# Modélisation de la dispersion atmosphérique des toxiques

Condition A, vent 2 m/s Condition D, vent 5 m/s Condition F, vent 3 m/s

the ground level concentrations never exceed the LOC.

	SITE DATA:	SITE DATA:	SITE DATA:
	Location: BOIGNY-SUR-BIONNE, FRANCE	Location: BOIGNY-SUR-BIONNE, FRANCE	Location: BOIGNY-SUR-BIONNE, FRANCE
	Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)	Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)	Building Air Exchanges Per Hour: 0.61 (unsheltered single storied)
	Time: MAY 10, 2022 1044 hours DST (using computer's clock)	Time: MAY 10, 2022 1044 hours DST (using computer's clock)	Time: MAY 10, 2022 1045 hours DST (using computer's clock)
	ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)	ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)	ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
	Wind: 2 meters/second from SSW at 3 meters	Wind: 5 meters/second from SSW at 3 meters	Wind: 3 meters/second from SSW at 3 meters
	Ground Roughness: open country Cloud Cover: 5 tenths	Ground Roughness: open country Cloud Cover: 5 tenths	Ground Roughness: open country Cloud Cover: 5 tenths
	Air Temperature: 20° C	Air Temperature: 20° C	Air Temperature: 15° C
	Stability Class: A (user override)	Stability Class: D	Stability Class: F (user override)
	No Inversion Height Relative Humidity: 50%	No Inversion Height Relative Humidity: 50%	No Inversion Height Relative Humidity: 50%
Suies	SOURCE STRENGTH:	SOURCE STRENGTH:	SOURCE STRENGTH:
	Direct Source: 36,45 kilograms/sec Source Height: 241 meters	Direct Source: 36,45 kilograms/sec Source Height: 96 meters	Direct Source: 36,45 kilograms/sec Source Height: 160 meters
	Release Duration: 60 minutes	Release Duration: 60 minutes	Release Duration: 60 minutes
	Release Rate: 2187 kilograms/min	Release Rate: 2187 kilograms/min	Release Rate: 2187 kilograms/min
	Total Amount Released: 131220 kilograms	Total Amount Released: 131220 kilograms	Total Amount Released: 131220 kilograms
	Note: This chemical may flash boil and/or result in two phase flow.	Note: This chemical may flash boil and/or result in two phase flow.	Note: This chemical may flash boil and/or result in two phase flow.
	Use both dispersion modules to investigate its potential behavior.	Use both dispersion modules to investigate its potential behavior.	Use both dispersion modules to investigate its potential behavior.
	THREAT ZONE: (GAUSSIAN SELECTED)	THREAT ZONE: (GAUSSIAN SELECTED)	THREAT ZONE: (GAUSSIAN SELECTED)
	Model Run: Gaussian	Model Run: Gaussian	Model Run: Gaussian
	Red : LOC is not exceeded (79 mg/(cu m))	Red : LOC is not exceeded (79 mg/(cu m))	Red : LOC is not exceeded (79 mg/(cu m))
	Note: Threat zone was not drawn because	Note: Threat zone was not drawn because	Note: Threat zone was not drawn because

the ground level concentrations never exceed the LOC.

# Condition D, vent 5 m/s

# Condition F, vent 3 m/s

SITE DATA:

Location: BOIGNY-SUR-BIONNE, FRANCE

Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)
Time: MAY 10, 2022 1045 hours DST (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: -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 SSW 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:

CO

Release Duration: 60 minutes Release Rate: 1060,8 kilograms/min Total Amount Released: 63648 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: Footprint was not drawn because

the ground level concentrations never exceed the LOC.

SITE DATA:

Location: BOIGNY-SUR-BIONNE, FRANCE

Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)

Time: MAY 10, 2022 1045 hours DST (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: -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 SSW 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:

Release Duration: 60 minutes Release Rate: 1060,8 kilograms/min Total Amount Released: 63648 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: Footprint was not drawn because

the ground level concentrations never exceed the LOC.

