

Modélisation de la dispersion atmosphérique des
toxiques en cas d'incendie de trois cellules de
stockage de pneumatiques
pour un total de 24 000 m²

Incendie de trois cellules 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 12, 2019 1106 hours DST (using computer's clock)

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 2 meters/second from SW 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: 109.34 kilograms/sec Source Height: 371 meters
Release Duration: 60 minutes
Release Rate: 6,560 kilograms/min
Total Amount Released: 393,624 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** --- (79 mg/(cu m))
Note: Threat zone was not drawn because
 the ground level concentrations never exceed the LOC.

Incendie de trois cellules 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 12, 2019 1124 hours DST (using computer's clock)

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 5 meters/second from SW 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: 109.34 kilograms/sec **Source Height: 148 meters**
Release Duration: 60 minutes
Release Rate: 6,560 kilograms/min
Total Amount Released: 393,624 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** --- (79 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules 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 12, 2019 1123 hours DST (using computer's clock)

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 3 meters/second from SW 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: 109.34 kilograms/sec Source Height: 247 meters
Release Duration: 60 minutes
Release Rate: 6,560 kilograms/min
Total Amount Released: 393,624 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** --- (79 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules 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 12, 2019 1125 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: CARBON MONOXIDE
CAS Number: 630-8-0 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: -191.5° C
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 SW 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: 53.04 kilograms/sec Source Height: 371 meters
Release Duration: 60 minutes
Release Rate: 3,180 kilograms/min
Total Amount Released: 190,944 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** --- (3680 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (920 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules 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 12, 2019 1127 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: CARBON MONOXIDE
CAS Number: 630-8-0 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: -191.5° C
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 SW 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: 53.04 kilograms/sec Source Height: 148 meters
Release Duration: 60 minutes
Release Rate: 3,180 kilograms/min
Total Amount Released: 190,944 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** --- (3680 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (920 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules 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 12, 2019 1126 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: CARBON MONOXIDE
CAS Number: 630-8-0 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: -191.5° C
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 SW 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: 53.04 kilograms/sec Source Height: 247 meters
Release Duration: 60 minutes
Release Rate: 3,180 kilograms/min
Total Amount Released: 190,944 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** --- (3680 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (920 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules 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 12, 2019 1131 hours DST (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 SW 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: 1414.13 kilograms/sec
Source Height: 371 meters
Release Duration: 60 minutes
Release Rate: 84,800 kilograms/min
Total Amount Released: 5,090,868 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian
Red : **LOC is not exceeded** --- (899800 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules 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 12, 2019 1134 hours DST (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 SW 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: 1414.13 kilograms/sec
Source Height: 148 meters
Release Duration: 60 minutes
Release Rate: 84,800 kilograms/min
Total Amount Released: 5,090,868 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian
Red : **LOC is not exceeded** --- (899800 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules 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 12, 2019 1133 hours DST (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 SW 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: 1414.13 kilograms/sec
Source Height: 247 meters
Release Duration: 60 minutes
Release Rate: 84,800 kilograms/min
Total Amount Released: 5,090,868 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian
Red : **LOC is not exceeded** --- (899800 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules de stockage
Dispersion du SO₂
Condition A, vent 2 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE
Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)
Time: March 12, 2019 1134 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: SULFUR DIOXIDE
CAS Number: 7446-9-5 Molecular Weight: 64.06 g/mol
AEGL-1 (60 min): 0.2 ppm AEGL-2 (60 min): 0.75 ppm AEGL-3 (60 min): 30 ppm
IDLH: 100 ppm
Ambient Boiling Point: -10.1° C
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 SW 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: 7.18 kilograms/sec Source Height: 371 meters
Release Duration: 60 minutes
Release Rate: 431 kilograms/min
Total Amount Released: 25,848 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** --- (1885 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (211 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules de stockage
Dispersion du SO₂
Condition D, vent 5 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE
Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)
Time: March 12, 2019 1136 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: SULFUR DIOXIDE
CAS Number: 7446-9-5 Molecular Weight: 64.06 g/mol
AEGL-1 (60 min): 0.2 ppm AEGL-2 (60 min): 0.75 ppm AEGL-3 (60 min): 30 ppm
IDLH: 100 ppm
Ambient Boiling Point: -10.1° C
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 SW 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: 7.18 kilograms/sec Source Height: 148 meters
Release Duration: 60 minutes
Release Rate: 431 kilograms/min
Total Amount Released: 25,848 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** --- (1885 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (211 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules de stockage
Dispersion du SO₂
Condition F, vent 3 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE
