



ENVIRONMENTAL
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Hudson River Oil Spill Risk Assessment

Volume 5 Appendix: Fire and Explosion Consequence Summary Reports

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Cover Photograph Credits

The photographs on the report cover were taken by Dagmar Schmidt Etkin (Esopus Meadows Lighthouse and articulated tank barge) and Steve Kardian (bald eagle) on the Hudson River.

Consequence Summary Report

Workspace: 1091 SHUD 0404

Study: Albany Tanker Loading Accident at Dock

Summary Basis

These tables will only report global values set in the parameters. Values that are modified in the study tree will not be reported.

The report is context sensitive, and filters up to the study level. You will need to generate multiple summary reports if you have multiple studies in your workspace.

Discharge Results (after atmospheric expansion)

Path	Scenario	Weather	Mass flow rate [kg/s]	Temperature [degC]	Liquid mass fraction in material [fraction]	Droplet diameter [um]	Expanded diameter [m]	Velocity [m/s]	Release duration [s]
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-21	Leak	ALB-2F-27-95	1471.11	21.4863	1	983.129	0.418282	15.1936	3600
		ALB-2D-27-95	1471.11	21.4863	1	983.129	0.418282	15.1936	3600
		ALB-2F--7-34	1471.11	21.4863	1	862.88	0.418282	15.1936	3600

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		ALB-2D-- 7-34	1471.11	21.4863	1	862.88	0.418282	15.1936	3600
		ALB-5F- 27-95	1471.11	21.4863	1	983.129	0.418282	15.1936	3600
		ALB-5D- 27-95	1471.11	21.4863	1	983.129	0.418282	15.1936	3600
		ALB-5F-- 7-34	1471.11	21.4863	1	862.88	0.418282	15.1936	3600
		ALB-5D-- 7-34	1471.11	21.4863	1	862.88	0.418282	15.1936	3600
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-13		ALB-2F- 27-95	1274.2	12.7646	1	1023.42	0.387298	15.1973	3600
		ALB-2D- 27-95	1274.2	12.7646	1	1023.42	0.387298	15.1973	3600
		ALB-2F-- 7-34	1274.2	12.7646	1	898.245	0.387298	15.1973	3600
		ALB-2D-- 7-34	1274.2	12.7646	1	898.245	0.387298	15.1973	3600
		ALB-5F- 27-95	1274.2	12.7646	1	1023.42	0.387298	15.1973	3600
		ALB-5D- 27-95	1274.2	12.7646	1	1023.42	0.387298	15.1973	3600

ALB-5F-- 7-34	1274.2	12.7646	1	898.245	0.387298	15.1973	3600
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ALB-5D-- 7-34	1274.2	12.7646	1	898.245	0.387298	15.1973	3600
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Dispersion Results

Input dispersion parameters

Core averaging time	18.75	s
Flammable averaging time	18.75	s
Height of interest	0	m

Distance downwind to defined concentrations

The reported concentration of interest is defined at the scenario

Path	Scenario	Weather	Material	Material to track	Concentration of interest [ppm]	Averaging time selected	Distance downwind to concentration of interest [m]
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-21	Leak	ALB-2F- 27-95	Fake Bakken	Fake Bakken	55000	Flammable	621.433
		ALB-2D- 27-95	Fake Bakken	Fake Bakken	55000	Flammable	510.297
		ALB-2F--7- 34	Fake Bakken	Fake Bakken	55000	Flammable	288.8
		ALB-2D-- 7-34	Fake Bakken	Fake Bakken	55000	Flammable	252.123
		ALB-5F- 27-95	Fake Bakken	Fake Bakken	55000	Flammable	203.286
		ALB-5D-	Fake	Fake	55000	Flammable	133.764

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		27-95	Bakken	Bakken			
		ALB-5F--7-34	Fake Bakken	Fake Bakken	55000	Flammable	92.3141
		ALB-5D--7-34	Fake Bakken	Fake Bakken	55000	Flammable	77.5832
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-13		ALB-2F-27-95	Fake Bakken	Fake Bakken	55000	Flammable	540.871
		ALB-2D-27-95	Fake Bakken	Fake Bakken	55000	Flammable	450.273
		ALB-2F--7-34	Fake Bakken	Fake Bakken	55000	Flammable	256.246
		ALB-2D--7-34	Fake Bakken	Fake Bakken	55000	Flammable	200.659
		ALB-5F-27-95	Fake Bakken	Fake Bakken	55000	Flammable	172.187
		ALB-5D-27-95	Fake Bakken	Fake Bakken	55000	Flammable	77.3813
		ALB-5F--7-34	Fake Bakken	Fake Bakken	55000	Flammable	74.4759
		ALB-5D--7-34	Fake Bakken	Fake Bakken	55000	Flammable	65.4851

Path	Scenario	Weather	Distance to UFL [m]	Distance to LFL [m]	Distance to LFL fraction [m]
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-21	Leak	ALB-2F-27-95	595.222	1578.48	1981.16
		ALB-2D-27-95	487.817	1201.63	1496.19
		ALB-2F--7-34	273.241	919.075	1174.98
		ALB-2D--7-34	226.421	785.486	983.495
		ALB-5F-27-95	191.238	638.439	914.971
		ALB-5D-27-95	111.126	592.144	871.861
		ALB-5F--7-34	92.5413	515.37	744.996
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-13		ALB-5D--7-34	76.9059	453.667	659.629
		ALB-2F-27-95	515.739	1434.32	1804.44
		ALB-2D-27-95	428.924	1109.49	1404.65
		ALB-2F--7-34	241.397	851.205	1091.36
		ALB-2D--7-34	181.887	715.716	899.2
		ALB-5F-27-95	159.912	596.222	861.426
		ALB-5D-27-95	76.1572	583.091	840.263
		ALB-5F--7-34	76.8443	483.518	707.087
		ALB-5D--7-34	63.7963	422.665	622.751

Jet Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Flame length [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-21	Leak	ALB-2F-27-95	179.805	442.32	323.225	248.323
		ALB-2D-27-95	181.082	445.304	325.436	250.037
		ALB-2F--7-34	183.25	502.359	356.515	268.652
		ALB-2D--7-34	184.561	505.855	359.014	270.545
		ALB-5F-27-95	142.896	341.901	251.648	195.171
		ALB-5D-27-95	143.993	344.405	253.515	196.631
		ALB-5F--7-34	145.138	383.998	274.512	209.075
		ALB-5D--7-34	146.233	386.821	276.544	210.631
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-13	Leak	ALB-2F-27-95	151.247	374.208	272.945	209.434

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	ALB-2D-27-95	152.754	378.21	275.852	211.659
	ALB-2F--7-34	155.37	427.815	303.269	228.338
	ALB-2D--7-34	156.871	431.839	306.141	230.512
	ALB-5F-27-95	122.016	294.035	216.003	167.311
	ALB-5D-27-95	123.337	297.075	218.264	169.077
	ALB-5F--7-34	124.622	330.984	236.37	179.894
	ALB-5D--7-34	125.926	334.36	238.798	181.75

Early Pool Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Pool diameter [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-21	Leak	ALB-2F-27-95	108.6	135.835	65.5363	n/a
		ALB-2D-27-95	108.468	135.884	65.6425	n/a
		ALB-2F--7-34	120.334	169.016	71.6664	n/a
		ALB-2D--7-34	120.18	169.034	71.777	n/a
		ALB-5F-27-95	107.993	168.407	65.804	n/a
		ALB-5D-27-95	107.838	168.444	65.9348	n/a
		ALB-5F--7-34	119.704	197.049	76.9844	n/a
		ALB-5D--7-34	119.529	197.079	77.1372	n/a
1091 SHUD 0404\Albany Tanker		ALB-2F-27-95	102.757	130.296	62.476	n/a

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Loading Accident at
Dock\Pressure
vessel ALB-13

		ALB-2D-27-95	102.629	130.342	62.5786	n/a
		ALB-2F--7-34	113.842	161.828	68.3564	n/a
		ALB-2D--7-34	113.695	161.851	68.4688	n/a
		ALB-5F-27-95	102.126	161.703	62.9113	n/a
		ALB-5D-27-95	101.969	161.703	63.007	n/a
		ALB-5F--7-34	113.188	188.766	73.527	n/a
		ALB-5D--7-34	113.01	188.763	73.6523	n/a

Late Pool Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Pool diameter [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-21	Leak	ALB-2F-27-95	359.001	331.45	183.039	n/a
		ALB-2D-27-95	359.086	331.515	183.082	n/a
		ALB-2F--7-34	359.017	395.889	182.384	n/a
		ALB-2D--7-34	359.028	395.9	182.39	n/a
		ALB-5F-27-95	359.027	400.483	183.465	n/a
		ALB-5D-27-95	358.998	400.458	183.45	n/a
		ALB-5F--7-34	359.004	454.662	186.574	n/a
		ALB-5D--7-34	359.001	454.659	186.572	n/a
1091 SHUD 0404\Albany Tanker		ALB-2F-27-95	359.001	331.45	183.039	n/a

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Loading Accident at
Dock\Pressure
vessel ALB-13

		ALB-2D-27-95	359.006	331.454	183.041	n/a
		ALB-2F--7-34	359.023	395.895	182.387	n/a
		ALB-2D--7-34	359.009	395.882	182.38	n/a
		ALB-5F-27-95	359.108	400.553	183.506	n/a
		ALB-5D-27-95	359.034	400.489	183.468	n/a
		ALB-5F--7-34	359.011	454.669	186.578	n/a
		ALB-5D--7-34	359.07	454.73	186.603	n/a

Flash Fire Results

Distance downwind to defined concentrations

The reported LFL and LFL fraction are defined in the respective material property

Path	Scenario	Weather	Distance downwind to LFL [m]	Distance downwind to LFL Fraction [m]
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-21	Leak	ALB-2F-27-95	1578.48	1981.16
		ALB-2D-27-95	1201.63	1496.19
		ALB-2F--7-34	919.075	1174.98
		ALB-2D--7-34	785.486	983.495
		ALB-5F-27-95	638.439	914.971
		ALB-5D-27-95	592.144	871.861
		ALB-5F--7-34	515.37	744.996
		ALB-5D--7-34	453.667	659.629
		ALB-2F-27-95	1434.32	1804.44
		ALB-2D-27-95	1109.49	1404.65
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-13		ALB-2F--7-34	851.205	1091.36
		ALB-2D--7-34	715.716	899.2
		ALB-5F-27-95	596.222	861.426
		ALB-5D-27-95	583.091	840.263
		ALB-5F--7-34	483.518	707.087

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ALB-5D--7-34 422.665 622.751

Maximum distance to LFL fraction at any height

Path	Scenario	Weather	Max flash fire distance [m]	Height of the max flash fire distance [m]	Time [s]
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-21	Leak	ALB-2F-27-95	1936.89	0	4382.27
		ALB-2D-27-95	1488.51	0	3882.4
		ALB-2F--7-34	1129.66	0	4137.63
		ALB-2D--7-34	957.97	0	3924.91
		ALB-5F-27-95	911.954	0	878.988
		ALB-5D-27-95	807.805	0	871.87
		ALB-5F--7-34	740.522	0	3304.33
		ALB-5D--7-34	659.737	0	2047.9
		ALB-2F-27-95	1792.41	0	2925
		ALB-2D-27-95	1407.94	0	2475
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-13		ALB-2F--7-34	1068.14	0	4102.57
		ALB-2D--7-34	886.747	0	3768.48
		ALB-5F-27-95	850.246	0	876.801

	ALB-5D-27-95	795.765	0	869.524
	ALB-5F--7-34	704.841	0	3296.28
	ALB-5D--7-34	621.605	0	2044.19

Explosion Results

Explosion scenarios for worst-case maximum downwind distance to defined overpressures.

