DRIFT FLAT TERRAIN DISPERSION MODELLING RESULTS

Table A1 presents the results of the flat terrain dispersion modelling using the DRIFT and EJECT software codes. DRIFT is a 'state-of-the-art' integral dense gas dispersion model and is able to simulate the dispersion of aerosols. The DRIFT model provides a smooth transition from the near field buoyancy-dominated dispersion phase to the far field passive dispersion phase.

EJECT is a 'state-of the art' model for the prediction of the near-field dispersion of jet releases. Like DRIFT, EJECT can also simulate dense, aerosol releases and provides a seamless interface with DRIFT at the end of the momentum-driven dispersion phase. The EJECT model has been used to assess the significance of the initial momentum-dominated dispersion phase of chlorine releases from 1 tonne containers.

Based on the results in *Table A1, Figures A1 and A2* show the relationship between the chlorine hazard range and release rate/quantity of chlorine.

Table A1 ***DRIFT Flat Terrain Dispersion Modelling Results***

Release case	Weather class	Downwind distance to LD90 (metres)	Downwind distance to LD50 (metres)	Downwind distance to LD03 (metres)
DRIFT Results				
0.2 kg/s continuous	B2	70	89	128
	D2	86	119	182
	D5	48	65	105
	F2	135	190	320
1.4 kg/s continuous	B2	184	234	323
	D2	268	362	550
	D5	150	200	310
	F2	460	650	1120
1 tonne instantaneous	B2	293	350	470
	D2	325	425	600
	D5	300	400	600
	F2	400	550	800
3 tonne instantaneous	D2	586	735	1044
	D5	498	661	968
10 tonne instantaneous	D2	1004	1286	1790
	D5	855	1136	1658
DRIFT + EJECT Results				
1.4 kg/s continuous	D5	181	236	360
	F2	491	770	1380

Figure A1 Downwind distance to 3% fatality vs continuous release rate (aerosol releases)

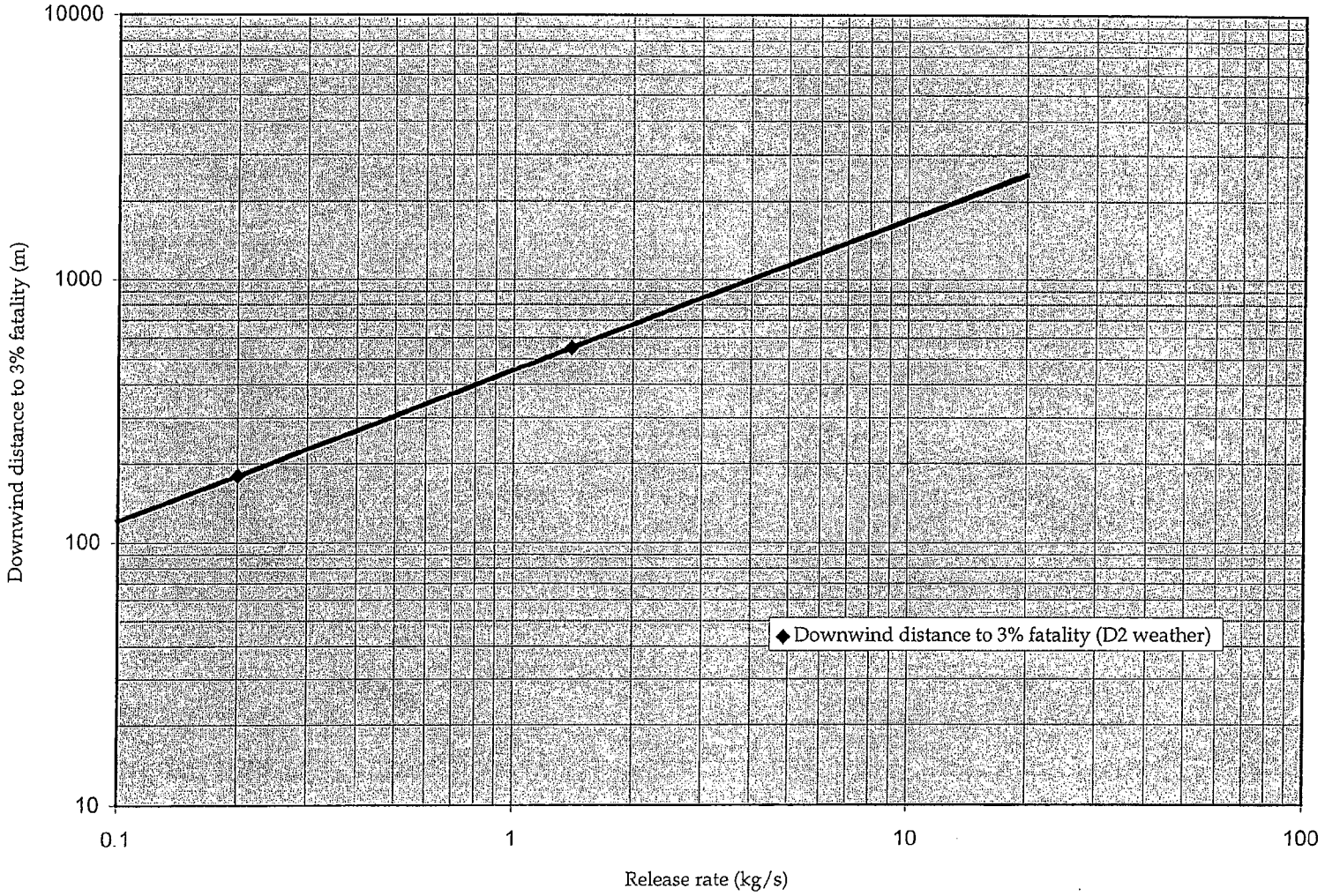

Figure A2 Downwind distance to 3% fatality vs instantaneous release quantity