SITE DATA:

Location: BOIGNY-SUR-BIONNE, FRANCE

Building Air Exchanges Per Hour: 0.61 (unsheltered single storied)

Time: MAY 10, 2022 1046 hours DST (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: -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 SSW 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:

Release Duration: 60 minutes

Release Rate: 1060,8 kilograms/min

Total Amount Released: 63648 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: Footprint was not drawn because

# Condition D, vent 5 m/s

# Condition F, vent 3 m/s

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Location: BOIGNY-SUR-BIONNE, FRANCE

Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)
Time: MAY 10, 2022 1046 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: CARBON DIOXIDE Molecular Weight: 44.01 g/mol

PAC-1: 30000 ppm PAC-2: 30000 ppm PAC-3: 50000 ppm

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 SSW at 3 meters

Ground Roughness: open country Cloud Cover: 5 tenths

Air Temperature: 20° C

CO2

Stability Class: A (user override)

No Inversion Height Relative Humidity: 50%

SOURCE STRENGTH:

Direct Source: 471,38 kilograms/sec Source Height: 241 meters

Release Duration: 60 minutes

Release Rate: 28282,8 kilograms/min Total Amount Released: 1696968 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian

Red : LOC is not exceeded --- (89980 mg/(cu m))

Note: Footprint was not drawn because

the ground level concentrations never exceed the LOC.

SITE DATA:

Location: BOIGNY-SUR-BIONNE, FRANCE

Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)
Time: MAY 10, 2022 1047 hours DST (using computer's clock)

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CHEMICAL DATA:

Chemical Name: CARBON DIOXIDE Molecular Weight: 44.01 g/mol

PAC-1: 30000 ppm PAC-2: 30000 ppm PAC-3: 50000 ppm

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 SSW 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: 471,38 kilograms/sec Source Height: 96 meters

Release Duration: 60 minutes
Release Rate: 28282.8 kilograms/min

Total Amount Released: 1696968 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian

Red : LOC is not exceeded --- (89980 mg/(cu m)) Note: Footprint was not drawn because

the ground level concentrations never exceed the LOC.

SITE DATA:

Location: BOIGNY-SUR-BIONNE, FRANCE

Building Air Exchanges Per Hour: 0.61 (unsheltered single storied)

Time: MAY 10, 2022 1048 hours DST (using computer's clock)

CHEMICAL DATA:

Chemical Name: CARBON DIOXIDE Molecular Weight: 44.01 g/mol

PAC-1: 30000 ppm PAC-2: 30000 ppm PAC-3: 50000 ppm

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 SSW 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:

Release Duration: 60 minutes

Release Rate: 28282,8 kilograms/min

Total Amount Released: 1696968 kilograms

THREAT ZONE: (GAUSSIAN SELECTED)

Model Run: Gaussian

Red : LOC is not exceeded --- (89980 mg/(cu m))

Note: Footprint was not drawn because

# Condition D, vent 5 m/s

# Condition F, vent 3 m/s

OI.		DA	IA:

Location: BOIGNY-SUR-BIONNE, FRANCE

Building Air Exchanges Per Hour: 0.42 (unsheltered single storied) Time: MAY 10, 2022 1048 hours DST (using computer's clock)

# CHEMICAL DATA:

Chemical Name: SULFUR DIOXIDE Molecular Weight: 64.06 g/mol

ERPG-3: 15 ppm ERPG-2: 3 ppm ERPG-1: 0.3 ppm

IDLH: 100 ppm

Carcinogenic risk - see CAMEO

Normal Boiling Point: -10.0°C Ambient Boiling Point: -10.2° 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 SSW 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:

SO<sub>2</sub>

Release Duration: 60 minutes Release Rate: 143,4 kilograms/min Total Amount Released: 8604 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: Footprint 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.

#### SITE DATA:

Location: BOIGNY-SUR-BIONNE, FRANCE

Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)

Time: MAY 10, 2022 1048 hours DST (using computer's clock)

#### CHEMICAL DATA:

Chemical Name: SULFUR DIOXIDE Molecular Weight: 64.06 g/mol

ERPG-3: 15 ppm ERPG-2: 3 ppm ERPG-1: 0.3 ppm

IDLH: 100 ppm

Carcinogenic risk - see CAMEO

Normal Boiling Point: -10.0°C Ambient Boiling Point: -10.2° 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 SSW 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: 2.39 kilograms/sec Source Height: 96 meters

Release Duration: 60 minutes Release Rate: 143,4 kilograms/min Total Amount Released: 8604 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: Footprint 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.