Building Air Exchanges Per Hour: 0.65 (unsheltered single storied)
Time: March 12, 2019 1135 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: SULFUR DIOXIDE
CAS Number: 7446-9-5 Molecular Weight: 64.06 g/mol
AEGL-1 (60 min): 0.2 ppm AEGL-2 (60 min): 0.75 ppm AEGL-3 (60 min): 30 ppm
IDLH: 100 ppm
Ambient Boiling Point: -10.1° C
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 SW 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: 7.18 kilograms/sec Source Height: 247 meters
Release Duration: 60 minutes
Release Rate: 431 kilograms/min
Total Amount Released: 25,848 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** --- (1885 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (211 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules de stockage
Dispersion du NO₂
Condition A, vent 2 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE
Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)
Time: March 12, 2019 1137 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: NITROGEN DIOXIDE
CAS Number: 10102-44-0 Molecular Weight: 46.01 g/mol
AEGL-1 (60 min): 0.5 ppm AEGL-2 (60 min): 12 ppm AEGL-3 (60 min): 20 ppm
IDLH: 20 ppm
Ambient Boiling Point: 21.0° C
Vapor Pressure at Ambient Temperature: 0.95 atm
Ambient Saturation Concentration: 952,328 ppm or 95.2%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 2 meters/second from SW 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: 2.04 kilograms/sec Source Height: 371 meters
Release Duration: 60 minutes
Release Rate: 122 kilograms/min
Total Amount Released: 7,344 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian
Red : **LOC is not exceeded** --- (132 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (75 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules de stockage
Dispersion du NO₂
Condition D, vent 5 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE
Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)
Time: March 12, 2019 1138 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: NITROGEN DIOXIDE
CAS Number: 10102-44-0 Molecular Weight: 46.01 g/mol
AEGL-1 (60 min): 0.5 ppm AEGL-2 (60 min): 12 ppm AEGL-3 (60 min): 20 ppm
IDLH: 20 ppm
Ambient Boiling Point: 21.0° C
Vapor Pressure at Ambient Temperature: 0.95 atm
Ambient Saturation Concentration: 952,328 ppm or 95.2%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 5 meters/second from SW 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: 2.04 kilograms/sec Source Height: 148 meters
Release Duration: 60 minutes
Release Rate: 122 kilograms/min
Total Amount Released: 7,344 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian
Red : **LOC is not exceeded** --- (132 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (75 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules de stockage
Dispersion du NO₂
Condition F, vent 3 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE
Building Air Exchanges Per Hour: 0.65 (unsheltered single storied)
Time: March 12, 2019 1138 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: NITROGEN DIOXIDE
CAS Number: 10102-44-0 Molecular Weight: 46.01 g/mol
AEGL-1 (60 min): 0.5 ppm AEGL-2 (60 min): 12 ppm AEGL-3 (60 min): 20 ppm
IDLH: 20 ppm
Ambient Boiling Point: 21.0° C
Vapor Pressure at Ambient Temperature: 0.75 atm
Ambient Saturation Concentration: 749,848 ppm or 75.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 3 meters/second from SW 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: 2.04 kilograms/sec Source Height: 247 meters
Release Duration: 60 minutes
Release Rate: 122 kilograms/min
Total Amount Released: 7,344 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian
Red : **LOC is not exceeded** --- (132 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (75 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules de stockage
Dispersion du formol
Condition A, vent 2 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE
Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)
Time: March 12, 2019 1140 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: FORMIC ACID
CAS Number: 64-18-6 Molecular Weight: 46.03 g/mol
ERPG-1: 3 ppm ERPG-2: 25 ppm ERPG-3: 250 ppm
IDLH: 30 ppm LEL: 120000 ppm UEL: 380000 ppm
Ambient Boiling Point: 100.4° C
Vapor Pressure at Ambient Temperature: 0.044 atm
Ambient Saturation Concentration: 44,059 ppm or 4.41%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 2 meters/second from SW 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: 0.08 kilograms/sec Source Height: 371 meters
Release Duration: 60 minutes
Release Rate: 4.8 kilograms/min
Total Amount Released: 288 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian
Red : **LOC is not exceeded** --- (32 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (12 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules de stockage
Dispersion du formol
Condition D, vent 5 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE
Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)
Time: March 12, 2019 1141 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: FORMIC ACID
CAS Number: 64-18-6 Molecular Weight: 46.03 g/mol
ERPG-1: 3 ppm ERPG-2: 25 ppm ERPG-3: 250 ppm
IDLH: 30 ppm LEL: 120000 ppm UEL: 380000 ppm
Ambient Boiling Point: 100.4° C
Vapor Pressure at Ambient Temperature: 0.044 atm
Ambient Saturation Concentration: 44,059 ppm or 4.41%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 5 meters/second from SW 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: 0.08 kilograms/sec Source Height: 148 meters
Release Duration: 60 minutes
Release Rate: 4.8 kilograms/min
Total Amount Released: 288 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian
Red : **LOC is not exceeded** --- (32 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (12 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules de stockage
Dispersion du formol
Condition F, vent 3 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE
Building Air Exchanges Per Hour: 0.65 (unsheltered single storied)
Time: March 12, 2019 1141 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: FORMIC ACID
CAS Number: 64-18-6 Molecular Weight: 46.03 g/mol
ERPG-1: 3 ppm ERPG-2: 25 ppm ERPG-3: 250 ppm
IDLH: 30 ppm LEL: 120000 ppm UEL: 380000 ppm
Ambient Boiling Point: 100.4° C
Vapor Pressure at Ambient Temperature: 0.034 atm
Ambient Saturation Concentration: 34,115 ppm or 3.41%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 3 meters/second from SW 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: 0.08 kilograms/sec Source Height: 247 meters
Release Duration: 60 minutes
Release Rate: 4.8 kilograms/min
Total Amount Released: 288 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian
Red : **LOC is not exceeded** --- (32 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (12 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules de stockage
Dispersion des fumées d'incendie_ Seuils équivalents
Condition A, vent 2 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE
Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)
Time: March 12, 2019 1128 hours DST (using computer's clock)

