



For Example only

Consequence Report
Chlorine Release - SemiTruck -
Chemical Pool
IMAAC Report - Example

Issued: December 11, 2008 22:02 GMT

SUMMARY:

This report describes the health effect consequences associated with a hypothetical spill release to the atmosphere from a unknown source. This is an initial, automated NARAC product, not a final recommendation. Initial predictions are for a limited time period and areas affected may change at later times. Please consult NARAC staff (925-422-7627) for refined, quality assured predictions. Predictions should be confirmed and refined using measurements.

PRODUCTS:

Max 10-min Avg Air Conc. of CHLORINE

Material: CHLORINE

Presents the near-term health effects caused by exposure to the chemical in terms of the published EPA AEGL or AIHA ERPG or TEEL values (if available), based on the maximum air concentration averaged over consecutive 10-minute periods. Upon request the total number of people exposed and, if the necessary data is available to apply a probit analysis, the number of fatalities and/or the combined number of fatal and non-fatal casualties may be included. These are computer model estimates assuming unprotected exposure and no mitigating action (such as evacuation or sheltering) for the entire time period of this prediction, and therefore may be over-estimates of the actual effects.

SOURCE INFORMATION:

Release Start Time:	December 11, 2008 20:40 UTC
Release Stop Time:	December 11, 2008 20:51 UTC
Release Location:	(38.9556,-77.1936)
Source Material and Amount:	18144 kg of CHLORINE
Source Geometry:	19.24 m circle released at 0 m
Particle Size Distribution:	No particulate is included in this calculation

METEOROLOGY:

Observations from 12/11/2008 20:00:00 UTC and 12/11/2008 21:00:00 UTC were used in the NARAC meteorological model

Observation Met Times

- December 11, 2008 20:00 UTC
- December 11, 2008 21:00 UTC

No precipitation is included in this calculation

ASSUMPTIONS:

Source CHEMICAL: CHLORINE Respirable: Calculated SurfaceArea = 1162.6 m², Calculated Downwind Diameter = 38.4742m, EvaporationRate = 27.1211 Kg/s, total Evaporation time = 669 s.

CONTACT INFORMATION:

Calculation requested on December 11, 2008 20:48 UTC by:

Brenda Pobanz (mgr), NARAC Operations
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Approved by: IMAAC Operations
Approver organization: IMAAC
Phone: 925-424-6465
Email: imaac@llnl.gov
Approved on: December 11, 2008 22:01 UTC

Classification: For Example only

DISCLAIMER:

These model predictions are intended to be guidance, and are not final recommendations. The accuracy of any prediction will be limited by the accuracy of the input data, such as estimates of the amount of material that becomes airborne and the available meteorological data for the area and time of the incident. Plume predictions may be for a limited time period, and may change at later times if new input data becomes available. Predictions should be confirmed and refined using field measurements. Air and ground concentration may be higher than predicted by this plume model simulation due the limited resolution of this particular simulation. For actual incidents or exercises, consult incident command and subject matter experts from the appropriate coordinating agency before making any decisions based on this model prediction.