The reported overpressures are defined in the explosion parameters

Path	Scenario	Weather	Overpressure level [bar]	Maximum distance [m]	Diameter [m]
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-21	Leak	ALB-2F-27-95	0.02068	5912.41	8064.81
			0.1379	2663.73	1567.45
			0.2068	2467.61	1175.21
		ALB-2D-27-95	0.02068	4905.17	6870.33
			0.1379	2137.65	1335.3
			0.2068	1970.58	1001.15
		ALB-2F--7-34	0.02068	4087.4	6014.8
			0.1379	1666.21	1152.43
			0.2068	1522.02	864.047
		ALB-2D--7-34	0.02068	3449.54	5039.08
			0.1379	1419.69	979.379
			0.2068	1297.15	734.301
		ALB-5F-27-95	0.02068	3518.11	5216.22
			0.1379	1416.9	1013.81
			0.2068	1290.06	760.115
		ALB-5D-27-95	0.02068	2915.95	4231.89
			0.1379	1211.25	822.497
			0.2068	1108.34	616.677
		ALB-5F--7-34	0.02068	2891.28	4302.56
			0.1379	1158.12	836.232
			0.2068	1053.49	626.975

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		ALB-5D--7-34	0.02068	2402.48	3504.96
			0.1379	990.606	681.212
			0.2068	905.373	510.747
1091 SHUD		ALB-2F-27-95	0.02068	5758.84	7937.69
0404\Albany Tanker			0.1379	2561.37	1542.74
Loading Accident at			0.2068	2368.34	1156.69
Dock\Pressure vessel					
ALB-13					
		ALB-2D-27-95	0.02068	4726.15	6652.29
			0.1379	2046.46	1292.92
			0.2068	1884.69	969.381
		ALB-2F--7-34	0.02068	3918.96	5837.93
			0.1379	1567.32	1134.64
			0.2068	1425.36	850.71
		ALB-2D--7-34	0.02068	3285.38	4850.76
			0.1379	1331.39	942.777
			0.2068	1213.43	706.858
		ALB-5F-27-95	0.02068	3306.53	4913.07
			0.1379	1327.44	954.888
			0.2068	1207.97	715.939
		ALB-5D-27-95	0.02068	2937.23	4294.45
			0.1379	1207.33	834.656
			0.2068	1102.9	625.793
		ALB-5F--7-34	0.02068	2726.37	4052.74
			0.1379	1093.84	787.677
			0.2068	995.285	590.57
		ALB-5D--7-34	0.02068	2265.09	3290.17
			0.1379	939.734	639.468

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0.2068 859.724 479.448

Supplementary data for worst-case explosion scenarios

Path	Scenario	Weather	Overpressure level [bar]	Total flammable mass [kg]	Explosion flammable mass [kg]	Ignition time [s]	Ignition source [m]	Cloud centre [m]	Explosion centre [m]
1091 SHUD 0404\Albany Tanker Loading Accident at Dock\Pressure vessel ALB-21	Leak	ALB-2F- 27-95	0.02068	815560	n/a	3164.61	1880	688.063	1880
			0.1379	815560	n/a	3164.61	1880	688.063	1880
			0.2068	815560	n/a	3164.61	1880	688.063	1880
		ALB-2D- 27-95	0.02068	504204	n/a	2092.42	1470	496.017	1470
			0.1379	504204	n/a	2092.42	1470	496.017	1470
			0.2068	504204	n/a	2092.42	1470	496.017	1470
		ALB-2F-- 7-34	0.02068	338327	n/a	1967.73	1080	366.57	1080
			0.1379	324128	n/a	3504.24	1090	380.417	1090
			0.2068	324128	n/a	3504.24	1090	380.417	1090
		ALB-2D-- 7-34	0.02068	198942	n/a	3393.88	930	314.528	930
			0.1379	198942	n/a	3393.88	930	314.528	930
			0.2068	198942	n/a	3393.88	930	314.528	930
		ALB-5F- 27-95	0.02068	220669	n/a	875.305	910	272.072	910
			0.1379	220669	n/a	875.305	910	272.072	910
			0.2068	220669	n/a	875.305	910	272.072	910
		ALB-5D- 27-95	0.02068	117836	n/a	847.958	800	250.484	800
			0.1379	117836	n/a	847.958	800	250.484	800

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			0.2068	117836	n/a	847.958	800	250.484	800
		ALB-5F--	0.02068	123838	n/a	3217.28	740	223.623	740
		7-34	0.1379	123838	n/a	3217.28	740	223.623	740
			0.2068	123838	n/a	3217.28	740	223.623	740
		ALB-5D--	0.02068	66945.5	n/a	852.596	650	215.131	650
		7-34	0.1379	66945.5	n/a	852.596	650	215.131	650
			0.2068	66945.5	n/a	852.596	650	215.131	650
1091 SHUD		ALB-2F-	0.02068	777598	n/a	2783.85	1790	652.028	1790
0404\Albany		27-95	0.1379	777598	n/a	2783.85	1790	652.028	1790
Tanker			0.2068	777598	n/a	2783.85	1790	652.028	1790
Loading									
Accident at									
Dock\Pressure									
vessel ALB-13									
		ALB-2D-	0.02068	457707	n/a	2004.92	1400	458.419	1400
		27-95	0.1379	457707	n/a	2004.92	1400	458.419	1400
			0.2068	457707	n/a	2004.92	1400	458.419	1400
		ALB-2F--	0.02068	309349	n/a	2044.32	1000	320.219	1000
		7-34	0.1379	309349	n/a	2044.32	1000	320.219	1000
			0.2068	309349	n/a	2044.32	1000	320.219	1000
		ALB-2D--	0.02068	177461	n/a	3260.87	860	283.727	860
		7-34	0.1379	177461	n/a	3260.87	860	283.727	860
			0.2068	177461	n/a	3260.87	860	283.727	860
		ALB-5F-	0.02068	184388	n/a	876.298	850	257.147	850
		27-95	0.1379	184388	n/a	876.298	850	257.147	850
			0.2068	184388	n/a	876.298	850	257.147	850
		ALB-5D-	0.02068	123139	n/a	853.4	790	229.473	790
		27-95	0.1379	123139	n/a	853.4	790	229.473	790

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			0.2068	123139	n/a	853.4	790	229.473	790
		ALB-5F--	0.02068	103495	n/a	1639.75	700	213.568	700
		7-34	0.1379	103495	n/a	1639.75	700	213.568	700
			0.2068	103495	n/a	1639.75	700	213.568	700
		ALB-5D--	0.02068	55377.1	n/a	1910.68	620	201.735	620
		7-34	0.1379	55377.1	n/a	1910.68	620	201.735	620
			0.2068	55377.1	n/a	1910.68	620	201.735	620

Consequence Summary Report

Workspace: 1091 SHUD 0404

Study: ACP off Roundoff Tank Barge Spill

Summary Basis

These tables will only report global values set in the parameters. Values that are modified in the study tree will not be reported.

The report is context sensitive, and filters up to the study level. You will need to generate multiple summary reports if you have multiple studies in your workspace.

Discharge Results (after atmospheric expansion)

Path	Scenario	Weather	Mass flow rate [kg/s]	Temperature [degC]	Liquid mass fraction in material [fraction]	Droplet diameter [um]	Expanded diameter [m]	Velocity [m/s]	Release duration [s]
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-21	Leak	ACP-2F-26-97	719.93	21.0946	1	2461.06	0.367933	9.60529	3600
		ACP-2D-26-97	719.93	21.0946	1	2461.06	0.367933	9.60529	3600
		ACP-2F--7-39	719.93	21.0946	1	2167.25	0.367933	9.60529	3600
		ACP-2D--	719.93	21.0946	1	2167.25	0.367933	9.60529	3600

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		7-39							
		ACP-6F- 26-97	719.93	21.0946	1	2461.06	0.367933	9.60529	3600
		ACP-6D- 26-97	719.93	21.0946	1	2461.06	0.367933	9.60529	3600
		ACP-6F-- 7-39	719.93	21.0946	1	2167.25	0.367933	9.60529	3600
		ACP-6D-- 7-39	719.93	21.0946	1	2167.25	0.367933	9.60529	3600
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-4		ACP-2F- 26-97	732.674	3.49507	1	2679.92	0.367933	9.58367	3600
		ACP-2D- 26-97	732.674	3.49507	1	2679.92	0.367933	9.58367	3600
		ACP-2F-- 7-39	732.674	3.49507	1	2359.98	0.367933	9.58367	3600
		ACP-2D-- 7-39	732.674	3.49507	1	2359.98	0.367933	9.58367	3600
		ACP-6F- 26-97	732.674	3.49507	1	2679.92	0.367933	9.58367	3600
		ACP-6D- 26-97	732.674	3.49507	1	2679.92	0.367933	9.58367	3600
		ACP-6F-- 7-39	732.674	3.49507	1	2359.98	0.367933	9.58367	3600

		ACP-6D-- 7-39	732.674	3.49507	1	2359.98	0.367933	9.58367	3600
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Dispersion Results

Input dispersion parameters

Core averaging time	18.75	s
Flammable averaging time	18.75	s
Height of interest	0	m

Distance downwind to defined concentrations

The reported concentration of interest is defined at the scenario

Path	Scenario	Weather	Material	Material to track	Concentration of interest [ppm]	Averaging time selected	Distance downwind to concentration of interest [m]
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-21	Leak	ACP-2F- 26-97	Fake Bakken	Fake Bakken	55000	Flammable	760.655
		ACP-2D- 26-97	Fake Bakken	Fake Bakken	55000	Flammable	598.376
		ACP-2F--7- 39	Fake Bakken	Fake Bakken	55000	Flammable	673.36
		ACP-2D-- 7-39	Fake Bakken	Fake Bakken	55000	Flammable	557.944
		ACP-6F- 26-97	Fake Bakken	Fake Bakken	55000	Flammable	260.658
		ACP-6D-	Fake	Fake	55000	Flammable	208.1

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		26-97	Bakken	Bakken			
		ACP-6F--7-39	Fake Bakken	Fake Bakken	55000	Flammable	248.048
		ACP-6D--7-39	Fake Bakken	Fake Bakken	55000	Flammable	85.4546
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-4		ACP-2F-26-97	Fake Bakken	Fake Bakken	55000	Flammable	767.6
		ACP-2D-26-97	Fake Bakken	Fake Bakken	55000	Flammable	633.4
		ACP-2F--7-39	Fake Bakken	Fake Bakken	55000	Flammable	666.431
		ACP-2D--7-39	Fake Bakken	Fake Bakken	55000	Flammable	568.73
		ACP-6F-26-97	Fake Bakken	Fake Bakken	55000	Flammable	254.214
		ACP-6D-26-97	Fake Bakken	Fake Bakken	55000	Flammable	203.348
		ACP-6F--7-39	Fake Bakken	Fake Bakken	55000	Flammable	240.818
		ACP-6D--7-39	Fake Bakken	Fake Bakken	55000	Flammable	61.4481