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 2 meters/second from SW 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: 1634.04 kilograms/sec
Source Height: 371 meters
Release Duration: 60 minutes
Release Rate: 98,000 kilograms/min
Total Amount Released: 5,882,544 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** --- (31018 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (11346 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules de stockage
Dispersion des fumées d'incendie_ Seuls équivalents
Condition D, vent 5 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE
Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)
Time: March 12, 2019 1130 hours DST (using computer's clock)

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 5 meters/second from SW 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: 1634.04 kilograms/sec
Source Height: 148 meters
Release Duration: 60 minutes
Release Rate: 98,000 kilograms/min
Total Amount Released: 5,882,544 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** --- (31018 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (11346 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.

Incendie de trois cellules de stockage
Dispersion des fumées d'incendie_ Seuils équivalents
Condition F, vent 3 m/s

SITE DATA:

Location: HEUDEBOUVILLE, FRANCE
Building Air Exchanges Per Hour: 0.65 (unsheltered single storied)
Time: March 12, 2019 1130 hours DST (using computer's clock)

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 3 meters/second from SW 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: 1634.04 kilograms/sec
Source Height: 247 meters
Release Duration: 60 minutes
Release Rate: 98,000 kilograms/min
Total Amount Released: 5,882,544 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** --- (31018 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.
Orange: **LOC is not exceeded** --- (11346 mg/(cu m))
Note: Threat zone was not drawn because
the ground level concentrations never exceed the LOC.