

HAMS-GPS : Fire Module






[Licensed to : HAMSAGARS]

Date : Monday, September 16, 2013

Data Entered

Reference No. : Ethyl mercaptan
 Name of Chemical : Ethyl mercaptan-1
 Scenario : 2. Drums on site unloading manifold failure liquid spill free spread pool Fire
 Pool radius (m) : 37.94
 Atmospheric stability class : D
 Terrain : Level
 Rate of Released (g/Sec) : 10030

Results

			Distance(m) Radial From Flame	Distance(m) along Ht simulation	Effect of IHR
Maximum IHR at Flame Centre Height (kW/m2)	168.94				
Maximum IHR at height of simulation (kW/m2)	168.94				
IHR (KW/m2) for First Isopleth :	37.5		73.80	55.07	Damage to process equipment. 100% fatal in 1 min. 1% fatal in 10 Sec.
IHR (KW/m2) for Second Isopleth :	25		83.54	67.57	Min to ignite wood (without flame contact). 100% fatal in 1 min. Significant injury in 10 Sec.
IHR (KW/m2) for Third Isopleth :	12.5		107.46	95.57	Min to ignite wood (with flame contact). 1% fatal in 1 min. First degree burn in 10 Sec.
IHR (KW/m2) for Fourth Isopleth :	4		176.06	169.07	Pain after 20 Secs. Blistering unlikely.
IHR (KW/m2) for Fifth Isopleth :	1.6		272.04	267.57	No discomfiture even on long exposure.
Flame Burnout Time (Secs)	1.11				
Heat Flux (Kw/m2)	53.65				
Flame width (m):	50.14				
Flame length (m)	100.27				
Flame centre length (m)	50.14				
Flame Tilt Angle due to wind (deg.)	0.0001				
Flame lift-off from source (m)	N.A.				

HAMS-GPS : Fire Module

[Licensed to : HAMSAGARS]

Date : Monday, September 16, 2013

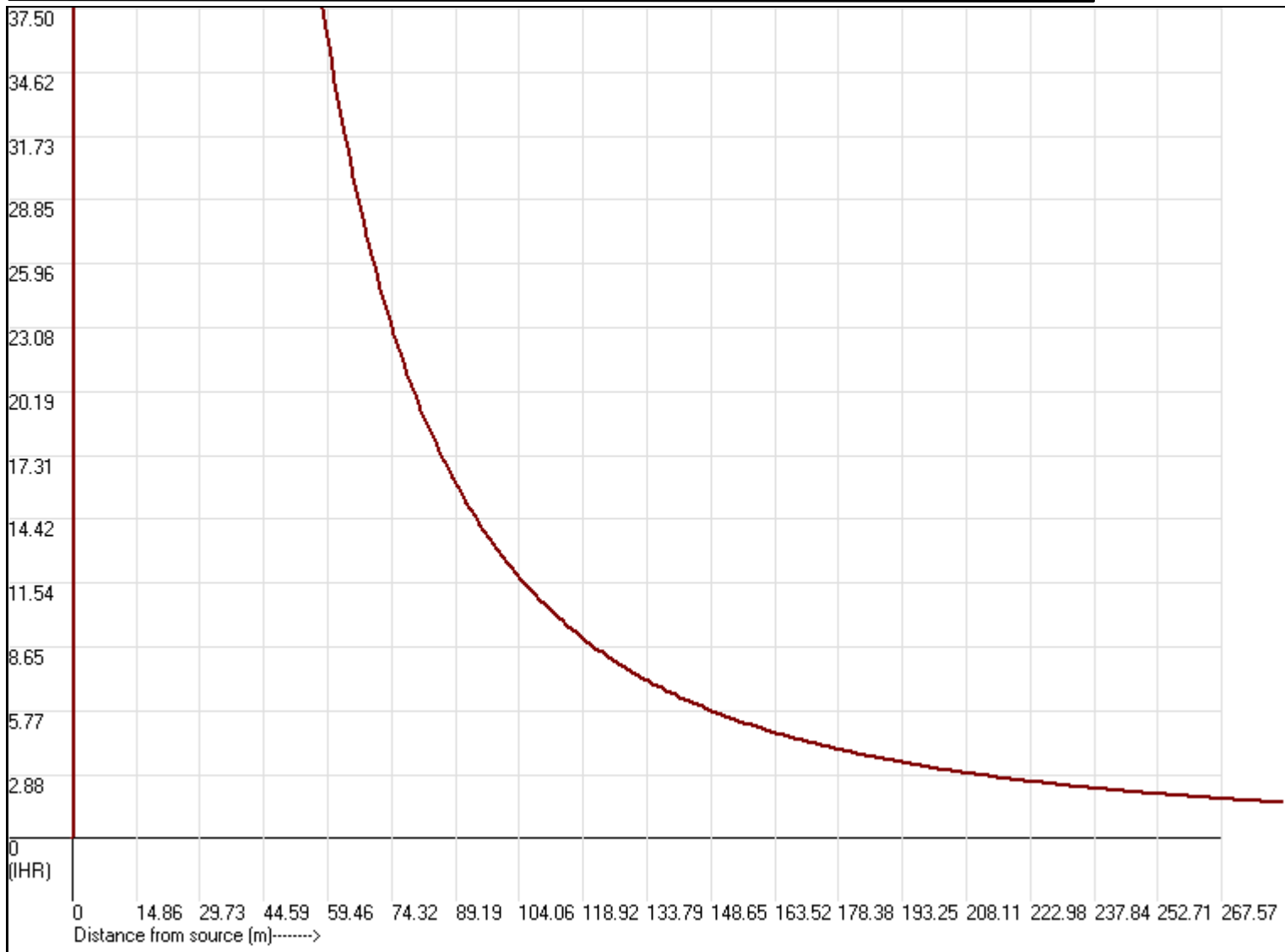
Scenario : 2. Drums on site unloading manifold failure liquid spill free spread pool Fire

