



**ALTERNATIVE RELEASE SCENARIO FOR FLAMMABLE SUBSTANCES**

**Facility Info**

Name	County	Date
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**Topography** *(Select one)*

<input type="checkbox"/> Urban <i>(for terrain with many obstacles in the immediate area, including buildings and trees)</i>
<input type="checkbox"/> Rural <i>(for generally flat and unobstructed terrain with no buildings in the immediate area)</i>

**Chemical**

Name	CAS#	-	-
<b>Physical state</b> <i>(select one)</i>			
<input type="checkbox"/> a. Gas (Unliquefied)			
<input type="checkbox"/> b. Liquid			
<input type="checkbox"/> c. Gas liquefied by pressure			
<input type="checkbox"/> d. Gas liquefied by refrigeration			

**Scenario Considerations and Selection**

<p><b>Identify all scenarios that are applicable and were considered for the alternative release scenario at this location:</b></p> <p><input type="checkbox"/> a. A transfer hose release because of splits or sudden uncoupling of the hose.</p> <p><input type="checkbox"/> b. Process piping releases because of a failure at a flange, joint, weld, valve and valve seal, drain or bleed.</p> <p><input type="checkbox"/> c. A process vessel or pump release because of a crack or a failure of a seal, drain, bleed or plug</p> <p><input type="checkbox"/> d. A vessel overfill and spill, or over pressurization and vent through a relief valve or rupture disc</p> <p><input type="checkbox"/> e. A shipping container being mishandled and thereby breaking or is punctured leading to a spill</p>
<p><b>Previous Accidental Releases and Investigated Incidents</b></p> <p>Describe any previous accidental release and investigated incident at this location that were considered.</p>
<p><b>Process Hazzard Analysis (PHA)</b></p> <p>Describe any scenario(s) identified in the PHA that were considered.</p>
<p><b>Scenario Selection</b></p> <p>Provide a brief written description of the scenario selected for the alternative release that has the greatest off-site impact. If no alternate release scenario will reach an endpoint off-site, then provide a brief written description of the scenario with the most significant on-site impact.</p> <p>Describe how it was determined that the scenario selected for the alternative release was more likely to occur than the worst-case.</p>



**Scenario Description**

**Release Type** (*select one*)

- a. Vapor Cloud Explosion
- b. Vapor Cloud Fire
- c. Pool Fire
- d. BLEVE
- e. Other

For a flammable liquid, provide whichever is higher:  
 Highest daily max. temperature over previous 3 yrs.  
 Or Process temperature

For a flammable mixture, how was heat of combustion assumed? Select one.

- Based on predominate component
- Based on the constituents of the mixture.

Describe mixture using weight percentages.

**Equipment Involved Descriptions/Definitions** (*as applicable, use additional sheets if necessary*)

Equipment Name	Equipment ID	Drawing Number	Capacity / Flow	Site Location ( <i>i.e. NW Corner</i> )

**Release Conditions**

Describe the upset condition. (*i.e. pipe rupture due to overpressure, hole in tank, etc.*)

How was the release rate determined? List all parameters and/or equations used to determine the release rate. Also include any relevant process conditions. (*i.e. flow rate, pressure, temperature, area etc.*)

Describe in detail any administrative controls if applicable. (*i.e. % max. fill including procedure reference*)

How was the release duration determined? (*include limiting factors*)



**Mitigation** *(describe any that were considered in determining the release quantity for the alternative release scenario)*

**Passive**

Define any passive mitigation(s). *(i.e. diked area, including dimensions, drawing reference, etc.)*

Describe the anticipated effect of the passive mitigation. *(i.e. limits the vaporization)*

**Active**

Define any active mitigation(s). *(i.e. sprinkler system, excess flow valve, flares, etc.)*

Describe the anticipated effect of the active mitigation. *(fractional reduction)*

Describe how the mitigation is designed to remain functional under the conditions of the release scenario.

Has it been verified that mitigation is designed to remain functional under the conditions of the release scenario.

**Meteorological Conditions**

Atmospheric Stability Class *(default = D, unless local data show a higher min. at all times during previous 3 yrs.)*

Wind Speed *(default = 3 m/s, unless local data show a less stable atmosphere at all times during previous 3 yrs.)*

Ambient Temperature *(default = 77 degrees F, or highest daily max. during previous 3 yrs.)*

Relative Humidity *(default = 50%, or average humidity based on local data)*

Provide an explanation if default information was not used: *(i.e. include data source references)*

**Model Used** *(select one or enter another model name in other below)*

EPA's RMP\* Comp

EPA's OCA Guidance Reference - If Checked List Tables or Equations Used

Aerial locations of Hazardous Atmospheres (ALOHA®)

Other model (specify)

