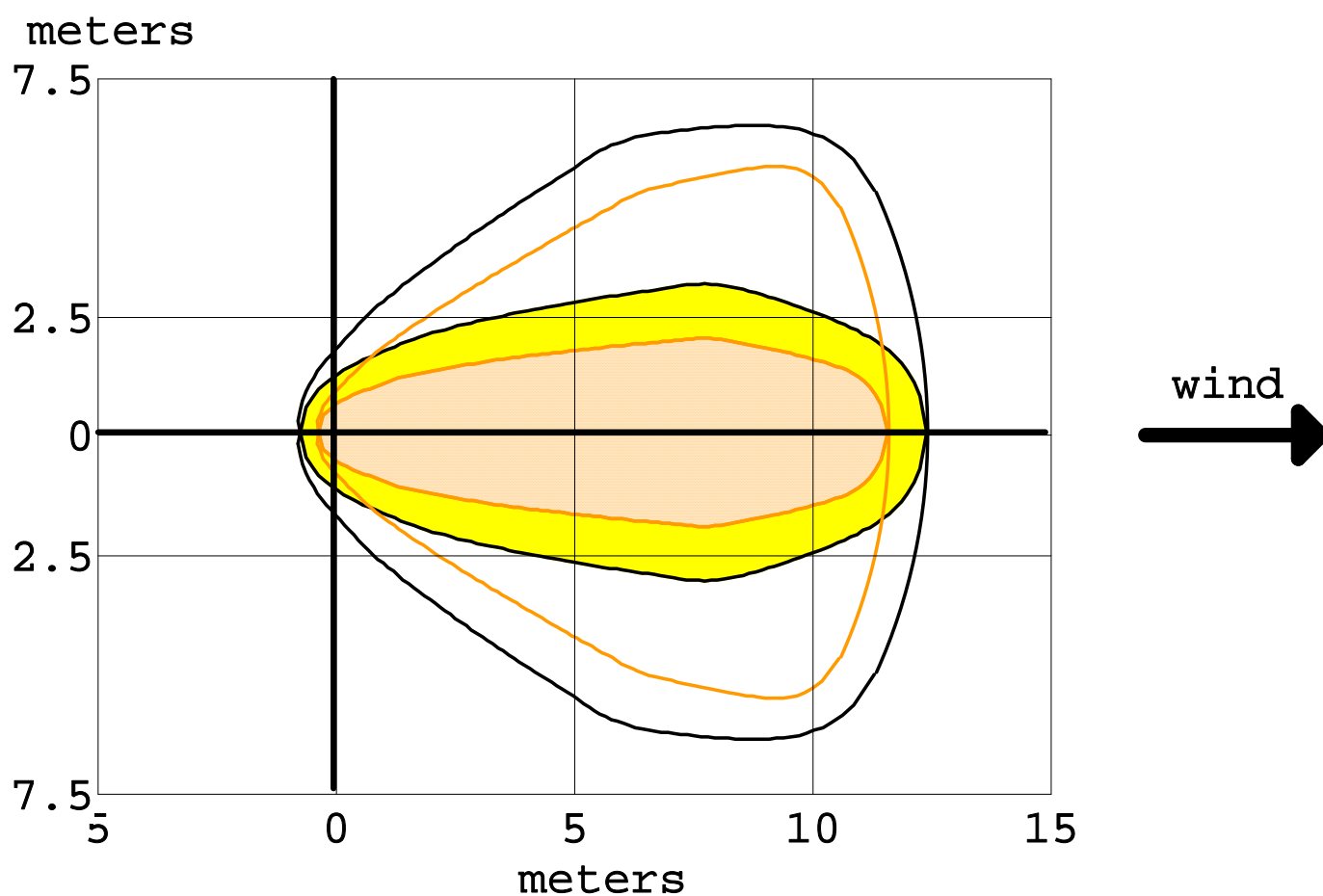
Level of Congestion: uncongested




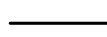
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**SITE DATA:**

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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 meters/second from WSW at 10 meters
Ground Roughness: open country Cloud Cover: 0 tenths
Air Temperature: 15° C Stability Class: C
No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:

Direct Source: 1000 cubic meters/hr Source Height: 0
Source State: Gas
Source Temperature: equal to ambient
Source Pressure: equal to ambient
Release Duration: 60 minutes
Release Rate: 11.3 kilograms/min
Total Amount Released: 678 kilograms

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Time: March 10, 2016 1425 hours ST (user specified)

Chemical Name: METHANE

Wind: 5 meters/second from WSW at 10 meters

THREAT ZONE:

Threat Modeled: Flammable Area of Vapor Cloud

Model Run: Gaussian

Red : less than 10 meters(10.9 yards) --- (150000 ppm)

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

Yellow: 14 meters --- (50000 ppm = LEL)

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