Wind orientation selected :1

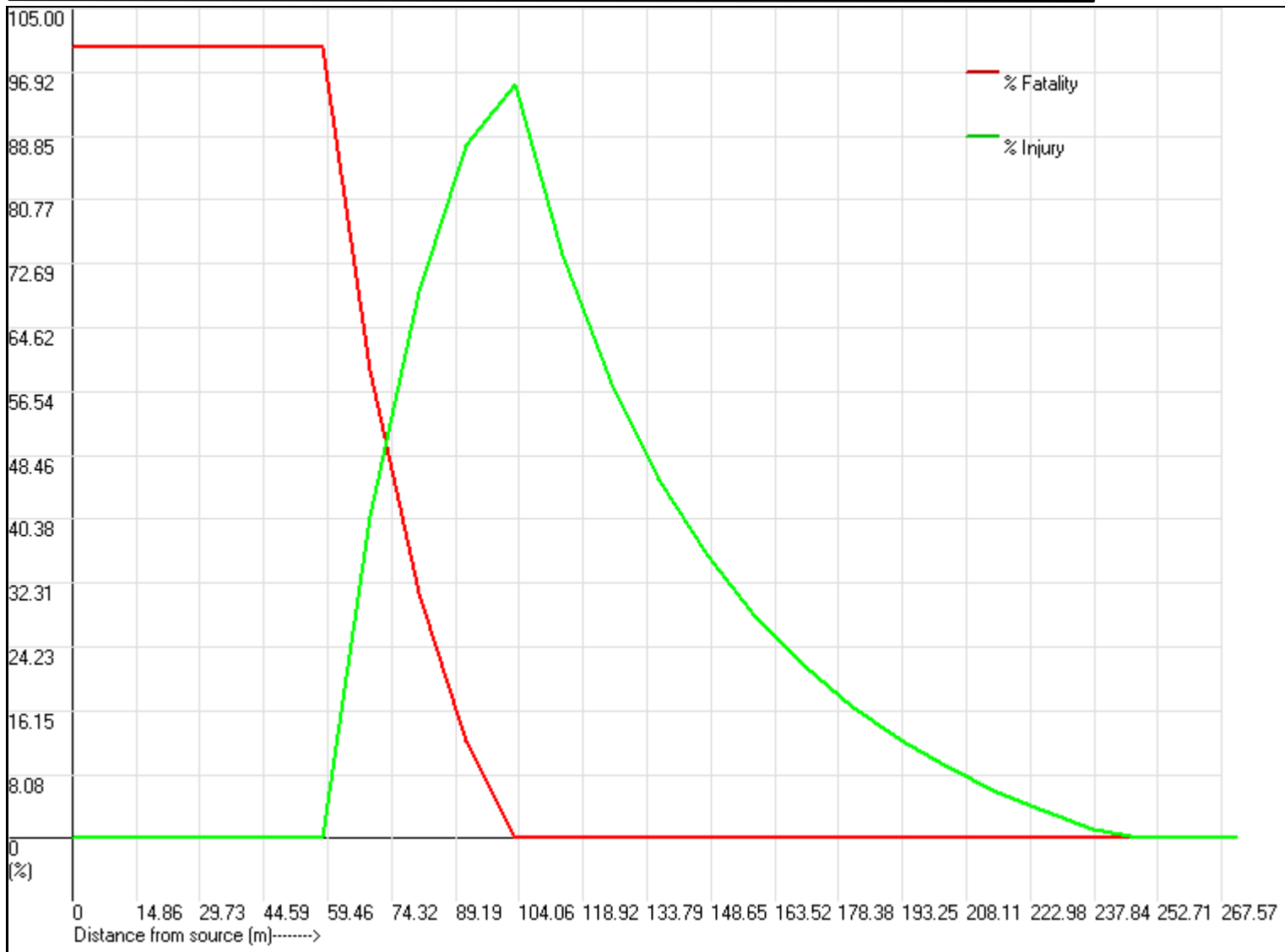
Probit Table and Absolute Fatality/Injury (At height of simulation)