Path	Scenario	Weather	Distance to UFL [m]	Distance to LFL [m]	Distance to LFL fraction [m]
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-21	Leak	ACP-2F-26-97	717.559	2240.32	2820.1
		ACP-2D-26-97	532.923	1817.07	2299.94
		ACP-2F--7-39	634.219	2125.72	2679.16
		ACP-2D--7-39	510.141	1800.9	2331.32
		ACP-6F-26-97	250.42	664.701	899.834
		ACP-6D-26-97	193.318	695.574	964.683
		ACP-6F--7-39	235.33	701.183	955.328
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-4		ACP-6D--7-39	86.4881	698.885	996.223
		ACP-2F-26-97	727.252	2192.84	2754.87
		ACP-2D-26-97	566.002	1801.9	2279.85
		ACP-2F--7-39	629.57	2088.28	2638.53
		ACP-2D--7-39	522.862	1809.7	2336.49
		ACP-6F-26-97	244.268	651.09	884.832
		ACP-6D-26-97	188.621	694.113	979.282
		ACP-6F--7-39	227.771	695.439	948.871
		ACP-6D--7-39	63.0975	689.738	1005.67

Jet Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Flame length [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-21	Leak	ACP-2F-26-97	120.447	286.194	210.004	161.926
		ACP-2D-26-97	121.316	288.42	211.629	163.181
		ACP-2F--7-39	123.821	323.104	231.279	175.433
		ACP-2D--7-39	124.629	325.445	232.929	176.675
		ACP-6F-26-97	96.318	225.066	166.679	130.415
		ACP-6D-26-97	97.2864	227.236	168.305	131.697
		ACP-6F--7-39	98.538	251.027	180.942	139.367
		ACP-6D--7-39	99.477	253.362	182.636	140.678
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-4		ACP-2F-26-97	85.2596	197.115	144.965	111.882

	ACP-2D-26-97	86.5293	200.289	147.284	113.667
	ACP-2F--7-39	89.6115	225.794	162.422	123.518
	ACP-2D--7-39	90.833	229.201	164.843	125.346
	ACP-6F-26-97	71.3403	168.663	124.51	97.2152
	ACP-6D-26-97	72.9262	172.266	127.199	99.3303
	ACP-6F--7-39	74.5055	191.013	137.429	105.726
	ACP-6D--7-39	75.6306	193.831	139.47	107.303

Early Pool Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Pool diameter [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-21	Leak	ACP-2F-26-97	77.5095	101.308	45.0707	n/a
		ACP-2D-26-97	77.4426	101.254	45.0498	n/a
		ACP-2F--7-39	85.6325	124.741	49.6726	n/a
		ACP-2D--7-39	85.5606	124.68	49.6571	n/a
		ACP-6F-26-97	77.0082	129.128	45.5779	n/a
		ACP-6D-26-97	76.9018	129.009	45.5389	n/a
		ACP-6F--7-39	85.0959	148.327	53.9848	n/a
		ACP-6D--7-39	84.9774	148.2	53.9531	n/a
1091 SHUD		ACP-2F-26-	80.3577	104.243	46.6275	n/a

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0404\ACP off
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Barge
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vessel ACP-4

97

		ACP-2D-26-97	80.3003	104.202	46.6145	n/a
		ACP-2F--7-39	88.8579	128.536	50.869	n/a
		ACP-2D--7-39	88.7919	128.475	50.8498	n/a
		ACP-6F-26-97	79.9424	132.809	47.234	n/a
		ACP-6D-26-97	79.8327	132.708	47.2044	n/a
		ACP-6F--7-39	88.375	152.785	56.1279	n/a
		ACP-6D--7-39	88.2834	152.678	56.0933	n/a

Late Pool Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Pool diameter [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-21	Leak	ACP-2F-26-97	350.836	330.579	184.208	n/a
		ACP-2D-26-97	350.606	330.417	184.104	n/a
		ACP-2F--7-39	555.536	573.979	286.97	n/a
		ACP-2D--7-39	555.071	573.596	286.756	n/a
		ACP-6F-26-97	267.473	327.965	142.216	n/a
		ACP-6D-26-97	267.181	327.706	142.08	n/a
		ACP-6F--7-39	382.446	485.231	203.952	n/a
		ACP-6D--7-39	381.916	484.721	204.63	n/a
1091 SHUD		ACP-2F-26-	368.05	343.72	193.058	n/a

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0404\ACP off
Roundoff Tank
Barge
Spill\Pressure
vessel ACP-4

97

		ACP-2D-26-97	367.901	343.624	192.999	n/a
		ACP-2F--7-39	579.647	594.958	299.25	n/a
		ACP-2D--7-39	579.271	594.647	299.074	n/a
		ACP-6F-26-97	281.256	340.832	149.346	n/a
		ACP-6D-26-97	280.985	340.614	149.236	n/a
		ACP-6F--7-39	400.38	503.56	213.567	n/a
		ACP-6D--7-39	400.053	503.243	213.42	n/a

Flash Fire Results

Distance downwind to defined concentrations

The reported LFL and LFL fraction are defined in the respective material property

Path	Scenario	Weather	Distance downwind to LFL [m]	Distance downwind to LFL Fraction [m]
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-21	Leak	ACP-2F-26-97	2240.32	2820.1
		ACP-2D-26-97	1817.07	2299.94
		ACP-2F--7-39	2125.72	2679.16
		ACP-2D--7-39	1800.9	2331.32
		ACP-6F-26-97	664.701	899.834
		ACP-6D-26-97	695.574	964.683
		ACP-6F--7-39	701.183	955.328
		ACP-6D--7-39	698.885	996.223
		ACP-2F-26-97	2192.84	2754.87
		ACP-2D-26-97	1801.9	2279.85
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-4		ACP-2F--7-39	2088.28	2638.53
		ACP-2D--7-39	1809.7	2336.49
		ACP-6F-26-97	651.09	884.832
		ACP-6D-26-97	694.113	979.282
		ACP-6F--7-39	695.439	948.871
		ACP-6D--7-39	689.738	1005.67

Maximum distance to LFL fraction at any height

Path	Scenario	Weather	Max flash fire distance [m]	Height of the max flash fire distance [m]	Time [s]
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-21		ACP-2F-26-97	2811.46	0	4289.41
		ACP-2D-26-97	2280.93	0	2025
		ACP-2F--7-39	2695.94	0	3375
		ACP-2D--7-39	2267.78	0	2700
		ACP-6F-26-97	898.587	0	3385.19
		ACP-6D-26-97	963.31	0	808.992
		ACP-6F--7-39	903.961	0	886.297
		ACP-6D--7-39	1002.37	0	876.661
		ACP-2F-26-97	2721.64	0	4280.03
		ACP-2D-26-97	2269.19	0	2025
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP-4		ACP-2F--7-39	2654.2	0	3600
		ACP-2D--7-39	2282.61	0	2925
		ACP-6F-26-97	884.509	0	3378.59
		ACP-6D-26-97	950.191	0	879.901
		ACP-6F--7-39	887.741	0	885.413

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		ACP-6D--7-39	976.121	0	874.35
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Explosion Results

Explosion scenarios for worst-case maximum downwind distance to defined overpressures.

The reported overpressures are defined in the explosion parameters

Path	Scenario	Weather	Overpressure level [bar]	Maximum distance [m]	Diameter [m]
1091 SHUD 0404\ACP Leak off Roundoff Tank Barge Spill\Pressure vessel ACP-21		ACP-2F-26-97	0.02068	6576.75	7673.49
			0.1379	3523.83	1467.66
			0.2068	3340.2	1100.39
		ACP-2D-26-97	0.02068	5433.33	6346.66
			0.1379	2886.34	1212.67
			0.2068	2734.61	909.216
		ACP-2F--7-39	0.02068	6921.07	8542.14
			0.1379	3511.98	1643.97
			0.2068	3306.29	1232.58
		ACP-2D--7-39	0.02068	5636.27	6972.53
			0.1379	2906.47	1292.95
			0.2068	2744.7	969.403
		ACP-6F-26-97	0.02068	2924.73	4069.46
			0.1379	1285.46	790.928
			0.2068	1186.5	593.008
		ACP-6D-26-97	0.02068	2752.74	3585.48
			0.1379	1308.43	696.862
			0.2068	1221.24	522.48
		ACP-6F--7-39	0.02068	3263.27	4726.54
			0.1379	1359.32	918.636
			0.2068	1244.38	688.758
		ACP-6D--7-39	0.02068	2866.65	3733.29

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			0.1379	1362.8	725.591
			0.2068	1272.01	544.021
1091 SHUD 0404\ACP		ACP-2F-26-97	0.02068	6450.74	7601.47
off Roundoff Tank			0.1379	3414.12	1448.25
Barge Spill\Pressure			0.2068	3232.92	1085.84
vessel ACP-4					
		ACP-2D-26-97	0.02068	5405.48	6330.95
			0.1379	2867.04	1214.08
			0.2068	2715.14	910.272
		ACP-2F--7-39	0.02068	6900.91	8521.82
			0.1379	3468.14	1656.27
			0.2068	3260.91	1241.81
		ACP-2D--7-39	0.02068	5651.26	7062.53
			0.1379	2906.96	1253.92
			0.2068	2750.07	940.142
		ACP-6F-26-97	0.02068	2914.55	4089.09
			0.1379	1275.02	790.033
			0.2068	1176.17	592.336
		ACP-6D-26-97	0.02068	2718.06	3536.12
			0.1379	1293.63	687.269
			0.2068	1207.64	515.288
		ACP-6F--7-39	0.02068	3255.05	4750.1
			0.1379	1341.61	923.214
			0.2068	1226.1	692.191
		ACP-6D--7-39	0.02068	2858.12	3776.24
			0.1379	1336.97	733.937
			0.2068	1245.14	550.278

Supplementary data for worst-case explosion scenarios

Path	Scenario	Weather	Overpressure level [bar]	Total flammable mass [kg]	Explosion flammable mass [kg]	Ignition time [s]	Ignition source [m]	Cloud centre [m]	Explosion centre [m]
1091 SHUD 0404\ACP off Roundoff Tank Barge Spill\Pressure vessel ACP- 21	Leak	ACP-2F- 26-97	0.02068	702511	n/a	2466.41	2740	1066.1	2740
			0.1379	669498	n/a	3451.3	2790	1024.24	2790
			0.2068	669498	n/a	3451.3	2790	1024.24	2790
		ACP-2D- 26-97	0.02068	397474	n/a	1796.97	2260	750.939	2260
			0.1379	377664	n/a	2013.21	2280	695.929	2280
			0.2068	377664	n/a	2013.21	2280	695.929	2280
		ACP-2F-- 7-39	0.02068	969111	n/a	3179.77	2650	903.346	2650
			0.1379	940923	n/a	3349.76	2690	906.999	2690
			0.2068	940923	n/a	3349.76	2690	906.999	2690
		ACP-2D-- 7-39	0.02068	527042	n/a	2466.96	2150	751.166	2150
			0.1379	457739	n/a	2684.46	2260	670.597	2260
			0.2068	457739	n/a	2684.46	2260	670.597	2260
		ACP-6F- 26-97	0.02068	104782	n/a	1404.78	890	298.013	890
			0.1379	104782	n/a	1404.78	890	298.013	890
			0.2068	104782	n/a	1404.78	890	298.013	890
		ACP-6D- 26-97	0.02068	71666.1	n/a	803.486	960	290.964	960
			0.1379	71666.1	n/a	803.486	960	290.964	960
			0.2068	71666.1	n/a	803.486	960	290.964	960
		ACP-6F-- 7-39	0.02068	164174	n/a	879.548	900	295.034	900
			0.1379	164174	n/a	879.548	900	295.034	900
			0.02068						
			0.1379						

