

DCA13MR002
Conrail - Shared Assets
Derailment/Hazardous Material Release
Paulsboro, New Jersey
November 30, 2012

Hazardous Materials
Group Factual Report

ATTACHMENT 28 –
NOAA DISPERSION MODELING-3

Thermal Radiation Threat Zone

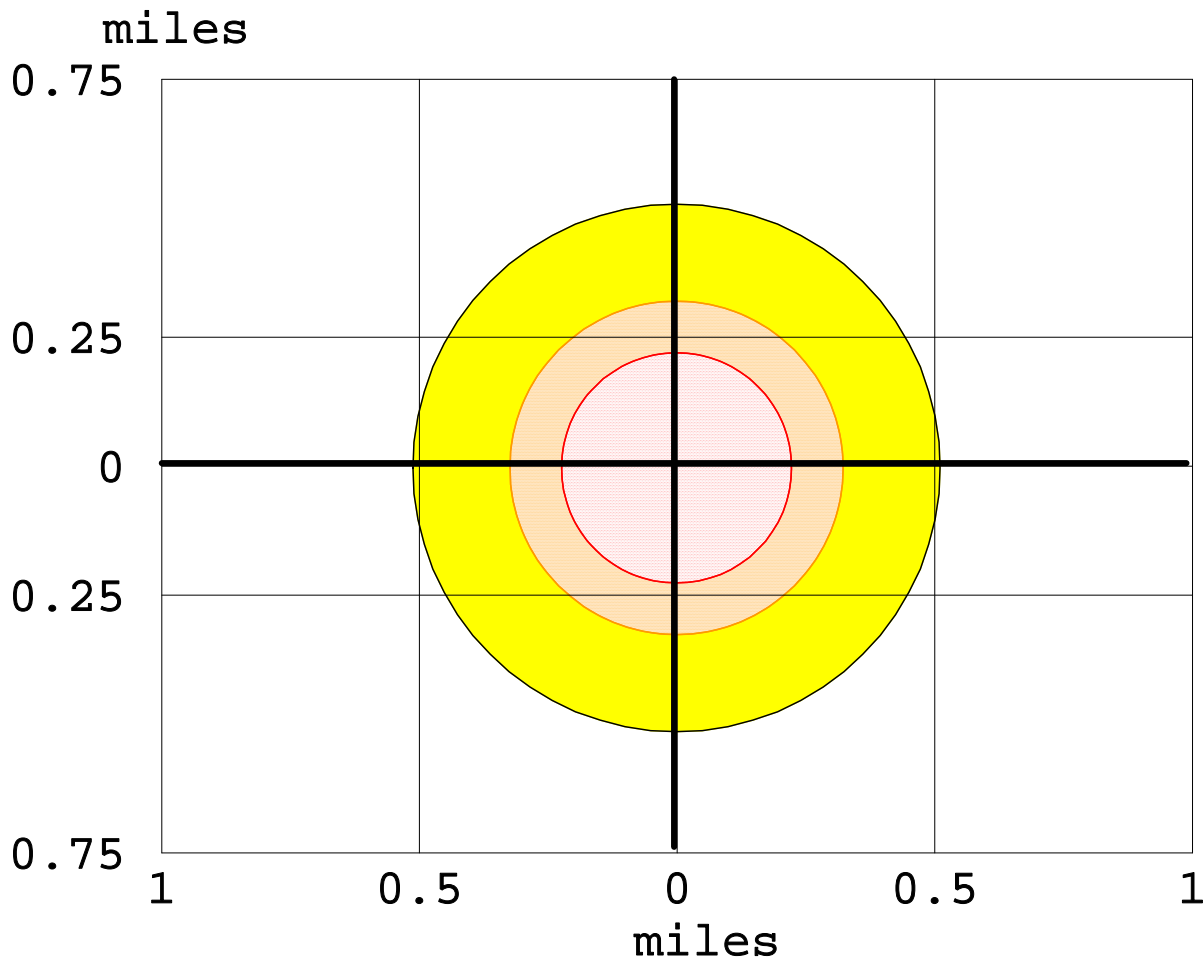
Time: December 3, 2012 1200 hours EST (user specified)




Chemical Name: VINYL CHLORIDE
Carcinogenic risk - see CAMEO Chemicals

Wind: 5 miles/hour from w at 3 meters

THREAT ZONE:

Threat Modeled: Thermal radiation from fireball
Red : 393 yards --- (10.0 kW/(sq m) = potentially lethal within 60 sec)
Orange: 569 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
Yellow: 900 yards --- (2.0 kW/(sq m) = pain within 60 sec)



-  greater than 10.0 kW/(sq m) (potentially lethal within 60 sec)
-  greater than 5.0 kW/(sq m) (2nd degree burns within 60 sec)
-  greater than 2.0 kW/(sq m) (pain within 60 sec)

Text Summary



SITE DATA:

Location: PHILADELPHIA, PENNSYLVANIA
Building Air Exchanges Per Hour: 0.56 (unsheltered single storied)
Time: December 3, 2012 1200 hours EST (user specified)

CHEMICAL DATA:

Chemical Name: VINYL CHLORIDE Molecular Weight: 62.50 g/mol
AEGL-1 (60 min): 250 ppm AEGL-2 (60 min): 1200 ppm AEGL-3 (60 min): 4800 ppm
LEL: 36000 ppm UEL: 330000 ppm
Carcinogenic risk - see CAMEO Chemicals
Ambient Boiling Point: 7.0° F
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 miles/hour from w at 3 meters Cloud Cover: 5 tenths
Ground Roughness: open country Stability Class: C
Air Temperature: 50° F Relative Humidity: 50%
No Inversion Height

SOURCE STRENGTH:

BLEVE of flammable liquid in horizontal cylindrical tank
Tank Diameter: 9 feet Tank Length: 63 feet
Tank Volume: 29,981 gallons
Tank contains liquid
Internal Storage Temperature: 50° F
Chemical Mass in Tank: 88.5 tons Tank is 76% full
Percentage of Tank Mass in Fireball: 100%
Fireball Diameter: 274 yards Burn Duration: 15 seconds

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