#### SITE DATA:

Location: BOIGNY-SUR-BIONNE, FRANCE

Building Air Exchanges Per Hour: 0.61 (unsheltered single storied)

Time: MAY 10, 2022 1049 hours DST (using computer's clock)

#### CHEMICAL DATA:

Chemical Name: SULFUR DIOXIDE Molecular Weight: 64.06 g/mol

ERPG-3: 15 ppm ERPG-2: 3 ppm ERPG-1: 0.3 ppm

IDLH: 100 ppm

Carcinogenic risk - see CAMEO

Normal Boiling Point: -10.0°C Ambient Boiling Point: -10.2° 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 SSW 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:

Release Duration: 60 minutes Release Rate: 143,4 kilograms/min Total Amount Released: 8604 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: Footprint 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

Note: Footprint was not drawn because

the ground level concentrations never exceed the LOC.

# Condition D, vent 5 m/s

# Condition F, vent 3 m/s

Note: Footprint was not drawn because

the ground level concentrations never exceed the LOC.

	SITE DATA:	SITE DATA:	SITE DATA:
	Location: BOIGNY-SUR-BIONNE, FRANCE	Location: BOIGNY-SUR-BIONNE, FRANCE	Location: BOIGNY-SUR-BIONNE, FRANCE
	Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)	Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)	Building Air Exchanges Per Hour: 0.61 (unsheltered single storied)
	Time: MAY 10, 2022 1049 hours DST (using computer's clock)	Time: MAY 10, 2022 1049 hours DST (using computer's clock)	Time: MAY 10, 2022 1050 hours DST (using computer's clock)
	CHEMICAL DATA:	CHEMICAL DATA:	CHEMICAL DATA:
	Chemical Name: NITROGEN DIOXIDE Molecular Weight: 46.01 g/mol	Chemical Name: NITROGEN DIOXIDE Molecular Weight: 46.01 g/mol	Chemical Name: NITROGEN DIOXIDE Molecular Weight: 46.01 g/mg
	TEEL-3: 30 ppm	TEEL-3: 30 ppm	TEEL-3: 30 ppm
	IDLH: 20 ppm	IDLH: 20 ppm	IDLH: 20 ppm
	Normal Boiling Point: 21.0°C Ambient Boiling Point: 20.9° C	Normal Boiling Point: 21.0°C Ambient Boiling Point: 20.9° C	Normal Boiling Point: 21.0°C Ambient Boiling Point: 20.9° C
	Vapor Pressure at Ambient Temperature: 0.95 atm	Vapor Pressure at Ambient Temperature: 0.95 atm	Vapor Pressure at Ambient Temperature: 0.95 atm
	Ambient Saturation Concentration: 958,041 ppm or 95.8%	Ambient Saturation Concentration: 958,041 ppm or 95.8%	Ambient Saturation Concentration: 958,041 ppm or 95.8%
	ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)	ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)	ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
	Wind: 2 meters/second from SSW at 3 meters	Wind: 5 meters/second from SSW at 3 meters	Wind: 3 meters/second from SSW at 3 meters
	Ground Roughness: open country Cloud Cover: 5 tenths	Ground Roughness: open country Cloud Cover: 5 tenths	Ground Roughness: open country Cloud Cover: 5 tenths
NO <sub>2</sub>	Air Temperature: 20° C	Air Temperature: 20° C	Air Temperature: 15° C
	Stability Class: A (user override)	Stability Class: D	Stability Class: F (user override)
	No Inversion Height Relative Humidity: 50%	No Inversion Height Relative Humidity: 50%	No Inversion Height Relative Humidity: 50%
	SOURCE STRENGTH:	SOURCE STRENGTH:	SOURCE STRENGTH:
	Direct Source: 0,68 kilograms/sec Source Height: 241 meters	Direct Source: 0,68 kilograms/sec Source Height: 96 meters	Direct Source: 0,68 kilograms/sec
	Release Duration: 60 minutes	Release Duration: 60 minutes	Release Duration: 60 minutes
	Release Rate: 40,8 kilograms/min	Release Rate: 40,8 kilograms/min	Release Rate: 40,8 kilograms/min
	Total Amount Released: 2448 kilograms	Total Amount Released: 2448 kilograms	Total Amount Released: 2448 kilograms
	THREAT ZONE: (GAUSSIAN SELECTED)	THREAT ZONE: (GAUSSIAN SELECTED)	THREAT ZONE: (GAUSSIAN SELECTED)
	Model Run: Gaussian	Model Run: Gaussian	Model Run: Gaussian
	Red : LOC is not exceeded (132 mg/(cu m))	Red : LOC is not exceeded (132 mg/(cu m))	Red : LOC is not exceeded (132 mg/(cu m))
	Note: Footprint was not drawn because	Note: Footprint was not drawn because	Note: Footprint was not drawn because
	the ground level concentrations never exceed the LOC.	the ground level concentrations never exceed the LOC.	the ground level concentrations never exceed the LOC.
	Orange: LOC is not exceeded (75 mg/(cu m))	Orange: LOC is not exceeded (75 mg/(cu m))	Orange: LOC is not exceeded (75 mg/(cu m))
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Note: Footprint was not drawn because