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			0.2068	164174	n/a	879.548	900	295.034	900
		ACP-6D--	0.02068	80900.4	n/a	873.392	1000	296.545	1000
		7-39	0.1379	80900.4	n/a	873.392	1000	296.545	1000
			0.2068	80900.4	n/a	873.392	1000	296.545	1000
1091 SHUD		ACP-2F-	0.02068	682916	n/a	2468.43	2650	1031.52	2650
0404\ACP off		26-97	0.1379	643282	n/a	3432.71	2690	988.279	2690
Roundoff			0.2068	643282	n/a	3432.71	2690	988.279	2690
Tank Barge									
Spill\Pressure									
vessel ACP-4									
		ACP-2D-	0.02068	394531	n/a	1797.77	2240	744.572	2240
		26-97	0.1379	378982	n/a	1948.13	2260	700.703	2260
			0.2068	378982	n/a	1948.13	2260	700.703	2260
		ACP-2F--	0.02068	962212	n/a	3354.94	2640	891.107	2640
		7-39	0.1379	962212	n/a	3354.94	2640	891.107	2640
			0.2068	962212	n/a	3354.94	2640	891.107	2640
		ACP-2D--	0.02068	547714	n/a	2473.18	2120	759.399	2120
		7-39	0.1379	417527	n/a	2906.97	2280	599.521	2280
			0.2068	417527	n/a	2906.97	2280	599.521	2280
		ACP-6F-	0.02068	106305	n/a	883.429	870	289.695	870
		26-97	0.1379	104426	n/a	3025.12	880	286.814	880
			0.2068	104426	n/a	3025.12	880	286.814	880
		ACP-6D-	0.02068	68747.2	n/a	879.469	950	277.571	950
		26-97	0.1379	68747.2	n/a	879.469	950	277.571	950
			0.2068	68747.2	n/a	879.469	950	277.571	950
		ACP-6F--	0.02068	166641	n/a	872.497	880	284.146	880
		7-39	0.1379	166641	n/a	872.497	880	284.146	880
			0.2068	166641	n/a	872.497	880	284.146	880

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		ACP-6D--	0.02068	83724.2	n/a	865.971	970	286.878	970
		7-39	0.1379	83724.2	n/a	865.971	970	286.878	970
			0.2068	83724.2	n/a	865.971	970	286.878	970

Consequence Summary Report

Workspace: 1091 SHUD 0404

Study: Newburgh Waterfront CBR Train Spill

Summary Basis

These tables will only report global values set in the parameters. Values that are modified in the study tree will not be reported.

The report is context sensitive, and filters up to the study level. You will need to generate multiple summary reports if you have multiple studies in your workspace.

Discharge Results (after atmospheric expansion)

Path	Scenario	Weather	Mass flow rate [kg/s]	Temperature [degC]	Liquid mass fraction in material [fraction]	Droplet diameter [um]	Expanded diameter [m]	Velocity [m/s]	Release duration [s]
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-21	Leak	NBG-2F-26-97	103.879	20.8918	1	1640.19	0.126259	11.7668	3600
		NBG-2D-26-97	103.879	20.8918	1	1640.19	0.126259	11.7668	3600
		NBG-2F--8-35	103.879	20.8918	1	1438.36	0.126259	11.7668	3600
		NBG-2D-	103.879	20.8918	1	1438.36	0.126259	11.7668	3600

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		-8-35							
		NBG-6F-26-97	103.879	20.8918	1	1640.19	0.126259	11.7668	3600
		NBG-6D-26-97	103.879	20.8918	1	1640.19	0.126259	11.7668	3600
		NBG-6F--8-35	103.879	20.8918	1	1438.36	0.126259	11.7668	3600
		NBG-6D--8-35	103.879	20.8918	1	1438.36	0.126259	11.7668	3600
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-2		NBG-2F-26-97	106.012	2.19263	1	1788.97	0.126259	11.759	3600
		NBG-2D-26-97	106.012	2.19263	1	1788.97	0.126259	11.759	3600
		NBG-2F--8-35	106.012	2.19263	1	1568.83	0.126259	11.759	3600
		NBG-2D--8-35	106.012	2.19263	1	1568.83	0.126259	11.759	3600
		NBG-6F-26-97	106.012	2.19263	1	1788.97	0.126259	11.759	3600
		NBG-6D-26-97	106.012	2.19263	1	1788.97	0.126259	11.759	3600
		NBG-6F--8-35	106.012	2.19263	1	1568.83	0.126259	11.759	3600

		NBG-6D- -8-35	106.012	2.19263	1		1568.83	0.126259	11.759	3600
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Dispersion Results

Input dispersion parameters

Core averaging time	18.75	s
Flammable averaging time	18.75	s
Height of interest	0	m

Distance downwind to defined concentrations

The reported concentration of interest is defined at the scenario

Path	Scenario	Weather	Material	Material to track	Concentration of interest [ppm]	Averaging time selected	Distance downwind to concentration of interest [m]
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-21	Leak	NBG-2F- 26-97	Fake Bakken	Fake Bakken	55000	Flammable	105.509
		NBG-2D- 26-97	Fake Bakken	Fake Bakken	55000	Flammable	73.1299
		NBG-2F-- 8-35	Fake Bakken	Fake Bakken	55000	Flammable	59.4177
		NBG-2D-- 8-35	Fake Bakken	Fake Bakken	55000	Flammable	41.5842
		NBG-6F- 26-97	Fake Bakken	Fake Bakken	55000	Flammable	26.1091
		NBG-6D-	Fake	Fake	55000	Flammable	25.7782

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		26-97	Bakken	Bakken			
		NBG-6F-- 8-35	Fake Bakken	Fake Bakken	55000	Flammable	23.7641
		NBG-6D-- 8-35	Fake Bakken	Fake Bakken	55000	Flammable	23.6837
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-2		NBG-2F- 26-97	Fake Bakken	Fake Bakken	55000	Flammable	91.817
		NBG-2D- 26-97	Fake Bakken	Fake Bakken	55000	Flammable	67.0448
		NBG-2F-- 8-35	Fake Bakken	Fake Bakken	55000	Flammable	43.6479
		NBG-2D-- 8-35	Fake Bakken	Fake Bakken	55000	Flammable	32.1707
		NBG-6F- 26-97	Fake Bakken	Fake Bakken	55000	Flammable	21.4757
		NBG-6D- 26-97	Fake Bakken	Fake Bakken	55000	Flammable	21.6687
		NBG-6F-- 8-35	Fake Bakken	Fake Bakken	55000	Flammable	19.5977
		NBG-6D-- 8-35	Fake Bakken	Fake Bakken	55000	Flammable	19.9601

Path	Scenario	Weather	Distance to UFL [m]	Distance to LFL [m]	Distance to LFL fraction [m]
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-21	Leak	NBG-2F-26-97	99.6178	302.096	387.285
		NBG-2D-26-97	69.2602	209.509	275.159
		NBG-2F--8-35	57.2011	254.834	349.298
		NBG-2D--8-35	40.1549	207.697	286.168
		NBG-6F-26-97	25.478	111.58	165.12
		NBG-6D-26-97	25.0294	108.785	166.582
		NBG-6F--8-35	23.1924	108.699	171.894
		NBG-6D--8-35	23.0094	99.0421	160.998
		NBG-2F-26-97	86.2001	287.275	371.536
		NBG-2D-26-97	62.3787	201.186	271.176
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-2		NBG-2F--8-35	42.4858	238.435	332.599
		NBG-2D--8-35	31.1036	205.632	286.508
		NBG-6F-26-97	21.0889	110.008	164.74
		NBG-6D-26-97	21.1524	104.789	163.1
		NBG-6F--8-35	19.2798	105.803	171.914
		NBG-6D--8-35	19.4483	95.5956	161.801

Jet Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Flame length [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-21	Leak	NBG-2F-26-97	72.1355	166.348	122.158	94.0775
		NBG-2D-26-97	72.8788	168.201	123.51	95.1168
		NBG-2F--8-35	72.8179	182.267	130.983	99.422
		NBG-2D--8-35	73.5258	184.23	132.376	100.477
		NBG-6F-26-97	57.7524	139.522	102.402	79.5261
		NBG-6D-26-97	58.6826	141.684	104.005	80.7802
		NBG-6F--8-35	58.0624	152.342	108.976	83.3519
		NBG-6D--8-35	58.9076	154.512	110.538	84.5518

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1091 SHUD
0404\Newburgh
Waterfront CBR Train
Spill\Pressure vessel
NBG-2

NBG-2F-26-97 59.0446 133.942 98.5109 75.8986

NBG-2D-26-97 59.9576 136.185 100.146 77.1582

NBG-2F--8-35 60.0005 147.105 105.993 80.5598

NBG-2D--8-35 60.845 149.398 107.625 81.7928

NBG-6F-26-97 48.659 118.307 86.6863 67.2452

NBG-6D-26-97 49.7261 120.793 88.5252 68.6815

NBG-6F--8-35 49.1024 129.272 92.3837 70.6147

NBG-6D--8-35 50.1643 132.01 94.3522 72.1255

Early Pool Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Pool diameter [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-21	Leak	NBG-2F-26-97	27.9314	54.3153	22.2607	n/a
		NBG-2D-26-97	27.8535	54.2893	22.2622	n/a
		NBG-2F--8-35	30.9774	62.0035	25.0833	n/a
		NBG-2D--8-35	30.8935	61.9512	25.0833	n/a
		NBG-6F-26-97	27.4078	68.7953	24.2033	n/a
		NBG-6D-26-97	27.2619	68.6785	24.1875	n/a
		NBG-6F--8-35	30.4211	72.696	27.9168	n/a
		NBG-6D--8-35	30.2725	72.5531	27.9045	n/a

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1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-2		NBG-2F-26-97	29.4303	55.5215	22.8615	n/a
		NBG-2D-26-97	29.3618	55.4899	22.8514	n/a
		NBG-2F--8-35	32.6438	63.8576	25.8114	n/a
		NBG-2D--8-35	32.5717	63.806	25.814	n/a
		NBG-6F-26-97	28.9714	70.6815	24.5445	n/a
		NBG-6D-26-97	28.8471	70.5776	24.6368	n/a
		NBG-6F--8-35	32.1564	75.2239	28.5277	n/a
		NBG-6D--8-35	32.0168	75.0702	28.4998	n/a

Late Pool Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Pool diameter [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-21	Leak	NBG-2F-26-97	119.197	141.082	66.3104	n/a
		NBG-2D-26-97	118.931	140.863	66.2017	n/a
		NBG-2F--8-35	185.992	233.666	100.247	n/a
		NBG-2D--8-35	185.509	233.202	100.033	n/a
		NBG-6F-26-97	89.1036	145.596	51.7636	n/a
		NBG-6D-26-97	88.7695	145.232	51.6333	n/a
		NBG-6F--8-35	127.183	204.483	76.2012	n/a
		NBG-6D--8-35	126.648	203.865	75.9677	n/a

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1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-2		NBG-2F-26-97	126.996	148.367	70.4859	n/a
		NBG-2D-26-97	126.756	148.167	70.3817	n/a
		NBG-2F--8-35	197.576	245.655	106.309	n/a
		NBG-2D--8-35	197.186	245.281	106.134	n/a
		NBG-6F-26-97	95.2392	153.141	55.085	n/a
		NBG-6D-26-97	94.9633	152.844	54.9758	n/a
		NBG-6F--8-35	135.639	215.246	80.9663	n/a
		NBG-6D--8-35	135.133	214.652	80.7299	n/a

