# WORST CASE RELEASE SCENARIO FOR FLAMMABLE SUBSTANCES

***(Complete this form for each flammable substance above threshold quantity)***

## Facility Info

| Name | County | Date |
|---|---|---|

## Topography *(Select one)*

- ☐ Urban *(for terrain with many obstacles in the immediate area, including buildings and trees)*
- ☐ Rural *(for generally flat and unobstructed terrain with no buildings in the immediate area)*

## Chemical

Name CAS# - -

**Physical state** ***(select one)***

- ☐ a. Gas (Unliquefied)
- ☐ b. Liquid
- ☐ c. Gas liquefied by pressure
- ☐ d. Gas liquefied by refrigeration

## Single Largest Vessel / Pipeline

| Equipment Name | Equipment ID | Drawing Number |
|---|---|---|
| Max. Capacity (lbs.) | Location on Site *(i.e. NW Corner)* | |
| Describe In Detail The Administrative Controls *(i.e. % max. fill including procedure reference)* | | |

## Scenario

Vapor Cloud Explosion *(regulatory default scenario)*

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.

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

| |
|---|
| **Passive**<br>Define any passive mitigation(s). *(i.e. diked area, including dimensions, drawing reference, etc.)*<br><br>Describe the anticipated effect of the passive mitigation. *(i.e. limits the vaporization)* |
| Describe how the mitigation is designed to remain functional under the conditions of the release scenario.<br><br>☐ Has it been verified that mitigation is designed to remain functional under the conditions of the release scenario. |

**Meteorological Conditions**

| | |
|---|---|
| Atmospheric Stability Class | *(default = F, unless local data show a higher min. at all times during previous 3 yrs.)* |
| Wind Speed | *(default = 1.5 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) |

## Potential Off-site Consequence Impact

| | |
|---|---|
| Quantity Released (lbs.) | Release Rate |
| Duration of the released | Distance to endpoint (miles) |
| Residential Population Affected | Data Source Used to Estimate *(i.e. 2010 Census)* |

Public Receptors Affected *(List all schools, hospitals, correctional facilities, recreation areas, commercial, office, or industrial areas, etc.)*

| Name | Address | Estimated Occupancy | Emergency Contact |
|---|---|---|---|
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Environmental Receptors Affected (*List all National/State Parks, Forests, or Monuments; Officially Designated Wildlife Sanctuaries/Preserves/Refuges; Federal Wilderness Areas, etc.)*

Data Source Used to Identify Environmental Receptors: (*i.e. USGS Maps)*

## Additional Worst-Case Scenarios

- If there are smaller quantities of the substance handled at higher temperatures or pressures in closer proximity to the facility boundary that would result in a greater distance to an endpoint than above, an additional worst-case scenario must be developed.
- Additional worst-case scenarios must be developed if different public receptors are affected.

Based on this information, are additional worst-case scenarios required?

☐ Yes

☐ No

If yes, perform and attach.