Distance (m)	IHR (kW/m ²)	Dose (Kwh/m ²)	% Fatality	% Injury	Area (Ha)	Injury Type	Secondary Fire	Absolute	
								Fatality No.	Injury No.
55.07	37.85	47.98	100	0	0.953	Fatal	Wood Ignited	42.885	0.000
65.695	26.6	32.53	59.35	40.65	0.403	Signif.Injury	Wood Ignited	10.763	7.372
76.32	19.71	23.5	30.98	69.02	0.474	1st.deg.Burn	Wood Ignited	6.608	14.722
86.945	15.19	17.78	12.36	87.64	0.545	1st.deg.Burn	Wood Ignited	3.031	21.494
97.57	12.06	13.92	0	84.59	0.616	Pain	Unlikely	0.000	23.448
108.195	9.81	11.19	0	73.77	0.687	Pain	Unlikely	0.000	22.806
118.82	8.13	9.2	0	57.60	0.758	Pain	Unlikely	0.000	19.647
129.445	6.85	7.69	0	45.29	0.829	Pain	Unlikely	0.000	16.895
140.07	5.85	6.53	0	35.67	0.900	Pain	Unlikely	0.000	14.446
150.695	5.06	5.61	0	28.07	0.971	Pain	Unlikely	0.000	12.265
161.32	4.41	4.87	0	21.82	1.041	Pain	Unlikely	0.000	10.222
171.945	3.88	4.27	0	16.72	1.112	Pain	Unlikely	0.000	8.367
182.57	3.44	3.77	0	12.48	1.183	Pain	Unlikely	0.000	6.644
193.195	3.08	3.36	0	9.02	1.254	Pain	Unlikely	0.000	5.090
203.82	2.76	3.01	0	5.94	1.325	Pain	Unlikely	0.000	3.542
214.445	2.5	2.71	0	3.44	1.396	Pain	Unlikely	0.000	2.161
225.07	2.27	2.46	0	1.23	1.467	Pain	Unlikely	0.000	0.812
235.695	2.07	2.23	0	0	1.538	Pain	Unlikely	0.000	0.000
246.32	1.89	2.04	0	0	1.609	Pain	Unlikely	0.000	0.000
256.945	1.74	1.87	0	0	1.680	Pain	Unlikely	0.000	0.000

IHR profile



Fatality and Injury profile



Scale:- 1 : 19.11 m