# Condition D, vent 5 m/s

# Condition F, vent 3 m/s

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Location: BOIGNY-SUR-BIONNE, FRANCE

Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)
Time: MAY 10, 2022 1051 hours DST (using computer's clock)

### CHEMICAL DATA:

Chemical Name: FORMIC ACID Molecular Weight: 46.03 g/mol

IDLH: 50 ppmf

Normal Boiling Point: 100.6° C Ambient Boiling Point: 100.3°C Vapor Pressure at Ambient Temperature: 0.044 atm

Ambient Saturation Concentration: 44,317 ppm or 4.43%

# ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 2 meters/second from SSW 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:

Formol

Release Duration: 60 minutes Release Rate: 1,8 kilograms/min

Total Amount Released: 108 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 --- (31 mg/(cu m))

Note: Footprint was not drawn because

the ground level concentrations never exceed the LOC.

Orange: LOC is not exceeded --- (12 mg/(cu m))

Note: Footprint was not drawn because

the ground level concentrations never exceed the LOC.

### SITE DATA:

Location: BOIGNY-SUR-BIONNE, FRANCE

Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)

Time: MAY 10, 2022 1051 hours DST (using computer's clock)

### CHEMICAL DATA:

Chemical Name: FORMIC ACID Molecular Weight: 46.03 g/mol

IDLH: 50 ppmf

Normal Boiling Point: 100.6° C Ambient Boiling Point: 100.3°C Vapor Pressure at Ambient Temperature: 0.044 atm

Ambient Saturation Concentration: 44,317 ppm or 4.43%

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

Wind: 5 meters/second from SSW 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:

Release Duration: 60 minutes Release Rate: 1,8 kilograms/min Total Amount Released: 108 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 --- (31 mg/(cu m))
Note: Footprint was not drawn because

the ground level concentrations never exceed the LOC.

Orange: LOC is not exceeded --- (12 mg/(cu m))

Note: Footprint was not drawn because

the ground level concentrations never exceed the LOC.

### SITE DATA:

Location: BOIGNY-SUR-BIONNE, FRANCE

Building Air Exchanges Per Hour: 0.61 (unsheltered single storied)

Time: MAY 10, 2022 1051 hours DST (using computer's clock)

### CHEMICAL DATA:

Chemical Name: FORMIC ACID Molecular Weight: 46.03 g/mol

IDLH: 50 ppmf

Normal Boiling Point: 100.6° C Ambient Boiling Point: 100.3°C

Vapor Pressure at Ambient Temperature: 0.044 atm

Ambient Saturation Concentration: 44,317 ppm or 4.43%

# ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)

Wind: 3 meters/second from SSW 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:

Release Duration: 60 minutes Release Rate: 1,8 kilograms/min

Total Amount Released: 108 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 --- (31 mg/(cu m))

Note: Footprint was not drawn because

the ground level concentrations never exceed the LOC.

