



Input Report

Workspace: Linhas Etanol_10D

Cenário 10 - Linha Enchimento

Study

Linhas Etanol_10D

Tab	Group	Field	Value
Context of calculations	Selection of context	Weathers to use for this study	Weather folder
		Parameters to use for this study	Parameter set
		Obstructions to use for this study	
Bund, building and terrain	Terrain and bund definition	Type of terrain for dispersion	Land
		Type of pool substrate and bunds	Concrete, no bund
Toxic parameters	Indoor toxic calculations	Specify the downwind building type	Unselected
		Building type (downwind building type)	Buildings\Building type

Atmospheric storage tank

Atmospheric storage tank

Linhas Etanol_10D\Cenário 10 - Linha Enchimento

Tab	Group	Field	Value	Units
Material	Material	Material	ETHANOL	
		Specify volume inventory?	No	
		Mass inventory	24000	kg
		Volume inventory	30,28	m3
		Material to track	ETHANOL	
	Phase	Specified condition	Temperature and atmospheric pressure	
		Temperature	17,4	degC
		Pressure (gauge)		bar
		Fluid state	Liquid	
		Liquid mole fraction	1	fraction
Scenario	Pipe dimensions	Pipe length		m
	Release location	Elevation	0	m
		Tank head	2,5	m
	Direction	Outdoor release direction	Horizontal	
		Outdoor release angle	0	deg
Discharge parameters	Model settings	Atmospheric expansion method	DNV recommended	
		Phase change upstream of orifice?	Disallow liquid phase change only (metastable liquid)	
	Droplet break-up mechanism	Droplet break-up mechanism - instantaneous	Use flashing correlation	
		Droplet break-up mechanism - continuous	Do not force correlation	
Short pipe	Pipe characteristics	Pipe roughness	0,045	mm
	Frequencies	Frequency of bends in pipe	0	/m
		Frequency of couplings in pipe	0	/m
		Frequency of junctions in pipe	0	/m
	Frequencies of valves	Frequency of excess flow valves	0	/m
		Frequency of non-return valves	0	/m
		Frequency of shut-off valves	0	/m
	Velocity head losses	Excess flow valve velocity head losses	0	
		Non-return valve	0	

		velocity head losses		
		Shut-off valve velocity head losses	0	
Time varying releases	Modelling of time-varying leaks and line ruptures	Vacuum relief valve	Operating	
		Vacuum relief valve set point	0	bar
	Inventory data for time-varying releases	Tank volume	30,28	m3
		Tank vapour volume	0	m3
		Tank liquid volume	30,28	m3
		Tank liquid level	0	m
		Maximum vapour release height		m
		Minimum mass inventory	0,1	kg
		Maximum mass inventory	1E+09	kg
Dispersion	User-defined dispersion scope (N.B Based on the material to track)	Concentrations of interest		ppm
		Distances of interest		m
		Averaging time for concentrations and distances of interest		
		Specify user-defined averaging time	No	
		User defined averaging time		s
Bund, building and terrain	Terrain and bund definition	Type of terrain for dispersion	Land	
		Type of pool substrate and bunds	Concrete, no bund	
	Building definition	Release building		
		In-building release?	Outdoor	
		Building wake effect	Roof/lee	
		Wind or release angle from North	0	deg
		Handling of droplets	Trapped	
		Indoor mass modification factor	3	
Explosion parameters	Explosion method (Consequence calculations only)	Explosion method	Multi-Energy: Uniform confined	
	Ignition	Supply late ignition location	No ignition location	
		Location of late ignition		m
	Vapour liquid method	Use explosion mass modification factor	Yes	

