

Modélisation de la dispersion atmosphérique des  
toxiques en cas d'incendie d'une cellule de  
stockage de produits combustibles de 6 000 m<sup>2</sup>

Incendie d'une cellule de stockage  
**Dispersion des suies**  
Condition A, vent 2 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)  
Time: March 5, 2019 1032 hours ST (using computer's clock)

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 2 meters/second from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 20° C**      **Stability Class: A (user override)**  
No Inversion Height      Relative Humidity: 50%

SOURCE STRENGTH:

**Direct Source: 11.11 kilograms/sec**      **Source Height: 179 meters**  
Release Duration: 60 minutes  
Release Rate: 645 kilograms/min  
Total Amount Released: 38,664 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (79 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion des suies**  
Condition D, vent 5 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)  
Time: March 5, 2019 1106 hours ST (using computer's clock)

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 5 meters/second from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 20° C**      **Stability Class: D**  
No Inversion Height      Relative Humidity: 50%

SOURCE STRENGTH:

**Direct Source: 11.11 kilograms/sec**      **Source Height: 72 meters**  
Release Duration: 60 minutes  
Release Rate: 645 kilograms/min  
Total Amount Released: 38,664 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (79 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion des suies**  
Condition F, vent 3 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 0.65 (unsheltered single storied)  
Time: March 5, 2019 1108 hours ST (using computer's clock)

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 3 meters/second from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 15° C**      **Stability Class: F (user override)**  
No Inversion Height      Relative Humidity: 50%

SOURCE STRENGTH:

**Direct Source: 11.11 kilograms/sec**      **Source Height: 119 meters**  
Release Duration: 60 minutes  
Release Rate: 645 kilograms/min  
Total Amount Released: 38,664 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (79 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion du Monoxyde de carbone**  
Condition A, vent 2 m/s

**SITE DATA:**

Location : HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)  
Time: March 5, 2019 1110 hours ST (using computer's clock)

**CHEMICAL DATA:**

Chemical Name: CARBON MONOXIDE      Molecular Weight: 28.01 g/mol  
AEGL-1 (60 min): N/A    AEGL-2 (60 min): 83 ppm    AEGL-3 (60 min): 330 ppm  
IDLH: 1200 ppm    LEL: 125000 ppm    UEL: 742000 ppm  
Ambient Boiling Point: -312.6° 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: 2 meters/second from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 20° C      Stability Class: A (user override)**  
No Inversion Height      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 34.9 kilograms/sec    Source Height: 179 meters**  
Release Duration: 60 minutes  
Release Rate: 2022.6 kilograms/min  
Total Amount Released: 121,356 kilograms  
Note: This chemical may flash boil and/or result in two phase flow.  
Use both dispersion modules to investigate its potential behavior.

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (3520 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.  
Orange: **LOC is not exceeded** --- (880 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC..

Incendie d'une cellule de stockage  
**Dispersion du Monoxyde de carbone**  
Condition D, vent 5 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)  
Time: March 5, 2019 1114 hours ST (using computer's clock)

**CHEMICAL DATA:**

Chemical Name: CARBON MONOXIDE      Molecular Weight: 28.01 g/mol  
AEGL-1 (60 min): N/A    AEGL-2 (60 min): 83 ppm    AEGL-3 (60 min): 330 ppm  
IDLH: 1200 ppm    LEL: 125000 ppm    UEL: 742000 ppm  
Ambient Boiling Point: -312.6° 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 meters/second from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 20° C**      **Stability Class: D**  
No Inversion Height      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 34.9 kilograms/sec**      **Source Height: 79 meters**  
Release Duration: 60 minutes  
Release Rate: 2022.6 kilograms/min  
Total Amount Released: 121,356 kilograms  
Note: This chemical may flash boil and/or result in two phase flow.  
Use both dispersion modules to investigate its potential behavior.