Flash Fire Results

Distance downwind to defined concentrations

The reported LFL and LFL fraction are defined in the respective material property

Path	Scenario	Weather	Distance downwind to LFL [m]	Distance downwind to LFL Fraction [m]
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-21	Leak	NBG-2F-26-97	302.096	387.285
		NBG-2D-26-97	209.509	275.159
		NBG-2F--8-35	254.834	349.298
		NBG-2D--8-35	207.697	286.168
		NBG-6F-26-97	111.58	165.12
		NBG-6D-26-97	108.785	166.582
		NBG-6F--8-35	108.699	171.894
		NBG-6D--8-35	99.0421	160.998
		NBG-2F-26-97	287.275	371.536
		NBG-2D-26-97	201.186	271.176
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-2		NBG-2F--8-35	238.435	332.599
		NBG-2D--8-35	205.632	286.508
		NBG-6F-26-97	110.008	164.74
		NBG-6D-26-97	104.789	163.1
		NBG-6F--8-35	105.803	171.914
		NBG-6D--8-35	95.5956	161.801
		NBG-2F-26-97	287.275	371.536
		NBG-2D-26-97	201.186	271.176

Maximum distance to LFL fraction at any height

Path	Scenario	Weather	Max flash fire distance [m]	Height of the max flash fire distance [m]	Time [s]
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-21	Leak	NBG-2F-26-97	377.295	0	3799.1
		NBG-2D-26-97	274.829	0	3525.37
		NBG-2F--8-35	345.71	0	3763.21
		NBG-2D--8-35	284.19	0	873.997
		NBG-6F-26-97	164.647	0	787.336
		NBG-6D-26-97	166.518	0	785.478
		NBG-6F--8-35	167.383	0	786.361
		NBG-6D--8-35	157.904	0	784.589
		NBG-2F-26-97	367.217	0	3795.23
		NBG-2D-26-97	270.526	0	877.783
		NBG-2F--8-35	327.486	0	3755.76
		NBG-2D--8-35	280.462	0	872.946
		NBG-6F-26-97	165.434	0	787.07
		NBG-6D-26-97	163.033	0	785.329
		NBG-6F--8-35	165.409	0	786.157
		NBG-6D--8-35	153.001	0	784.253

Explosion Results

Explosion scenarios for worst-case maximum downwind distance to defined overpressures.

The reported overpressures are defined in the explosion parameters

Path	Scenario	Weather	Overpressure level [bar]	Maximum distance [m]	Diameter [m]
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-21	Leak	NBG-2F-26-97	0.02068	1443.67	2247.35
			0.1379	539.306	418.613
			0.2068	489.604	279.207
		NBG-2D-26-97	0.02068	1179.39	1818.78
			0.1379	446.746	353.491
			0.2068	402.517	265.034
		NBG-2F--8-35	0.02068	1589.87	2579.75
			0.1379	550.696	501.391
			0.2068	487.962	375.924
		NBG-2D--8-35	0.02068	1210.19	1860.37
			0.1379	460.788	361.576
			0.2068	415.548	271.096
		NBG-6F-26-97	0.02068	760.685	1201.37
			0.1379	276.747	233.494
			0.2068	247.533	175.065
		NBG-6D-26-97	0.02068	635.529	951.059
			0.1379	252.422	184.845
			0.2068	229.295	138.59
		NBG-6F--8-35	0.02068	685.29	1050.58
			0.1379	262.094	204.187
			0.2068	236.546	153.092

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		NBG-6D--8-35	0.02068	549.664	799.328
			0.1379	227.677	155.355
			0.2068	208.24	116.479
1091 SHUD		NBG-2F-26-97	0.02068	1471.82	2323.64
0404\Newburgh			0.1379	535.808	451.615
Waterfront CBR Train			0.2068	479.484	318.968
Spill\Pressure vessel					
NBG-2					
		NBG-2D-26-97	0.02068	1192.3	1844.6
			0.1379	449.255	358.51
			0.2068	404.398	268.797
		NBG-2F--8-35	0.02068	1558.69	2537.38
			0.1379	536.579	493.157
			0.2068	474.875	369.751
		NBG-2D--8-35	0.02068	1210.65	1861.29
			0.1379	460.877	361.755
			0.2068	415.615	271.23
		NBG-6F-26-97	0.02068	746.818	1173.64
			0.1379	274.052	228.104
			0.2068	245.512	171.024
		NBG-6D-26-97	0.02068	620.958	921.916
			0.1379	249.59	179.181
			0.2068	227.171	134.343
		NBG-6F--8-35	0.02068	664.389	1008.78
			0.1379	258.031	196.063
			0.2068	233.5	147
		NBG-6D--8-35	0.02068	537.854	775.708
			0.1379	225.382	150.764

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0.2068

206.519

113.037

Supplementary data for worst-case explosion scenarios

Path	Scenario	Weather	Overpressure level [bar]	Total flammable mass [kg]	Explosion flammable mass [kg]	Ignition time [s]	Ignition source [m]	Cloud centre [m]	Explosion centre [m]
1091 SHUD 0404\Newburgh Waterfront CBR Train Spill\Pressure vessel NBG-21	Leak	NBG-2F- 26-97	0.02068	17647.5	n/a	3312.71	320	108.468	320
			0.1379	15535	n/a	3479.56	330	116.904	330
			0.2068	10936.6	n/a	3632.17	350	135.546	350
		NBG-2D- 26-97	0.02068	9354.3	n/a	855.421	270	87.3919	270
			0.1379	9354.3	n/a	855.421	270	87.3919	270
			0.2068	9354.3	n/a	855.421	270	87.3919	270
		NBG-2F-- 8-35	0.02068	26693.5	n/a	887.354	300	97.0536	300
			0.1379	26693.5	n/a	887.354	300	97.0536	300
			0.2068	26693.5	n/a	887.354	300	97.0536	300
		NBG-2D- -8-35	0.02068	10010.9	n/a	849.953	280	95.0471	280
			0.1379	10010.9	n/a	849.953	280	95.0471	280
			0.2068	10010.9	n/a	849.953	280	95.0471	280
		NBG-6F- 26-97	0.02068	2695.9	n/a	692.438	160	49.3165	160
			0.1379	2695.9	n/a	692.438	160	49.3165	160
			0.2068	2695.9	n/a	692.438	160	49.3165	160
		NBG-6D- 26-97	0.02068	1337.51	n/a	641.321	160	48.8085	160
			0.1379	1337.51	n/a	641.321	160	48.8085	160
			0.2068	1337.51	n/a	641.321	160	48.8085	160

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		NBG-6F--	0.02068	1802.85	n/a	664.902	160	53.5799	160
		8-35	0.1379	1802.85	n/a	664.902	160	53.5799	160
			0.2068	1802.85	n/a	664.902	160	53.5799	160
		NBG-6D-	0.02068	794.052	n/a	623.493	150	46.3969	150
		-8-35	0.1379	794.052	n/a	623.493	150	46.3969	150
			0.2068	794.052	n/a	623.493	150	46.3969	150
1091 SHUD		NBG-2F-	0.02068	19506.5	n/a	3227.29	310	96.206	310
0404\Newburgh		26-97	0.1379	19506.5	n/a	3227.29	310	96.206	310
Waterfront CBR			0.2068	16305.9	n/a	3490.2	320	106.55	320
Train									
Spill\Pressure									
vessel NBG-2									
		NBG-2D-	0.02068	9758.37	n/a	873.327	270	84.5865	270
		26-97	0.1379	9758.37	n/a	873.327	270	84.5865	270
			0.2068	9758.37	n/a	873.327	270	84.5865	270
		NBG-2F--	0.02068	25399.9	n/a	841.664	290	95.4408	290
		8-35	0.1379	25399.9	n/a	841.664	290	95.4408	290
			0.2068	25399.9	n/a	841.664	290	95.4408	290
		NBG-2D-	0.02068	10025.8	n/a	870.465	280	95.8891	280
		-8-35	0.1379	10025.8	n/a	870.465	280	95.8891	280
			0.2068	10025.8	n/a	870.465	280	95.8891	280
		NBG-6F-	0.02068	2513.47	n/a	692.647	160	49.0051	160
		26-97	0.1379	2513.47	n/a	692.647	160	49.0051	160
			0.2068	2513.47	n/a	692.647	160	49.0051	160
		NBG-6D-	0.02068	1218.28	n/a	726.492	160	48.204	160
		26-97	0.1379	1218.28	n/a	726.492	160	48.204	160
			0.2068	1218.28	n/a	726.492	160	48.204	160
		NBG-6F--	0.02068	1596.1	n/a	705.318	160	52.8914	160

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		8-35	0.1379	1596.1	n/a	705.318	160	52.8914	160
			0.2068	1596.1	n/a	705.318	160	52.8914	160
		NBG-6D-	0.02068	725.719	n/a	729.114	150	40.2009	150
		-8-35	0.1379	725.719	n/a	729.114	150	40.2009	150
			0.2068	725.719	n/a	729.114	150	40.2009	150

Consequence Summary Report

Workspace: 1091 SHUD 0404

Study: Iona Island CBR Train Spill

Summary Basis

These tables will only report global values set in the parameters. Values that are modified in the study tree will not be reported.

The report is context sensitive, and filters up to the study level. You will need to generate multiple summary reports if you have multiple studies in your workspace.

Discharge Results (after atmospheric expansion)

Path	Scenario	Weather	Mass flow rate [kg/s]	Temperature [degC]	Liquid mass fraction in material [fraction]	Droplet diameter [um]	Expanded diameter [m]	Velocity [m/s]	Release duration [s]
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-21	Leak	ION-2F-26-96	103.867	20.9918	1	1639.85	0.126259	11.7668	3600
		ION-2D-26-97	103.867	20.9918	1	1639.85	0.126259	11.7668	3600
		ION-2F-00-47	103.867	20.9918	1	1480.9	0.126259	11.7668	3600
		ION-2D-00-47	103.867	20.9918	1	1480.9	0.126259	11.7668	3600

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		ION-8F-26-96	103.867	20.9918	1	1639.85	0.126259	11.7668	3600
		ION-8D-26-96	103.867	20.9918	1	1639.85	0.126259	11.7668	3600
		ION-8F-00-47	103.867	20.9918	1	1480.9	0.126259	11.7668	3600
		ION-8D-00-47	103.867	20.9918	1	1480.9	0.126259	11.7668	3600
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-10		ION-2F-26-96	105.087	10.3923	1	1723.83	0.126259	11.7622	3600
		ION-2D-26-97	105.087	10.3923	1	1723.83	0.126259	11.7622	3600
		ION-2F-00-47	105.087	10.3923	1	1556.73	0.126259	11.7622	3600
		ION-2D-00-47	105.087	10.3923	1	1556.73	0.126259	11.7622	3600
		ION-8F-26-96	105.087	10.3923	1	1723.83	0.126259	11.7622	3600
		ION-8D-26-96	105.087	10.3923	1	1723.83	0.126259	11.7622	3600
		ION-8F-00-47	105.087	10.3923	1	1556.73	0.126259	11.7622	3600
		ION-8D-	105.087	10.3923	1	1556.73	0.126259	11.7622	3600

		00-47							
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Dispersion Results

Input dispersion parameters

Core averaging time	18.75	s
Flammable averaging time	18.75	s
Height of interest	0	m

