

Input Report

Workspace: PhastConsequence

Study

Study
PhastConsequence

Tab	Group	Field	Value	Units
Context of calculations	Selection of context	Weathers to use for this study	Weather folder	
		Parameters to use for this study	Parameter set	
Bund, building and terrain	Terrain definition	Type of terrain for dispersion turbulence	Terrain types\Default terrain	
	Bund definition	Bund and type of surface for pools	Bund types\No bund	
Toxic parameters	Indoor toxic calculations	Specify the downwind building type	Unselected	
		Building type (downwind building type)	Buildings\Building type	
Dispersion	Distances of interest	Distances of interest		m

Pressure vessel

Pressure vessel
PhastConsequence\Study\SE17

Tab	Group	Field	Value	Units
Material	Material	Material	METHANE	
		Specify volume inventory?	Yes	

		Mass inventory	138.133	kg
		Volume inventory	100	m3
		Material to track	METHANE	
	Phase	Specified condition	Pressure/temperature	
		Temperature	37	degC
		Pressure (gauge)	1.2	bar
		Fluid state	Vapour	
		Liquid mole fraction	0	fraction
		Phase to be released	Vapour	
Scenario	Pipe dimensions	Pipe length		m
	Release location	Elevation	1	m
		Tank head	0	m
		Release height from vessel bottom		m
	Direction	Outdoor release direction	Horizontal	
		Outdoor release angle	0	deg
Discharge parameters	Model settings	Atmospheric expansion method	Closest to initial conditions	
		Is flashing allowed to the orifice?	No flashing in the orifice	
	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	0.0457	mm
	Frequencies	Frequency of	0	/m

		bends in pipe		
		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 velocity head losses	0	
		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
	Dimensions	Tank shape		
		Tank height		m
		Tank width		m
		Tank length		m
		Tank diameter		m
	Inventory data	Tank volume	100	m3
		Tank vapour volume	100	m3
		Tank liquid volume	0	m3

		Tank liquid level	0	m
		Maximum vapour release height		m
		Maximum mass inventory	1E+09	kg
Dispersion	Dispersion scope	Concentration of interest		ppm
		Averaging time for concentration of interest		
		Specify user-defined averaging time	No	
		User defined averaging time		s
	Distances of interest	Distances of interest		m
	Averaging time for reports	ERPG [1 hr]	No	
		IDLH [30 mins]	No	
		STEL [15 mins]	No	
Bund, building and terrain	Terrain definition	Type of terrain for dispersion turbulence	Terrain types\Default terrain	
	Bund definition	Bund and type of surface for pools	Bund types\No bund	
	Building definition	Specify a release building	No	
		Specified building (release building)		
		Building wake effect	None	
		Wind or release angle from North	0	deg
		Handling of droplets	Not trapped	
		Indoor mass	3	

		modification factor		
Explosion parameters	Explosion method (Consequence calculations only)	Explosion method	TNT	
	Ignition	Supply late ignition location	No ignition location	
		Location of late ignition		m
	Vapour liquid method	Use of explosion mass modification factor	Early and late explosions	
		Explosion mass modification factor	3	
TNT	TNT parameters	Air or ground burst	Air burst	
		Default TNT explosion efficiency	0.1	fraction
Fireball	Result types to calculate	Calculate probit	No	
		Calculate dose	No	
		Calculate lethality	No	
	Radiation levels	Number of input radiation levels	3	
		Intensity levels	4; 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	20	s

		exposure duration		
	Calculation method	Fireball model	Recommended	
		TNO model flame temperature	1726.85	degC
Jet fire	Jet fire method	Jet fire method	Cone model	
	Result types to calculate	Calculate probit	No	
		Calculate dose	No	
		Calculate lethality	No	
	Radiation levels	Number of input radiation levels	3	
		Intensity levels	4; 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	Crosswind angle	0	deg
		Horizontal options	Use standard method	
		Correlation	Recommended	
	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	3	
		Intensity levels	4; 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

Leak

Leak

PhastConsequence\Study\SE17\Pressure vessel

Tab	Group	Field	Value	Units
Scenario	Hole	Orifice diameter	63.5	mm
		Use specified discharge coefficient?	No	
		Discharge coefficient		fraction
	Release location	Elevation	50	m
		Tank head	0	m
	Direction	Outdoor release direction	Vertical	
		Outdoor release angle	90	deg

Material	Material	Material characteristics	Flammable only	
		Material to track	METHANE	
	Phase	Phase to be released	Vapour	
Discharge parameters	Model settings	Atmospheric expansion method	Closest to initial conditions	
		Is flashing allowed to the orifice?	No flashing in the orifice	
	Droplet break-up mechanism	Droplet break-up mechanism - continuous	Do not force correlation	
Dispersion	Dispersion scope	Concentration of interest		ppm
		Averaging time for concentration of interest		
		Specify user-defined averaging time	No	
		User defined averaging time		s
	Distances of interest	Distances of interest		m
	Averaging time for reports	ERPG [1 hr]	No	
		IDLH [30 mins]	No	
		STEL [15 mins]	No	
Bund, building and terrain	Terrain definition	Type of terrain for dispersion turbulence	Terrain types\Default terrain	
	Bund definition	Bund and type of surface for pools	Bund types\No bund	
Toxic parameters	Indoor toxic calculations	Specify the downwind building type	Unselected	
		Building type (downwind	Buildings\Building type	

		building type)		
	Exposure time data	Set averaging time equal to exposure time	Use a fixed averaging time	
		Cut-off fraction of toxic load for exposure time calculation	0.05	fraction
		Cut-off concentration for exposure time calculations	0	fraction
	Toxic contours	Number of toxic levels	4	
		Dose levels	130000; 1.3E+06; 1.3E+07; 1.3E+08	
		Probit levels	2; 3; 4; 10	
		Lethality levels	0.001; 0.01; 0.1; 0.99	fraction
Explosion parameters	Explosion method (Consequence calculations only)	Explosion method	TNT	
	Ignition	Supply late ignition location	No ignition location	
		Location of late ignition		m
	Vapour liquid method	Use of explosion mass modification factor	Early and late explosions	
		Explosion mass modification factor	3	
Fireball	Result types to calculate	Calculate probit	No	
		Calculate dose	No	
		Calculate lethality	No	
	Radiation levels	Number of input radiation levels	3	
		Intensity levels	4; 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	Recommended	
		TNO model flame temperature	1726.85	degC
Jet fire	Jet fire method	Jet fire method	Cone model	
	Result types to calculate	Calculate probit	No	
		Calculate dose	No	
		Calculate lethality	No	
	Radiation levels	Number of input radiation levels	3	
		Intensity levels	4; 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	
	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	3	
		Intensity levels	4; 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

DISPERSION