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (3520 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.  
Orange: **LOC is not exceeded** --- (880 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion du Monoxyde de carbone**  
Condition F, vent 3 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 0.65 (unsheltered single storied)  
Time: March 5, 2019 1115 hours ST (using computer's clock)

**CHEMICAL DATA:**

Chemical Name: CARBON MONOXIDE      Molecular Weight: 28.01 g/mol  
AEGL-1 (60 min): N/A    AEGL-2 (60 min): 83 ppm    AEGL-3 (60 min): 330 ppm  
IDLH: 1200 ppm    LEL: 125000 ppm    UEL: 742000 ppm  
Ambient Boiling Point: -312.6° 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: 3 meters/second from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 15° C**      **Stability Class: F (user override)**  
No Inversion Height      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 34.9 kilograms/sec**    **Source Height: 112 meters**  
Release Duration: 60 minutes  
Release Rate: 2022.6 kilograms/min  
Total Amount Released: 121,356 kilograms  
Note: This chemical may flash boil and/or result in two phase flow.  
Use both dispersion modules to investigate its potential behavior.

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (3520 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.  
Orange: **LOC is not exceeded** --- (880 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion du Dioxyde de carbone**  
Condition A, vent 2 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)  
Time: March 5, 2019 1424 hours ST (using computer's clock)

**CHEMICAL DATA:**

Chemical Name: CARBON DIOXIDE  
CAS Number: 124-38-9                      Molecular Weight: 44.01 g/mol  
IDLH: 40000 ppm  
Normal Boiling Point: -unavail-  
Vapor Pressure at Ambient Temperature: greater than 1 atm  
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%  
Note: Not enough chemical data to use Heavy Gas option

**ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)**

Wind: **2 meters/second** from W at 3 meters  
Ground Roughness: open country                      Cloud Cover: 5 tenths  
**Air Temperature: 20° C**                      **Stability Class: A** (user override)  
No Inversion Height                      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 348.7 kilograms/sec**    **Source Height: 179 meters**  
Release Duration: 60 minutes  
Release Rate: 1,255,320 kilograms/min  
Total Amount Released: 3,937,320 kilograms

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (89980 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion du Dioxyde de carbone**  
Condition D, vent 5 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)  
Time: March 5, 2019 1427 hours ST (using computer's clock)

**CHEMICAL DATA:**

Chemical Name: CARBON DIOXIDE  
CAS Number: 124-38-9                      Molecular Weight: 44.01 g/mol  
IDLH: 40000 ppm  
Normal Boiling Point: -unavail-  
Vapor Pressure at Ambient Temperature: greater than 1 atm  
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%  
Note: Not enough chemical data to use Heavy Gas option

**ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)**

Wind: **5 meters/second** from W at 3 meters  
Ground Roughness: open country                      Cloud Cover: 5 tenths  
**Air Temperature: 20° C**                      **Stability Class: D**  
No Inversion Height                      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 348.7 kilograms/sec**    **Source Height: 79 meters**  
Release Duration: 60 minutes  
Release Rate: 1,255,320 kilograms/min  
Total Amount Released: 3,937,320 kilograms

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded --- (89980 mg/(cu m))**  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion du Dioxyde de carbone**  
Condition F, vent 3 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 0.65 (unsheltered single storied)  
Time: March 5, 2019 1428 hours ST (using computer's clock)

**CHEMICAL DATA:**

Chemical Name: CARBON DIOXIDE  
CAS Number: 124-38-9                      Molecular Weight: 44.01 g/mol  
IDLH: 40000 ppm  
Normal Boiling Point: -unavail-  
Vapor Pressure at Ambient Temperature: greater than 1 atm  
Ambient Saturation Concentration: 1,000,000 ppm or 100.0%  
Note: Not enough chemical data to use Heavy Gas option

**ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)**

Wind: **3 meters/second** from W at 3 meters  
Ground Roughness: open country                      Cloud Cover: 5 tenths  
**Air Temperature: 15° C**                      **Stability Class: F** (user override)  
No Inversion Height                      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 348.7 kilograms/sec**    **Source Height: 112 meters**  
Release Duration: 60 minutes  
Release Rate: 1,255,320 kilograms/min  
Total Amount Released: 3,937,320 kilograms

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (89980 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion du HCl**  
Condition A, vent 2 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)  
Time: March 5, 2019 1118 hours ST (using computer's clock)