Distance downwind to defined concentrations

The reported concentration of interest is defined at the scenario

Path	Scenario	Weather	Material	Material to track	Concentration of interest [ppm]	Averaging time selected	Distance downwind to concentration of interest [m]
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-21	Leak	ION-2F- 26-96	Fake Bakken	Fake Bakken	55000	Flammable	199.399
		ION-2D- 26-97	Fake Bakken	Fake Bakken	55000	Flammable	86.639
		ION-2F- 00-47	Fake Bakken	Fake Bakken	55000	Flammable	183.4
		ION-2D- 00-47	Fake Bakken	Fake Bakken	55000	Flammable	81.4413
		ION-8F- 26-96	Fake Bakken	Fake Bakken	55000	Flammable	64.313
		ION-8D-	Fake	Fake	55000	Flammable	45.5587

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		26-96	Bakken	Bakken			
		ION-8F-00-47	Fake Bakken	Fake Bakken	55000	Flammable	36.9701
		ION-8D-00-47	Fake Bakken	Fake Bakken	55000	Flammable	42.4027
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-10		ION-2F-26-96	Fake Bakken	Fake Bakken	55000	Flammable	205.683
		ION-2D-26-97	Fake Bakken	Fake Bakken	55000	Flammable	87.483
		ION-2F-00-47	Fake Bakken	Fake Bakken	55000	Flammable	194.913
		ION-2D-00-47	Fake Bakken	Fake Bakken	55000	Flammable	80.194
		ION-8F-26-96	Fake Bakken	Fake Bakken	55000	Flammable	61.2823
		ION-8D-26-96	Fake Bakken	Fake Bakken	55000	Flammable	40.5724
		ION-8F-00-47	Fake Bakken	Fake Bakken	55000	Flammable	32.7182
		ION-8D-00-47	Fake Bakken	Fake Bakken	55000	Flammable	37.7404

Path	Scenario	Weather	Distance to UFL [m]	Distance to LFL [m]	Distance to LFL fraction [m]
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-21	Leak	ION-2F-26-96	175.035	826.556	1057.83
		ION-2D-26-97	79.6375	589.321	786.01
		ION-2F-00-47	165.929	800.278	1023.72
		ION-2D-00-47	70.5427	622.485	830.105
		ION-8F-26-96	60.7758	210.253	300.901
		ION-8D-26-96	43.7461	229.748	339.178
		ION-8F-00-47	35.1428	201.482	299.02
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-10		ION-8D-00-47	40.629	210.788	323.559
		ION-2F-26-96	180.435	819.805	1048.68
		ION-2D-26-97	80.0716	591.234	786.585
		ION-2F-00-47	174.212	798.267	1022.58
		ION-2D-00-47	68.4731	622.834	831.145
		ION-8F-26-96	57.67	207.723	298.698
		ION-8D-26-96	38.7696	225.099	334.931
		ION-8F-00-47	31.4107	199.872	298.967
		ION-8D-00-47	35.9976	205.383	319.091

Jet Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Flame length [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-21	Leak	ION-2F-26-96	70.8729	163.229	119.878	92.3221
		ION-2D-26-97	71.2555	164.182	120.573	92.8566
		ION-2F-00-47	71.3642	175.095	126.479	96.3376
		ION-2D-00-47	71.7573	176.157	127.238	96.9123
		ION-8F-26-96	53.8515	127.071	93.8459	73.4018
		ION-8D-26-96	54.4293	128.38	94.8224	74.1708
		ION-8F-00-47	54.0248	135.623	98.1906	75.934
		ION-8D-00-47	54.5959	137.017	99.2066	76.7233
1091 SHUD 0404\Iona Island CBR Train		ION-2F-26-96	63.353	144.578	106.269	81.8625

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Spill\Pressure
vessel ION-10

		ION-2D-26-97	63.8216	145.735	107.113	82.5122
		ION-2F-00-47	63.9739	155.238	112.283	85.5814
		ION-2D-00-47	64.4187	156.426	113.134	86.226
		ION-8F-26-96	48.9303	115.893	85.5129	66.843
		ION-8D-26-96	49.5702	117.349	86.5976	67.6966
		ION-8F-00-47	49.168	123.743	89.5386	69.2151
		ION-8D-00-47	49.8133	125.322	90.6887	70.1081

Early Pool Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Pool diameter [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-21	Leak	ION-2F-26-96	28.049	54.5003	22.3837	n/a
		ION-2D-26-97	28.0103	54.4876	22.3847	n/a
		ION-2F-00-47	30.4465	60.6885	24.637	n/a
		ION-2D-00-47	30.4026	60.6711	24.656	n/a
		ION-8F-26-96	27.5487	72.6197	24.793	n/a
		ION-8D-26-96	27.4565	72.5882	24.8373	n/a
		ION-8F-00-47	29.9268	74.7535	27.887	n/a
		ION-8D-00-47	29.8271	74.7047	27.9339	n/a

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1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-10	ION-2F-26- 96	28.9362	55.2044	22.7099	n/a
	ION-2D-26- 97	28.8969	55.1963	22.7178	n/a
	ION-2F-00- 47	31.4087	61.6925	24.9101	n/a
	ION-2D-00- 47	31.3676	61.6793	24.9227	n/a
	ION-8F-26- 96	28.4638	73.8695	25.2706	n/a
	ION-8D-26- 96	28.3776	73.8286	25.2869	n/a
	ION-8F-00- 47	30.9171	76.2649	27.79	n/a
	ION-8D-00- 47	30.8218	76.207	27.9895	n/a

Late Pool Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Pool diameter [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-21	Leak	ION-2F-26-96	119.37	141.388	66.4902	n/a
		ION-2D-26-97	119.248	141.289	66.4371	n/a
		ION-2F-00-47	186.159	227.333	100.518	n/a
		ION-2D-00-47	185.916	227.117	100.419	n/a
		ION-8F-26-96	85.3362	150.396	50.2933	n/a
		ION-8D-26-96	85.1286	150.209	50.1812	n/a
		ION-8F-00-47	119.05	200.361	71.9142	n/a
		ION-8D-00-47	118.724	200.028	71.8308	n/a

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1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-10	ION-2F-26- 96	123.901	145.629	68.9091	n/a
	ION-2D-26- 97	123.798	145.554	68.8762	n/a
	ION-2F-00- 47	192.941	234.116	104.058	n/a
	ION-2D-00- 47	192.737	233.941	103.981	n/a
	ION-8F-26- 96	88.7276	154.891	52.0425	n/a
	ION-8D-26- 96	88.5444	154.721	52.0146	n/a
	ION-8F-00- 47	123.63	206.402	74.4439	n/a
	ION-8D-00- 47	123.319	206.078	74.3559	n/a

Flash Fire Results

Distance downwind to defined concentrations

The reported LFL and LFL fraction are defined in the respective material property

Path	Scenario	Weather	Distance downwind to LFL [m]	Distance downwind to LFL Fraction [m]
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-21	Leak	ION-2F-26-96	826.556	1057.83
		ION-2D-26-97	589.321	786.01
		ION-2F-00-47	800.278	1023.72
		ION-2D-00-47	622.485	830.105
		ION-8F-26-96	210.253	300.901
		ION-8D-26-96	229.748	339.178
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-10	Leak	ION-8F-00-47	201.482	299.02
		ION-8D-00-47	210.788	323.559
		ION-2F-26-96	819.805	1048.68
		ION-2D-26-97	591.234	786.585
		ION-2F-00-47	798.267	1022.58
		ION-2D-00-47	622.834	831.145
		ION-8F-26-96	207.723	298.698
		ION-8D-26-96	225.099	334.931
		ION-8F-00-47	199.872	298.967

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ION-8D-00-47	205.383	319.091
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Maximum distance to LFL fraction at any height

Path	Scenario	Weather	Max flash fire distance [m]	Height of the max flash fire distance [m]	Time [s]
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-21	Leak	ION-2F-26-96	1056.93	0	3600
		ION-2D-26-97	787.396	0	2925
		ION-2F-00-47	995.616	0	1800
		ION-2D-00-47	757.46	0	1800
		ION-8F-26-96	300.757	0	3447.63
		ION-8D-26-96	339.45	0	3228.39
		ION-8F-00-47	294.412	0	790.149
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-10	Leak	ION-8D-00-47	315.991	0	786.996
		ION-2F-26-96	1046.41	0	3600
		ION-2D-26-97	787.965	0	2925
		ION-2F-00-47	996.75	0	1800
		ION-2D-00-47	757.271	0	1800
		ION-8F-26-96	298.503	0	3447.18

		ION-8D-26-96	335.477	0	3228.42
		ION-8F-00-47	293.072	0	789.966
		ION-8D-00-47	309.049	0	786.839

Explosion Results

Explosion scenarios for worst-case maximum downwind distance to defined overpressures.

The reported overpressures are defined in the explosion parameters

Path	Scenario	Weather	Overpressure level [bar]	Maximum distance [m]	Diameter [m]
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION-21	Leak	ION-2F-26-96	0.02068	2579.09	3058.18
			0.1379	1347.19	594.379
			0.2068	1272.82	445.642
		ION-2D-26-97	0.02068	1959.09	2358.18
			0.1379	1009.16	458.329
			0.2068	951.819	343.637
		ION-2F-00-47	0.02068	2552.87	3125.75
			0.1379	1293.76	607.51
			0.2068	1217.74	455.488
		ION-2D-00-47	0.02068	1926.11	2352.23
			0.1379	978.586	457.172
			0.2068	921.385	342.77
		ION-8F-26-96	0.02068	990.827	1381.65
			0.1379	434.267	268.534
			0.2068	400.668	201.336
		ION-8D-26-96	0.02068	870.789	1081.58
			0.1379	435.106	210.212
			0.2068	408.805	157.609
		ION-8F-00-47	0.02068	961.485	1342.97
			0.1379	420.508	261.015
			0.2068	387.85	195.699
		ION-8D-00-47	0.02068	796.217	972.434

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			0.1379	404.5	188.999
			0.2068	380.852	141.704
1091 SHUD		ION-2F-26-96	0.02068	2575.47	3070.95
0404\Iona Island CBR			0.1379	1338.43	596.86
Train Spill\Pressure			0.2068	1263.75	447.503
vessel ION-10					
		ION-2D-26-97	0.02068	1966.33	2372.66
			0.1379	1010.57	461.142
			0.2068	952.873	345.747
		ION-2F-00-47	0.02068	2569.49	3158.97
			0.1379	1296.98	613.967
			0.2068	1220.16	460.329
		ION-2D-00-47	0.02068	1929.19	2358.39
			0.1379	979.184	458.368
			0.2068	921.834	343.667
		ION-8F-26-96	0.02068	972.27	1364.54
			0.1379	422.604	265.208
			0.2068	389.421	198.843
		ION-8D-26-96	0.02068	874.455	1088.91
			0.1379	435.818	211.637
			0.2068	409.339	158.677
		ION-8F-00-47	0.02068	957.587	1335.17
			0.1379	419.75	259.5
			0.2068	387.282	194.563
		ION-8D-00-47	0.02068	772.317	944.634
			0.1379	391.798	183.596
			0.2068	368.827	137.653