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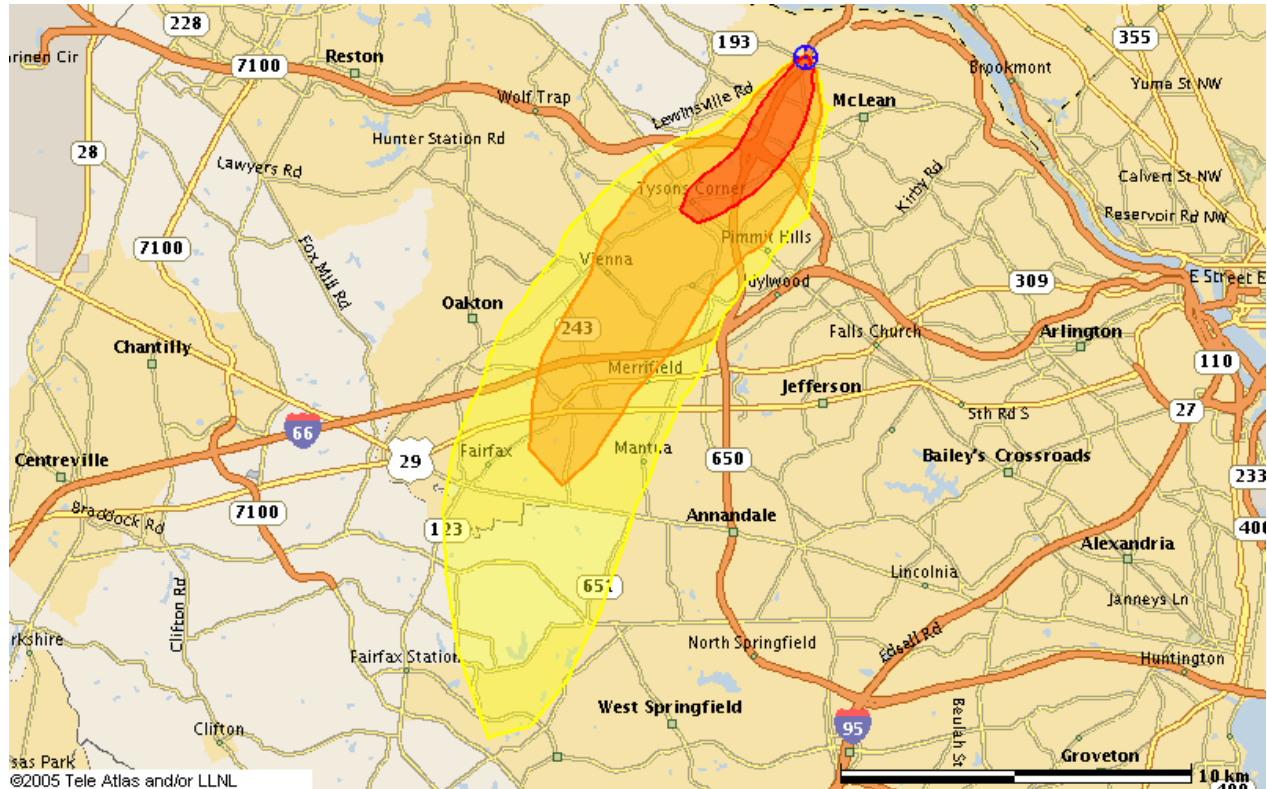
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Acute (Short-Term) Effects

	Description	Level (ppm)	Extent	Area	Population
	>60-min AEGL-3: Death or irreversible health effects possible.	>20	5.6km	6.6 km ²	3,780
	>60-min AEGL-2: Serious health effects or impaired ability to take protective action.	>2	14.0km	37.3 km ²	56,200
	>60-min AEGL-1: Minor reversible health effects. Possible odor.	>0.5	21.4km	89.8 km ²	140,000

Note: Areas and counts in the table are cumulative. Population Source = LandScanUSA10.

Effects or contamination from December 11, 2008 20:40 UTC to December 12, 2008 00:40 UTC at or near ground level.

Release Location: 38.955559 N, 77.193577 W **Material:** CHLORINE

Generated On: December 11, 2008 20:48 UTC

Model: ADAPT/LODI

Comments:

Hypothetical release

12/11/2008 20:40:00 UTC for 11 min 9 sec

met obs

Map Size: 35.8 km by 22.4 km **Id:** Production3.rcE8571.rcC1

NARAC Operations: (onDuty Assessor); narac@llnl.gov; 925-424-6465

Requested by: {Brenda Pobanz (mgr); NARAC Operations; 925-422-1823; pobanz2@llnl.gov}

Approved by: {IMAAC Operations; IMAAC; 925-424-6465}

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