**CHEMICAL DATA:**

Chemical Name: HYDROGEN CHLORIDE      Molecular Weight: 36.46 g/mol  
AEGL-1 (60 min): 1.8 ppm    AEGL-2 (60 min): 22 ppm    AEGL-3 (60 min): 100 ppm  
IDLH: 50 ppm  
Ambient Boiling Point: -121.0° 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: 2 meters/second from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 20° C**      **Stability Class: A (user override)**  
No Inversion Height      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 13.14 kilograms/sec**      **Source Height: 179 meters**  
Release Duration: 60 minutes  
Release Rate: 762 kilograms/min  
Total Amount Released: 45,720 kilograms  
Note: This chemical may flash boil and/or result in two phase flow.

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (358 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.  
Orange: **LOC is not exceeded** --- (60 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC..

Incendie d'une cellule de stockage  
**Dispersion du HCl**  
Condition D, vent 5 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)  
Time: March 5, 2019 1122 hours ST (using computer's clock)

**CHEMICAL DATA:**

Chemical Name: HYDROGEN CHLORIDE      Molecular Weight: 36.46 g/mol  
AEGL-1 (60 min): 1.8 ppm    AEGL-2 (60 min): 22 ppm    AEGL-3 (60 min): 100 ppm  
IDLH: 50 ppm  
Ambient Boiling Point: -121.0° 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 meters/second from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 20° C      Stability Class: D**  
No Inversion Height      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 13.14 kilograms/sec      Source Height: 79 meters**  
Release Duration: 60 minutes  
Release Rate: 762 kilograms/min  
Total Amount Released: 45,720 kilograms  
Note: This chemical may flash boil and/or result in two phase flow.

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (358 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.  
Orange: **LOC is not exceeded** --- (60 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion du HCl**  
Condition F, vent 3 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 0.65 (unsheltered single storied)  
Time: March 5, 2019 1123 hours ST (using computer's clock)

**CHEMICAL DATA:**

Chemical Name: HYDROGEN CHLORIDE      Molecular Weight: 36.46 g/mol  
AEGL-1 (60 min): 1.8 ppm    AEGL-2 (60 min): 22 ppm    AEGL-3 (60 min): 100 ppm  
IDLH: 50 ppm  
Ambient Boiling Point: -121.0° 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: 3 meters/second from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 15° C**      **Stability Class: F (user override)**  
No Inversion Height      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 13.14 kilograms/sec**    **Source Height: 112 meters**  
Release Duration: 60 minutes  
Release Rate: 762 kilograms/min  
Total Amount Released: 45,720 kilograms  
Note: This chemical may flash boil and/or result in two phase flow.

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (358 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.  
Orange: **LOC is not exceeded** --- (60 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion du HCN**  
Condition A, vent 2 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)  
Time: March 5, 2019 1125 hours ST (using computer's clock)

**CHEMICAL DATA:**

Chemical Name: HYDROGEN CYANIDE      Molecular Weight: 27.03 g/mol  
AEGL-1 (60 min): 2 ppm    AEGL-2 (60 min): 7.1 ppm    AEGL-3 (60 min): 15 ppm  
IDLH: 50 ppm    LEL: 56000 ppm    UEL: 400000 ppm  
Ambient Boiling Point: 78.3° F  
Vapor Pressure at Ambient Temperature: 0.81 atm  
Ambient Saturation Concentration: 805,867 ppm or 80.6%

**ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)**

Wind: 2 meters/second from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 20° C**      **Stability Class: A (user override)**  
No Inversion Height      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 1.02 kilograms/sec**      **Source Height: 179 meters**  
Release Duration: 60 minutes  
Release Rate: 59.4 kilograms/min  
Total Amount Released: 3,564 kilograms

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (45 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion du HCN**  
Condition D, vent 5 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)  
Time: March 5, 2019 1127 hours ST (using computer's clock)