Supplementary data for worst-case explosion scenarios

Path	Scenario	Weather	Overpressure level [bar]	Total flammable mass [kg]	Explosion flammable mass [kg]	Ignition time [s]	Ignition source [m]	Cloud centre [m]	Explosion centre [m]
1091 SHUD 0404\Iona Island CBR Train Spill\Pressure vessel ION- 21	Leak	ION-2F- 26-96	0.02068	44469.7	n/a	1847.99	1050	374.35	1050
			0.1379	44469.7	n/a	1847.99	1050	374.35	1050
			0.2068	44469.7	n/a	1847.99	1050	374.35	1050
		ION-2D- 26-97	0.02068	20389.5	n/a	1787.44	780	259.904	780
			0.1379	20389.5	n/a	1787.44	780	259.904	780
			0.2068	20389.5	n/a	1787.44	780	259.904	780
		ION-2F- 00-47	0.02068	47482.7	n/a	1784.37	990	312.95	990
			0.1379	47482.7	n/a	1784.37	990	312.95	990
			0.2068	47482.7	n/a	1784.37	990	312.95	990
		ION-2D- 00-47	0.02068	20235.4	n/a	1735.85	750	231.93	750
			0.1379	20235.4	n/a	1735.85	750	231.93	750
			0.2068	20235.4	n/a	1735.85	750	231.93	750
		ION-8F- 26-96	0.02068	4100.82	n/a	786.699	300	94.3601	300
			0.1379	4100.82	n/a	786.699	300	94.3601	300
			0.2068	4100.82	n/a	786.699	300	94.3601	300
		ION-8D- 26-96	0.02068	1967.2	n/a	698.515	330	96.9313	330
			0.1379	1967.2	n/a	698.515	330	96.9313	330
			0.2068	1967.2	n/a	698.515	330	96.9313	330
		ION-8F- 00-47	0.02068	3765.93	n/a	748.264	290	87.7994	290
			0.1379	3765.93	n/a	748.264	290	87.7994	290

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			0.2068	3765.93	n/a	748.264	290	87.7994	290
		ION-8D-00-47	0.02068	1429.73	n/a	723.832	310	88.203	310
			0.1379	1429.73	n/a	723.832	310	88.203	310
			0.2068	1429.73	n/a	723.832	310	88.203	310
1091 SHUD		ION-2F-26-96	0.02068	45028.9	n/a	1821.26	1040	366.753	1040
0404\Iona			0.1379	45028.9	n/a	1821.26	1040	366.753	1040
Island CBR			0.2068	45028.9	n/a	1821.26	1040	366.753	1040
Train									
Spill\Pressure									
vessel ION-									
10									
		ION-2D-26-97	0.02068	20767.3	n/a	1782.69	780	258.327	780
			0.1379	20767.3	n/a	1782.69	780	258.327	780
			0.2068	20767.3	n/a	1782.69	780	258.327	780
		ION-2F-00-47	0.02068	49012.9	n/a	1781.76	990	307.444	990
			0.1379	49012.9	n/a	1781.76	990	307.444	990
			0.2068	49012.9	n/a	1781.76	990	307.444	990
		ION-2D-00-47	0.02068	20394.8	n/a	1739.43	750	230.493	750
			0.1379	20394.8	n/a	1739.43	750	230.493	750
			0.2068	20394.8	n/a	1739.43	750	230.493	750
		ION-8F-26-96	0.02068	3950.32	n/a	712.911	290	91.5134	290
			0.1379	3950.32	n/a	712.911	290	91.5134	290
			0.2068	3950.32	n/a	712.911	290	91.5134	290
		ION-8D-26-96	0.02068	2007.47	n/a	744.254	330	92.6125	330
			0.1379	2007.47	n/a	744.254	330	92.6125	330
			0.2068	2007.47	n/a	744.254	330	92.6125	330
		ION-8F-00-47	0.02068	3700.73	n/a	762.503	290	86.7431	290
			0.1379	3700.73	n/a	762.503	290	86.7431	290

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			0.2068	3700.73	n/a	762.503	290	86.7431	290
		ION-8D-	0.02068	1310.58	n/a	692.22	300	87.2303	300
		00-47	0.1379	1310.58	n/a	692.22	300	87.2303	300
			0.2068	1310.58	n/a	692.22	300	87.2303	300

Consequence Summary Report

Workspace: 1091 SHUD 0404

Study: Yonkers Collision with Tanker at Anchorage

Summary Basis

These tables will only report global values set in the parameters. Values that are modified in the study tree will not be reported.

The report is context sensitive, and filters up to the study level. You will need to generate multiple summary reports if you have multiple studies in your workspace.

Discharge Results (after atmospheric expansion)

Path	Scenario	Weather	Mass flow rate [kg/s]	Temperature [degC]	Liquid mass fraction in material [fraction]	Droplet diameter [um]	Expanded diameter [m]	Velocity [m/s]	Release duration [s]
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-21	Leak	YON-2F-26-96	489.22 2	21.4811	1	882.289	0.251744	14.9105	3600
		YON-2D-26-97	489.22 2	21.4811	1	882.289	0.251744	14.9105	3600
		YON-2F-00-47	489.22 2	21.4811	1	796.767	0.251744	14.9105	3600

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		YON-2D-00-47	489.22 2	21.4811	1	796.767	0.251744	14.9105	3600
		YON-8F-26-96	489.22 2	21.4811	1	882.289	0.251744	14.9105	3600
		YON-8D-26-96	489.22 2	21.4811	1	882.289	0.251744	14.9105	3600
		YON-8F-00-47	489.22 2	21.4811	1	796.767	0.251744	14.9105	3600
		YON-8D-00-47	489.22 2	21.4811	1	796.767	0.251744	14.9105	3600
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressur e vessel YON-10		YON-2F-26-96	494.54 2	12.7822	1	929.703	0.251744	14.8986	3600
		YON-2D-26-97	494.54 2	12.7822	1	929.703	0.251744	14.8986	3600
		YON-2F-00-47	494.54 2	12.7822	1	839.585	0.251744	14.8986	3600
		YON-2D-00-47	494.54 2	12.7822	1	839.585	0.251744	14.8986	3600
		YON-8F-26-96	494.54 2	12.7822	1	929.703	0.251744	14.8986	3600
		YON-8D-26-96	494.54 2	12.7822	1	929.703	0.251744	14.8986	3600
		YON-8F-	494.54	12.7822	1	839.585	0.251744	14.8986	3600

		00-47	2						
		YON-8D-	494.54	12.7822	1	839.585	0.251744	14.8986	3600
		00-47	2						

Dispersion Results

Input dispersion parameters

Core averaging time	18.75	s
Flammable averaging time	18.75	s
Height of interest	0	m

Distance downwind to defined concentrations

The reported concentration of interest is defined at the scenario

Path	Scenario	Weather	Material	Material to track	Concentration of interest [ppm]	Averaging time selected	Distance downwind to concentration of interest [m]
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-21	Leak	YON-2F- 26-96	Sample Gasoline	Sample Gasoline	55000	Flammable	37.2358
		YON-2D- 26-97	Sample Gasoline	Sample Gasoline	55000	Flammable	30.8315
		YON-2F- 00-47	Sample Gasoline	Sample Gasoline	55000	Flammable	33.1918
		YON-2D- 00-47	Sample Gasoline	Sample Gasoline	55000	Flammable	29.519
		YON-8F- 26-96	Sample Gasoline	Sample Gasoline	55000	Flammable	20.4687
		YON-8D-	Sample	Sample	55000	Flammable	22.1113

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		26-96	Gasoline	Gasoline			
		YON-8F-00-47	Sample Gasoline	Sample Gasoline	55000	Flammable	19.8694
		YON-8D-00-47	Sample Gasoline	Sample Gasoline	55000	Flammable	21.5014
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-10		YON-2F-26-96	Sample Gasoline	Sample Gasoline	55000	Flammable	22.165
		YON-2D-26-97	Sample Gasoline	Sample Gasoline	55000	Flammable	19.0822
		YON-2F-00-47	Sample Gasoline	Sample Gasoline	55000	Flammable	20.0288
		YON-2D-00-47	Sample Gasoline	Sample Gasoline	55000	Flammable	17.825
		YON-8F-26-96	Sample Gasoline	Sample Gasoline	55000	Flammable	16.7444
		YON-8D-26-96	Sample Gasoline	Sample Gasoline	55000	Flammable	16.4259
		YON-8F-00-47	Sample Gasoline	Sample Gasoline	55000	Flammable	16.515
		YON-8D-00-47	Sample Gasoline	Sample Gasoline	55000	Flammable	15.254

Path	Scenario	Weather	Distance to UFL [m]	Distance to LFL [m]	Distance to LFL fraction [m]
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-21	Leak	YON-2F-26-96	35.6139	619.292	914.349
		YON-2D-26-97	n/a	448.612	753.616
		YON-2F-00-47	24.4227	213.498	398.343
		YON-2D-00-47	18.3778	177.715	320.674
		YON-8F-26-96	20.4725	123.713	310.826
		YON-8D-26-96	16.3499	71.6208	250.939
		YON-8F-00-47	16.1451	53.6178	144.695
		YON-8D-00-47	15.481	59.3159	90.1669
		YON-2F-26-96	40.3685	610.878	906.092
		YON-2D-26-97	n/a	434.15	743.032
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-10		YON-2F-00-47	18.7903	181.444	359.636
		YON-2D-00-47	13.1545	141.387	283.484
		YON-8F-26-96	18.4081	111.774	297.531
		YON-8D-26-96	14.5825	48.8658	240.629
		YON-8F-00-47	15.106	45.3935	119.507
		YON-8D-00-47	12.329	49.8299	72.5648

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Jet Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Flame length [m]	Distance downwind to intensity level 1 (4 kW/m ²) [m]	Distance downwind to intensity level 2 (12.5 kW/m ²) [m]	Distance downwind to intensity level 3 (37.5 kW/m ²) [m]
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-21	Leak	YON-2F-26-96	69.8744	139.426	104.368	80.7536
		YON-2D-26-97	71.118	142.1	106.359	82.1984
		YON-2F-00-47	72.3573	152.982	112.857	86.2727
		YON-2D-00-47	73.6008	155.862	114.961	87.7646
		YON-8F-26-96	57.9093	139.164	102.274	79.543
		YON-8D-26-96	59.59	143.049	105.159	81.8033
		YON-8F-00-47	59.1802	151.396	109.188	83.9431
		YON-8D-00-47	60.7763	155.374	112.079	86.1764
1091 SHUD 0404\Yonkers		YON-2F-26-	58.3153	114.737	85.9802	66.5878

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Collision with Tanker at
Anchorage\Pressure vessel
YON-10

96

		YON-2D-26-97	59.6246	117.516	88.051	68.1987
		YON-2F-00-47	60.4105	125.561	92.8021	71.1911
		YON-2D-00-47	61.5878	128.241	94.7643	72.6982
		YON-8F-26-96	49.0712	118.622	87.0469	67.6305
		YON-8D-26-96	50.6711	122.391	89.8323	69.8057
		YON-8F-00-47	50.0942	128.707	92.7223	71.2313
		YON-8D-00-47	51.5617	132.371	95.3787	73.2815

Early Pool Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Pool diameter [m]	Distance downwind to intensity level 1 (4 kW/m2) [m]	Distance downwind to intensity level 2 (12.5 kW/m2) [m]	Distance downwind to intensity level 3 (37.5 kW/m2) [m]
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-21	Leak	YON-2F-26-96	77.5439	103.281	48.8807	n/a
		YON-2D-26-97	77.5072	103.346	48.9635	n/a
		YON-2F-00-47	82.9203	118.882	51.8431	n/a
		YON-2D-00-47	82.8791	118.947	51.9326	n/a
		YON-8F-26-96	77.1723	134.262	49.7305	n/a
		YON-8D-26-96	77.0849	134.316	49.8244	n/a
		YON-8F-00-47	82.5316	143.561	55.9492	n/a
		YON-8D-00-47	82.44	143.664	56.1227	n/a
1091 SHUD 0404\Yonkers		YON-2F-26-	78.2688	104.039	49.2992	n/a