Orange: LOC is not exceeded --- (12 mg/(cu m))

Note: Footprint was not drawn because

# Condition A, vent 2 m/s Condition D, vent 5 m/s Condition F, vent 3 m/s

	SITE DATA:	SITE DATA:	SITE DATA:
	Location: BOIGNY-SUR-BIONNE, FRANCE	Location: BOIGNY-SUR-BIONNE, FRANCE	Location: BOIGNY-SUR-BIONNE, FRANCE
	Building Air Exchanges Per Hour: 0.42 (unsheltered single storied)	Building Air Exchanges Per Hour: 1.04 (unsheltered single storied)	Building Air Exchanges Per Hour: 0.61 (unsheltered single storied)
	Time: MAY 10, 2022 1052 hours DST (using computer's clock)	Time: MAY 10, 2022 1052 hours DST (using computer's clock)	Time: MAY 10, 2022 1052 hours DST (using computer's clock)
	ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)	ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)	ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
	Wind: 2 meters/second from SSW at 3 meters	Wind: 5 meters/second from SSW at 3 meters	Wind: 3 meters/second from SSW at 3 meters
	Ground Roughness: open country Cloud Cover: 5 tenths	Ground Roughness: open country Cloud Cover: 5 tenths	Ground Roughness: open country Cloud Cover: 5 tenths
	Air Temperature: 20° C	Air Temperature: 20° C	Air Temperature: 15° C
	Stability Class: A (user override)	Stability Class: D	Stability Class: E (user override)
	No Inversion Height Relative Humidity: 50%	No Inversion Height Relative Humidity: 50%	No Inversion Height Relative Humidity: 50%
	SOURCE STRENGTH:	SOURCE STRENGTH:	SOURCE STRENGTH:
Fumées	Direct Source: 544,68 kilograms/sec Source Height: 241 meters	Direct Source: 544,68 kilograms/sec Source Height: 96 meters	Direct Source: 544,68 kilograms/sec Source Height: 160 meters
	Release Duration: 60 minutes	Release Duration: 60 minutes	Release Duration: 60 minutes
	Release Rate: 32680,8 kilograms/min	Release Rate: 32680,8 kilograms/min	Release Rate: 32680,8 kilograms/min
	Total Amount Released: 1960848 kilograms	Total Amount Released: 1960848 kilograms	Total Amount Released: 1960848 kilograms
	Note: This chemical may flash boil and/or result in two phase flow.	Note: This chemical may flash boil and/or result in two phase flow.	Note: This chemical may flash boil and/or result in two phase flow.
	Use both dispersion modules to investigate its potential behavior.	Use both dispersion modules to investigate its potential behavior.	Use both dispersion modules to investigate its potential behavior.
	THREAT ZONE: (GAUSSIAN SELECTED)	THREAT ZONE: (GAUSSIAN SELECTED)	THREAT ZONE: (GAUSSIAN SELECTED)
	Model Run: Gaussian	Model Run: Gaussian	Model Run: Gaussian
	Red : LOC is not exceeded (31018 mg/(cu m))	Red : LOC is not exceeded (31018 mg/(cu m))	Red : LOC is not exceeded (31018 mg/(cu m))
	Note: Footprint was not drawn because	Note: Footprint was not drawn because	Note: Footprint was not drawn because
1	the ground level concentrations never exceed the LOC.	the ground level concentrations never exceed the LOC.	the ground level concentrations never exceed the LOC.
	Orange: LOC is not exceeded (11346 mg/(cu m))	Orange: LOC is not exceeded (11346 mg/(cu m))	Orange: LOC is not exceeded (11346 mg/(cu m))
	Note: Footprint was not drawn because	Note: Footprint was not drawn because	Note: Footprint was not drawn because
	the ground level concentrations never exceed the LOC.	the ground level concentrations never exceed the LOC.	the ground level concentrations never exceed the LOC.