

## Text Summary

ALOHA® 5.4.7



### SITE DATA:

Location: PHOENIX, ARIZONA  
Building Air Exchanges Per Hour: 1.00 (unsheltered single storied)  
Time: September 3, 2019 1207 hours MST (user specified)

### CHEMICAL DATA:

Chemical Name: CHLORINE  
CAS Number: 7782-50-5 Molecular Weight: 70.91 g/mol  
AEGL-1 (60 min): 0.5 ppm AEGL-2 (60 min): 2 ppm AEGL-3 (60 min): 20 ppm  
IDLH: 10 ppm  
Ambient Boiling Point: -30.8° 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: 10 miles/hour from SW at 3 meters  
Ground Roughness: open country Cloud Cover: 0 tenths  
Air Temperature: 90° F Stability Class: C  
No Inversion Height Relative Humidity: 5%

### SOURCE STRENGTH:

Leak from hole in horizontal cylindrical tank  
Non-flammable chemical is escaping from tank  
Tank Diameter: 11.3 feet Tank Length: 40 feet  
Tank Volume: 30000 gallons  
Tank contains liquid Internal Temperature: -35° C  
Chemical Mass in Tank: 375000 pounds  
Tank is 96% full  
Opening Length: 50 inches Opening Width: 6 inches  
Opening is 2 inches from tank bottom  
Ground Type: Default soil  
Ground Temperature: equal to ambient  
Max Puddle Diameter: Unknown  
Note: RAILCAR predicts a stationary cloud or 'mist pool' will form.  
Model Run: traditional ALOHA tank  
Release Duration: 7 minutes  
Max Average Sustained Release Rate: 97,000 pounds/min  
(averaged over a minute or more)  
Total Amount Released: 375,000 pounds  
Note: The chemical escaped as a liquid and formed an evaporating puddle.  
The puddle spread to a diameter of 112 yards.

### THREAT ZONE:

Model Run: Heavy Gas  
Red : greater than 6 miles --- (20 ppm = AEGL-3 [60 min])  
Orange: greater than 6 miles --- (2 ppm = AEGL-2 [60 min])  
Yellow: greater than 6 miles --- (0.5 ppm = AEGL-1 [60 min])

### THREAT AT POINT:

Concentration Estimates at the point:  
Downwind: 0.59 miles Off Centerline: 0.12 miles  
Max Concentration:  
Outdoor: 5,840 ppm  
Indoor: 333 ppm

# Toxic Threat Zone

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Time: September 3, 2019 1207 hours MST (user specified)