		Explosion mass modification factor	3	
Jet fire	Jet fire method	Selection for jet fire method	Automatic selection / DNV recommended	
	Result types to calculate	Calculate probit	No	
		Calculate dose	No	
		Calculate lethality	No	
	Radiation levels	Number of input radiation levels	4	
		Intensity levels	5; 7; 12,5; 37,5	kW/m2
		Probit levels	2,73; 3,72; 7,5	
		Dose levels	1,27E+06; 5,8E+06; 2,51E+07	
		Lethality levels	0,01; 0,1; 0,99	fraction
	Parameters	Rate modification factor	3	
		Jet fire maximum exposure duration	20	s
	Cone model data	Horizontal options	Use standard method	
		Correlation	Recommended	
		Flame-shape adjustment if grounded	Yes	
	Surface emissive power	Calculation method for surface emissive power	Calculate SEP	
		Flame emissive power		kW/m2
		Emissivity fraction		fraction
Pool fire	Result types to calculate	Calculate probit	No	
		Calculate dose	No	
		Calculate lethality	No	
	Radiation levels	Number of input radiation levels	4	
		Intensity levels	5; 7; 12,5; 37,5	kW/m2
		Probit levels	2,73; 3,72; 7,5	
		Dose levels	1,27E+06; 5,8E+06; 2,51E+07	
		Lethality levels	0,01; 0,1; 0,99	fraction
	Parameters	Radiative fraction for general fires	0,4	fraction
		Pool fire maximum exposure duration	20	s
Geometry	Geometry	East	0	m
		North	0	m

Linha de enchimento - 10% Rot - Horizontal

Leak

Linhas Etanol_10D\Cenário 10 - Linha Enchimento\Atmospheric storage tank

Tab	Group	Field	Value	Units	
Scenario	Hole	Orifice diameter	10,16	mm	
		Use specified discharge coefficient?	No		
		Discharge coefficient		fraction	
	Release location	Elevation	0	m	
		Tank head	5	m	
	Direction	Outdoor release direction	Horizontal		
		Outdoor release angle	0	deg	
	Material	Material	Material characteristics	Flammable only	
			Material to track	ETHANOL	
		Phase	Type of risk effects to model	Flammable only	
Phase to be released			Liquid		
Discharge parameters	Model settings	Atmospheric expansion method	DNV recommended		
		Phase change upstream of orifice?	Disallow liquid phase change only (metastable liquid)		
	Droplet break-up mechanism	Droplet break-up mechanism - continuous	Do not force correlation		
	Dispersion	User-defined dispersion scope (N.B Based on the material to track)	Concentrations of interest		ppm
Distances of interest				m	
Averaging time for concentrations and distances of interest					
Specify user-defined averaging time		No			
User defined averaging time			s		
Bund, building and terrain	Terrain and bund definition	Type of terrain for dispersion	Land		
		Type of pool substrate and bunds	Concrete, no bund		
Explosion parameters	Explosion method	Explosion method	Multi-Energy: Uniform confined		
		Ignition	Supply late ignition location	No ignition location	
	Vapour liquid method	Location of late ignition		m	
		Use explosion mass modification factor	Yes		
	Explosion mass	3			

		modification factor		
Fireball	Result types to calculate	Calculate probit	No	
		Calculate dose	No	
		Calculate lethality	No	
	Radiation levels	Number of input radiation levels	4	
		Intensity levels	5; 7; 12,5; 37,5	kW/m2
		Probit levels	2,73; 3,72; 7,5	
		Dose levels	1,27E+06; 5,8E+06; 2,51E+07	
		Lethality levels	0,01; 0,1; 0,99	fraction
	Parameters	Mass modification factor	3	
		Fireball maximum exposure duration	20	s
	Calculation method	Fireball model	Martinsen time varying	
		TNO model flame temperature	1726,85	degC
Jet fire	Jet fire method	Selection for jet fire method	Automatic selection / DNV recommended	
	Result types to calculate	Calculate probit	No	
		Calculate dose	No	
		Calculate lethality	No	
	Radiation levels	Number of input radiation levels	4	
		Intensity levels	5; 7; 12,5; 37,5	kW/m2
		Probit levels	2,73; 3,72; 7,5	
		Dose levels	1,27E+06; 5,8E+06; 2,51E+07	
		Lethality levels	0,01; 0,1; 0,99	fraction
	Parameters	Rate modification factor	3	
		Jet fire maximum exposure duration	20	s
	Cone model data	Correlation	Recommended	
		Horizontal options	Use standard method	
		Flame-shape adjustment if grounded	Yes	
	Surface emissive power	Calculation method for surface emissive power	Calculate SEP	
		Flame emissive power		kW/m2
		Emissivity fraction		fraction
Pool fire	Result types to calculate	Calculate probit	No	
		Calculate dose	No	
		Calculate lethality	No	
	Radiation levels	Number of input radiation levels	4	