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Collision with Tanker at
Anchorage\Pressure
vessel YON-10

96

		YON-2D-26-97	78.2392	104.157	49.4316	n/a
		YON-2F-00-47	83.7244	119.781	52.2809	n/a
		YON-2D-00-47	83.6945	119.873	52.3898	n/a
		YON-8F-26-96	78.0027	135.34	50.1724	n/a
		YON-8D-26-96	77.9376	135.419	50.299	n/a
		YON-8F-00-47	83.4466	144.789	56.4807	n/a
		YON-8D-00-47	83.3809	144.873	56.6133	n/a

Late Pool Fire Results

Distance downwind to defined radiation levels

The reported radiations are defined in the parameters

Path	Scenario	Weather	Pool diameter [m]	Distance downwind to intensity level 1 (4 kW/m2) [m]	Distance downwind to intensity level 2 (12.5 kW/m2) [m]	Distance downwind to intensity level 3 (37.5 kW/m2) [m]
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-21	Leak	YON-2F-26-96	868.862	689.613	448.843	n/a
		YON-2D-26-97	868.425	689.427	448.724	n/a
		YON-2F-00-47	840.797	771.462	433.983	n/a
		YON-2D-00-47	840.78	771.559	434.084	n/a
		YON-8F-26-96	517.394	561.796	271.95	n/a
		YON-8D-26-96	516.825	561.48	271.825	n/a
		YON-8F-00-47	838.019	893.976	435.861	n/a
		YON-8D-00-47	837.404	893.662	436.01	n/a
1091 SHUD 0404\Yonkers		YON-2F-26-	878.748	696.154	453.885	n/a

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Collision with Tanker at
Anchorage\Pressure
vessel YON-10

96

		YON-2D-26-97	878.36	696.047	453.837	n/a
		YON-2F-00-47	846.432	775.852	436.85	n/a
		YON-2D-00-47	846.282	775.86	436.899	n/a
		YON-8F-26-96	524.767	568.029	275.712	n/a
		YON-8D-26-96	524.328	567.82	275.65	n/a
		YON-8F-00-47	844.098	899.307	439.191	n/a
		YON-8D-00-47	843.745	899.171	439.184	n/a

Flash Fire Results

Distance downwind to defined concentrations

The reported LFL and LFL fraction are defined in the respective material property

Path	Scenario	Weather	Distance downwind to LFL [m]	Distance downwind to LFL Fraction [m]
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-21	Leak	YON-2F-26-96	619.292	914.349
		YON-2D-26-97	448.612	753.616
		YON-2F-00-47	213.498	398.343
		YON-2D-00-47	177.715	320.674
		YON-8F-26-96	123.713	310.826
		YON-8D-26-96	71.6208	250.939
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-10		YON-8F-00-47	53.6178	144.695
		YON-8D-00-47	59.3159	90.1669
		YON-2F-26-96	610.878	906.092
		YON-2D-26-97	434.15	743.032
		YON-2F-00-47	181.444	359.636
		YON-2D-00-47	141.387	283.484
		YON-8F-26-96	111.774	297.531
		YON-8D-26-96	48.8658	240.629
		YON-8F-00-47	45.3935	119.507
		YON-8D-00-47	49.8299	72.5648

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Maximum distance to LFL fraction at any height

Path	Scenario	Weather	Max flash fire distance [m]	Height of the max flash fire distance [m]	Time [s]
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-21	Leak	YON-2F-26-96	909.807	0	3613.04
		YON-2D-26-97	753.032	0	3543.6
		YON-2F-00-47	396.413	0	2740.33
		YON-2D-00-47	319.297	0	2257.46
		YON-8F-26-96	258.355	0	784.298
		YON-8D-26-96	219.366	0	782.721
		YON-8F-00-47	110.5	0.427785	1796.7
		YON-8D-00-47	87.1406	0.35801	668.247
	Collision with Tanker at Anchorage\Pressure vessel YON-10	YON-2F-26-96	897.409	0	3612.98
		YON-2D-26-97	740.965	0	3544.79
		YON-2F-00-47	356.798	0	2510.06
		YON-2D-00-47	282.01	0	2027.43
		YON-8F-26-96	242.558	0	785.31
		YON-8D-26-96	204.912	0	782.768
		YON-8F-00-47	120.338	0.429199	1381.07

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	YON-8D-00-47	71.0054	0	151.276
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Explosion Results

Explosion scenarios for worst-case maximum downwind distance to defined overpressures.

The reported overpressures are defined in the explosion parameters

Path	Scenario	Weather	Overpressure level [bar]	Maximum distance [m]	Diameter [m]
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-21	Leak	YON-2F-26-96	0.02068	3278.67	4797.34
			0.1379	1352.96	925.924
			0.2068	1239.48	678.954
		YON-2D-26-97	0.02068	1983.74	2507.47
			0.1379	973.672	487.344
			0.2068	912.696	365.392
		YON-2F-00-47	0.02068	1086.98	1453.96
			0.1379	502.196	264.391
			0.2068	469.902	159.804
		YON-2D-00-47	0.02068	719.547	819.094
			0.1379	389.598	159.197
			0.2068	369.68	119.359
		YON-8F-26-96	0.02068	749.797	999.594
			0.1379	347.139	194.278
			0.2068	322.831	145.662
		YON-8D-26-96	0.02068	527.744	635.488
			0.1379	271.756	123.511
			0.2068	256.302	92.6042
		YON-8F-00-47	0.02068	348.517	477.034
			0.1379	156.357	92.7148
			0.2068	144.757	69.514
		YON-8D-00-	0.02068	272.032	384.063

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		47	0.1379	117.323	74.6453
			0.2068	107.983	55.9662
1091 SHUD 0404\Yonkers		YON-2F-26-	0.02068	3245.45	4750.91
Collision with Tanker at		96	0.1379	1333.65	887.292
Anchorage\Pressure vessel			0.2068	1222.63	665.258
YON-10					
		YON-2D-26-	0.02068	1876.51	2313.02
		97	0.1379	944.775	449.551
			0.2068	888.528	337.056
		YON-2F-00-	0.02068	905.374	1170.75
		47	0.1379	440.169	220.338
			0.2068	412.6	165.201
		YON-2D-00-	0.02068	598.186	656.372
		47	0.1379	337.017	114.034
			0.2068	322.749	85.4983
		YON-8F-26-	0.02068	680.8	881.6
		96	0.1379	325.672	171.345
			0.2068	304.234	128.468
		YON-8D-26-	0.02068	312.899	305.797
		96	0.1379	217.927	35.8533
			0.2068	213.441	26.8815
		YON-8F-00-	0.02068	352.825	505.65
		47	0.1379	154.169	88.3371
			0.2068	143.116	66.2318
		YON-8D-00-	0.02068	226.496	312.993
		47	0.1379	100.416	60.8323
			0.2068	92.8049	45.6097

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Supplementary data for worst-case explosion scenarios

Path	Scenario	Weather	Overpressure level [bar]	Total flammable mass [kg]	Explosion flammable mass [kg]	Ignition time [s]	Ignition source [m]	Cloud centre [m]	Explosion centre [m]
1091 SHUD 0404\Yonkers Collision with Tanker at Anchorage\Pressure vessel YON-21	Leak	YON-2F-26-96	0.02068	170389	n/a	3346.65	880	325.36	880
			0.1379	166865	n/a	3425.07	890	4	890
			0.2068	156096	n/a	3519.46	900	330.44	900
								4	
								340.10	
								4	
		YON-2D-26-97	0.02068	24330.2	n/a	3301.13	730	272.93	730
			0.1379	24330.2	n/a	3301.13	730	1	730
			0.2068	24330.2	n/a	3301.13	730	272.93	730
								1	
								272.93	
								1	
		YON-2F-00-47	0.02068	4743.44	n/a	1813.65	360	140.01	360
			0.1379	3884.9	n/a	1947.39	370	1	370
			0.2068	2035.33	n/a	2276.96	390	137.35	390
								6	
								120.96	
								5	
		YON-2D-00-47	0.02068	848.086	n/a	1792.46	310	92.817	310
			0.1379	848.086	n/a	1792.46	310	5	310
			0.2068	848.086	n/a	1792.46	310	92.817	310
								5	
								92.817	

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								5	
		YON-8F-	0.02068	1541.38	n/a	756.259	250	47.655	250
		26-96	0.1379	1541.38	n/a	756.259	250	7	250
			0.2068	1541.38	n/a	756.259	250	47.655	250
								7	
								47.655	
								7	
		YON-8D-	0.02068	396.06	n/a	743.822	210	9.6677	210
		26-96	0.1379	396.06	n/a	743.822	210	4	210
			0.2068	396.06	n/a	743.822	210	9.6677	210
								4	
								9.6677	
								4	
		YON-8F-	0.02068	167.528	n/a	1714.52	110	7.6919	110
		00-47	0.1379	167.528	n/a	1714.52	110	5	110
			0.2068	167.528	n/a	1714.52	110	7.6919	110
								5	
								7.6919	
								5	
		YON-8D-	0.02068	87.427	n/a	36.9099	80	29.577	80
		00-47	0.1379	87.427	n/a	36.9099	80	5	80
			0.2068	87.427	n/a	36.9099	80	29.577	80
								5	
								29.577	
								5	
1091 SHUD		YON-2F-	0.02068	165489	n/a	3381.65	870	322.03	870
0404\Yonkers		26-96	0.1379	146838	n/a	3547.29	890	6	890
Collision with			0.2068	146838	n/a	3547.29	890	337.37	890

Tanker at
Anchorage\Pressur
e vessel YON-10

4
337.37
4

		YON-2D- 26-97	0.02068 0.1379 0.2068	19097.4 19097.4 19097.4	n/a n/a n/a	3322.57 3322.57 3322.57	720 720 720	265.92 1 265.92 1	720 720 720
		YON-2F- 00-47	0.02068 0.1379 0.2068	2476.44 2248.57 2248.57	n/a n/a n/a	1775.91 1881.09 1881.09	320 330 330	114.64 8 112.56 2 112.56 2	320 330 330
		YON-2D- 00-47	0.02068 0.1379 0.2068	436.404 311.703 311.703	n/a n/a n/a	1728.39 1908.87 1908.87	270 280 280	64.905 7 58.175 9 58.175 9	270 280 280
		YON-8F- 26-96	0.02068 0.1379 0.2068	1057.43 1057.43 1057.43	n/a n/a n/a	776.892 776.892 776.892	240 240 240	47.233 8 47.233 8 47.233 8	240 240 240
		YON-8D-	0.02068	44.1305	n/a	604.656	160	20.021	160

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		26-96	0.1379	9.68786	n/a	763.288	200	2	200
			0.2068	9.68786	n/a	763.288	200	24.901	200
								2	
								24.901	
								2	
		YON-8F-	0.02068	199.52	n/a	1075.65	100	12.114	100
		00-47	0.1379	144.9	n/a	1213.34	110	4	110
			0.2068	144.9	n/a	1213.34	110	9.7345	110
								4	
								9.7345	
								4	
		YON-8D-	0.02068	47.3196	n/a	26.921	70	24.963	70
		00-47	0.1379	47.3196	n/a	26.921	70	8	70
			0.2068	47.3196	n/a	26.921	70	24.963	70
								8	
								24.963	
								8	