Chemical Name: CHLORINE

Wind: 10 miles/hour from SW at 3 meters

### THREAT ZONE:

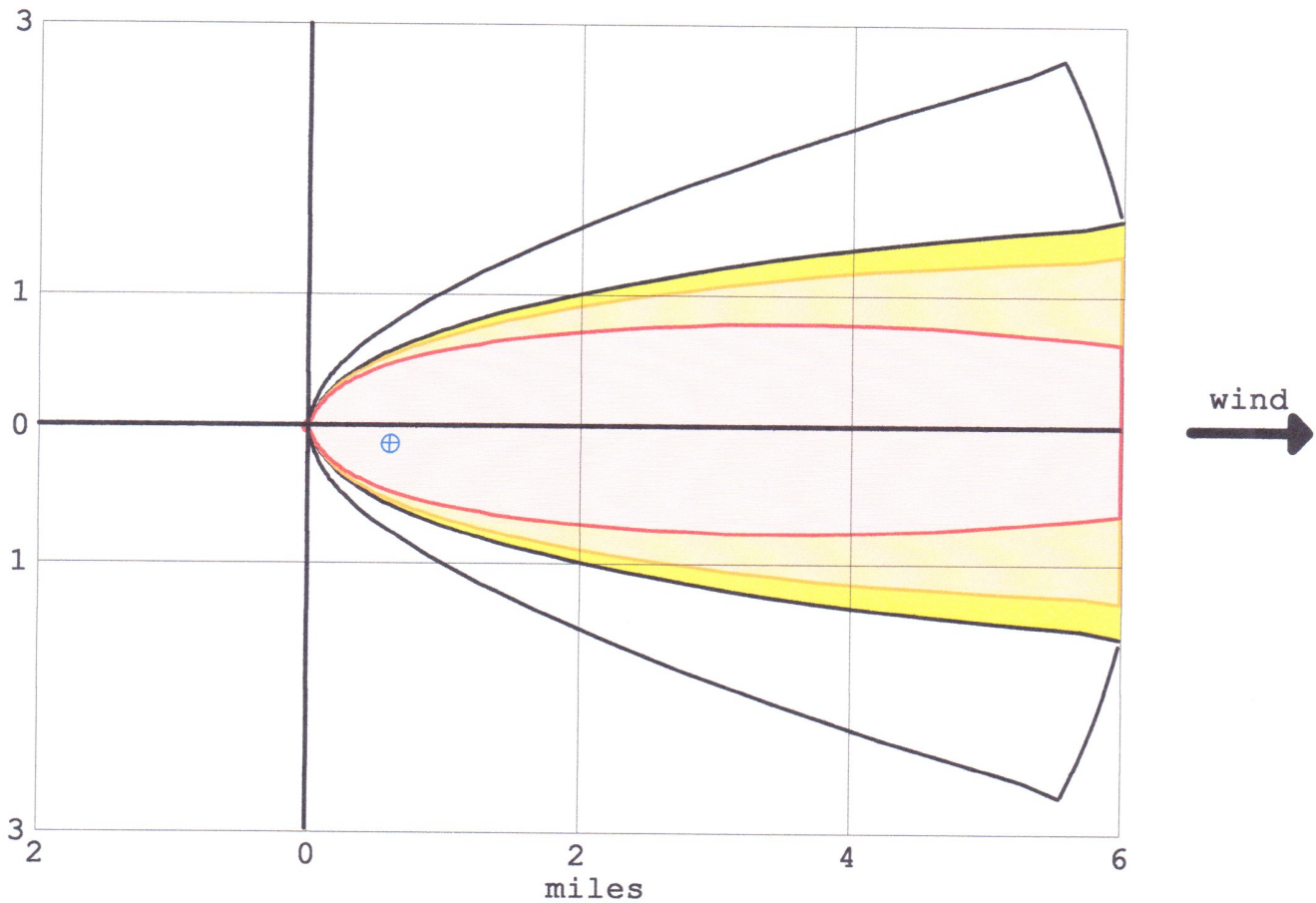
Model Run: Heavy Gas

Red : greater than 6 miles --- (20 ppm = AEGL-3 [60 min])

Orange: greater than 6 miles --- (2 ppm = AEGL-2 [60 min])

Yellow: greater than 6 miles --- (0.5 ppm = AEGL-1 [60 min])

miles



- greater than 20 ppm (AEGL-3 [60 min])
- greater than 2 ppm (AEGL-2 [60 min])
- greater than 0.5 ppm (AEGL-1 [60 min])
- wind direction confidence lines

Note: Threat zone picture is truncated at the 6 mile limit.

# Concentration at Point

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Time: September 3, 2019 1207 hours MST (user specified)

Chemical Name: CHLORINE

Building Air Exchanges Per Hour: 1.00 (unsheltered single storied)

### THREAT AT POINT:

Model Run: Heavy Gas

Concentration Estimates at the point:

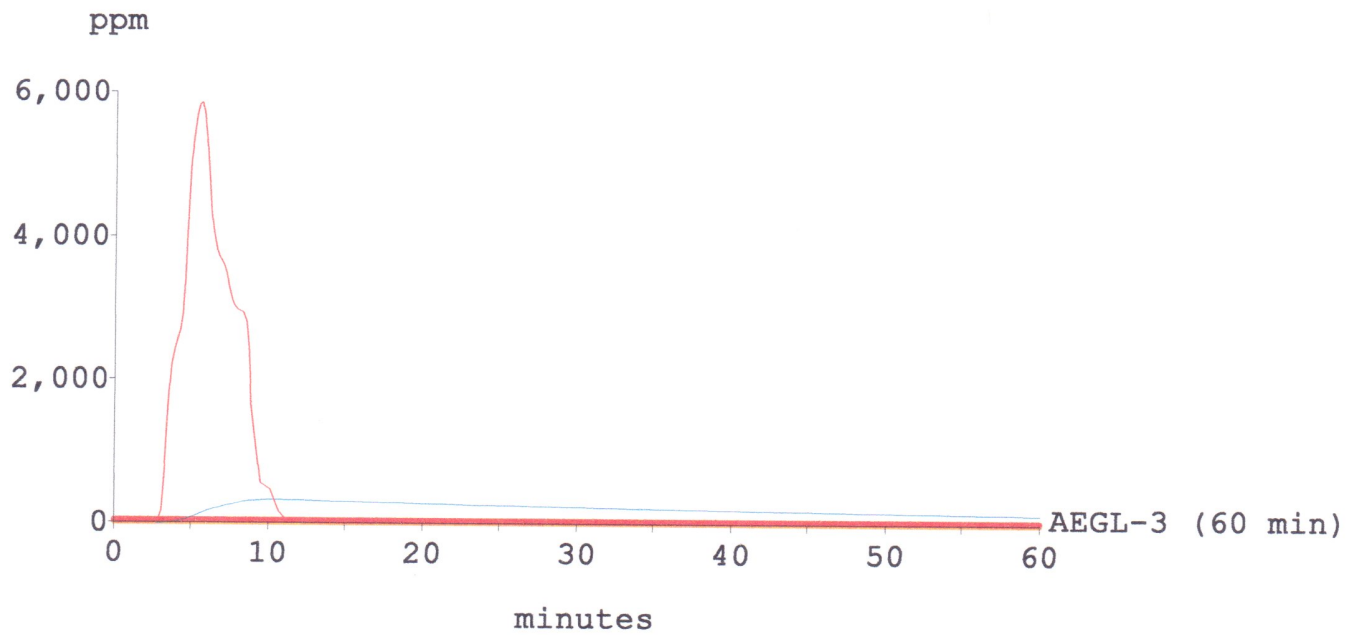
Downwind: 0.59 miles

Off Centerline: 0.12 miles

Max Concentration:

Outdoor: 5,840 ppm

Indoor: 333 ppm



— Outdoor Concentration

— Indoor Concentration

At Point: Downwind: 0.59 miles Off Centerline: 0.12 miles