		Intensity levels	5; 7; 12,5; 37,5	kW/m2
		Probit levels	2,73; 3,72; 7,5	
		Dose levels	1,27E+06; 5,8E+06; 2,51E+07	
		Lethality levels	0,01; 0,1; 0,99	fraction
	Parameters	Radiative fraction for general fires	0,4	fraction
		Pool fire maximum exposure duration	20	s

Linha de enchimento - 10% Rot - Vertical

Leak

Linhas Etanol_10D\Cenário 10 - Linha Enchimento\Atmospheric storage tank

Tab	Group	Field	Value	Units	
Scenario	Hole	Orifice diameter	10,16	mm	
		Use specified discharge coefficient?	No		
		Discharge coefficient		fraction	
	Release location	Elevation	0	m	
		Tank head	5	m	
	Direction	Outdoor release direction	Vertical		
		Outdoor release angle	90	deg	
	Material	Material	Material characteristics	Flammable only	
			Material to track	ETHANOL	
		Phase	Type of risk effects to model	Flammable only	
Phase to be released			Liquid		
Discharge parameters	Model settings	Atmospheric expansion method	DNV recommended		
		Phase change upstream of orifice?	Disallow liquid phase change only (metastable liquid)		
	Droplet break-up mechanism	Droplet break-up mechanism - continuous	Do not force correlation		
Dispersion	User-defined dispersion scope (N.B Based on the material to track)	Concentrations of interest		ppm	
		Distances of interest		m	
		Averaging time for concentrations and distances of interest			
		Specify user-defined averaging time	No		
	User defined averaging time		s		
Bund, building and terrain	Terrain and bund definition	Type of terrain for dispersion	Land		
		Type of pool substrate and bunds	Concrete, no bund		
Explosion parameters	Explosion method	Explosion method	Multi-Energy: Uniform confined		
		Ignition	Supply late ignition location	No ignition location	
		Location of late ignition		m	
	Vapour liquid method	Use explosion mass modification factor	Yes		
	Explosion mass	3			

		modification factor		
Fireball	Result types to calculate	Calculate probit	No	
		Calculate dose	No	
		Calculate lethality	No	
	Radiation levels	Number of input radiation levels	4	
		Intensity levels	5; 7; 12,5; 37,5	kW/m2
		Probit levels	2,73; 3,72; 7,5	
		Dose levels	1,27E+06; 5,8E+06; 2,51E+07	
		Lethality levels	0,01; 0,1; 0,99	fraction
	Parameters	Mass modification factor	3	
		Fireball maximum exposure duration	20	s
	Calculation method	Fireball model	Martinsen time varying	
		TNO model flame temperature	1726,85	degC
Jet fire	Jet fire method	Selection for jet fire method	Automatic selection / DNV recommended	
	Result types to calculate	Calculate probit	No	
		Calculate dose	No	
		Calculate lethality	No	
	Radiation levels	Number of input radiation levels	4	
		Intensity levels	5; 7; 12,5; 37,5	kW/m2
		Probit levels	2,73; 3,72; 7,5	
		Dose levels	1,27E+06; 5,8E+06; 2,51E+07	
		Lethality levels	0,01; 0,1; 0,99	fraction
	Parameters	Rate modification factor	3	
		Jet fire maximum exposure duration	20	s
	Cone model data	Correlation	Recommended	
		Horizontal options	Use standard method	
		Flame-shape adjustment if grounded	Yes	
	Surface emissive power	Calculation method for surface emissive power	Calculate SEP	
		Flame emissive power		kW/m2
		Emissivity fraction		fraction
Pool fire	Result types to calculate	Calculate probit	No	
		Calculate dose	No	
		Calculate lethality	No	
	Radiation levels	Number of input radiation levels	4	



		Intensity levels	5; 7; 12,5; 37,5	kW/m2
		Probit levels	2,73; 3,72; 7,5	
		Dose levels	1,27E+06; 5,8E+06; 2,51E+07	
		Lethality levels	0,01; 0,1; 0,99	fraction
	Parameters	Radiative fraction for general fires	0,4	fraction
		Pool fire maximum exposure duration	20	s