**CHEMICAL DATA:**

Chemical Name: HYDROGEN CYANIDE      Molecular Weight: 27.03 g/mol  
AEGL-1 (60 min): 2 ppm    AEGL-2 (60 min): 7.1 ppm    AEGL-3 (60 min): 15 ppm  
IDLH: 50 ppm    LEL: 56000 ppm    UEL: 400000 ppm  
Ambient Boiling Point: 78.3° F  
Vapor Pressure at Ambient Temperature: 0.81 atm  
Ambient Saturation Concentration: 805,867 ppm or 80.6%

**ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)**

Wind: 5 meters/second from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 20° C      Stability Class: D**  
No Inversion Height      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 1.02 kilograms/sec      Source Height: 79 meters**  
Release Duration: 60 minutes  
Release Rate: 59.4 kilograms/min  
Total Amount Released: 3,564 kilograms

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (45 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion du HCN**  
Condition F, vent 3 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 0.65 (unsheltered single storied)  
Time: March 5, 2019 1128 hours ST (using computer's clock)

CHEMICAL DATA:

Chemical Name: HYDROGEN CYANIDE      Molecular Weight: 27.03 g/mol  
AEGL-1 (60 min): 2 ppm    AEGL-2 (60 min): 7.1 ppm    AEGL-3 (60 min): 15 ppm  
IDLH: 50 ppm    LEL: 56000 ppm    UEL: 400000 ppm  
Ambient Boiling Point: 78.3° F  
Vapor Pressure at Ambient Temperature: 0.66 atm  
Ambient Saturation Concentration: 660,892 ppm or 66.1%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 3 meters/second from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 15° C**      **Stability Class: F (user override)**  
No Inversion Height      Relative Humidity: 50%

SOURCE STRENGTH:

**Direct Source: 1.02 kilograms/sec**      **Source Height: 112 meters**  
Release Duration: 60 minutes  
Release Rate: 59.4 kilograms/min  
Total Amount Released: 3,564 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (45 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion des fumées de l'incendie (seuil équivalent)**  
Condition A, vent 2 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)  
Time: March 5, 2019 1151 hours ST (using computer's clock)

**ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)**

Wind: **2 meters/second** from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 20° C**      **Stability Class: A** (user override)  
No Inversion Height      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 1 588 kilograms/sec**    **Source Height: 179 meters**  
Release Duration: 60 minutes  
Release Rate: 95,280 kilograms/min  
Total Amount Released: 5,800,716 kilograms

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (21705 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.  
Orange: **LOC is not exceeded** --- (5568 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion des fumées de l'incendie (seuil équivalent)**  
Condition D, vent 5 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)  
Time: March 5, 2019 1153 hours ST (using computer's clock)

**ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)**

Wind: **5 meters/second** from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 20° C**                      **Stability Class: D**  
No Inversion Height                      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 1 588 kilograms/sec**    **Source Height: 79 meters**  
Release Duration: 60 minutes  
Release Rate: 95,280 kilograms/min  
Total Amount Released: 5,800,716 kilograms

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (21705 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.  
Orange: **LOC is not exceeded** --- (5568 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.

Incendie d'une cellule de stockage  
**Dispersion des fumées de l'incendie (seuil équivalent)**  
Condition F, vent 3 m/s

**SITE DATA:**

Location: HEUDEBOUVILLE, FRANCE  
Building Air Exchanges Per Hour: 0.65 (unsheltered single storied)  
Time: March 5, 2019 1153 hours ST (using computer's clock)

**ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)**

Wind: **3 meters/second** from W at 3 meters  
Ground Roughness: open country      Cloud Cover: 5 tenths  
**Air Temperature: 15° C**      **Stability Class: F** (user override)  
No Inversion Height      Relative Humidity: 50%

**SOURCE STRENGTH:**

**Direct Source: 1 588 kilograms/sec**    **Source Height: 112 meters**  
Release Duration: 60 minutes  
Release Rate: 95,280 kilograms/min  
Total Amount Released: 5,800,716 kilograms

**THREAT ZONE: (GAUSSIAN SELECTED)**

Model Run: Gaussian  
Red : **LOC is not exceeded** --- (21705 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.  
Orange: **LOC is not exceeded** --- (5568 mg/(cu m))  
Note: Threat zone was not drawn because the ground level concentrations never exceed the LOC.