

# ToxGenie Point Estimation Report

Report Date: 2026-06-28 09:32:39

<b>Study Title:</b> Daphnia magna Acute Immobilisation Test			
<b>Analysis Method:</b> Logit Method (Example A)			
<b>Study No.:</b>	Sample-123	<b>Test Material:</b>	Test Chemical
<b>Test Species:</b>	Daphnia magna	<b>Test Medium:</b>	Elendt M4

**Table 1. Data Summary for Logit Method**

(Unit: mg/L)

Dose	log10 Dose	No. Exposed	No. Responding	Proportion
Control	Control	10	0	0.0000
1.8	0.2553	10	0	0.0000
3.2	0.5051	10	2	0.2000
5.6	0.7482	10	4	0.4000
10	1.0000	10	9	0.9000
18	1.2553	10	10	1.0000

(nan: not-a-number, inf or -inf: positive or negative infinity)

**Table 2. Logit Regression Summary on the test data**

Dep. Variable:	Proportion	No. Observations:	5.0
Model:	GLM	Df Residuals:	48.0
Model Family:	Binomial	Df Model:	1.0
Link Function:	Logit	Scale:	1.0
Method:	IRLS	Log-Likelihood:	-11.007
Date:	Sun, 28 Jun 2026	Deviance:	1.595
Time:	09:32:39	Pearson chi2:	1.36
No. Iterations:	6	Pseudo R-squ. (CS):	0.9995
Covariance Type:	nonrobust	nan	nan

nan	coef	std err	z	P> z	[0.025	0.975]
const	-6.1545	1.709	-3.600	0.000	-9.505	-2.804
log10 Dose	8.2005	2.204	3.721	0.000	3.881	12.520

**Abbreviations & Definitions:**

**[Model Fit]**

- R-squared: Coefficient of determination (Goodness of fit), Adj. R-squared: Adjusted for predictors
- F-statistic: Test for overall significance, Prob (F): P-value for F-statistic
- AIC: Akaike Information Criterion, BIC: Bayesian Information Criterion (Lower is better)
- Log-Likelihood: Natural logarithm of the Likelihood function

**[Coefficients]**

- Coef: Regression Coefficient, Std err: Standard Error of the coefficient
- t: t-statistic (Coef / Std err), P>|t|: P-value (two-tailed significance test)
- [0.025 0.975]: 95% Confidence Interval for the coefficient

**[Residual Diagnostics]**

- Omnibus / Prob(Omnibus): Test for normality of residuals
- Jarque-Bera (JB) / Prob(JB): Test for normality (based on Skew/Kurtosis)
- Skew: Measure of asymmetry, Kurtosis: Measure of 'tailedness'
- Durbin-Watson: Test for autocorrelation (Value ~ 2.0 indicates no autocorrelation)
- Cond. No.: Condition Number (Measure of multicollinearity)n

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Table 3. Point Estimates by Logit Analysis

(Unit: mg/L)

Level	Estimates	95% Lower Confidence Limit	95% Upper Confidence Limit
EC10	3.0378	1.3533	4.1196
EC20	3.8146	2.1361	4.9658
EC25	4.1356	2.4923	5.3469
EC30	4.4379	2.8373	5.7329
EC40	5.0241	3.5075	6.5838
EC50	5.6299	4.1647	7.6484
EC60	6.3088	4.8260	9.1042
EC70	7.1421	5.5302	11.2795
EC75	7.6643	5.9241	12.8523
EC80	8.3091	6.3736	15.0078
EC90	10.4338	7.6729	23.7187

Note: The 95% Confidence Intervals (Fiducial Limits) were calculated using Fieller's Theorem (Finney, 1971).

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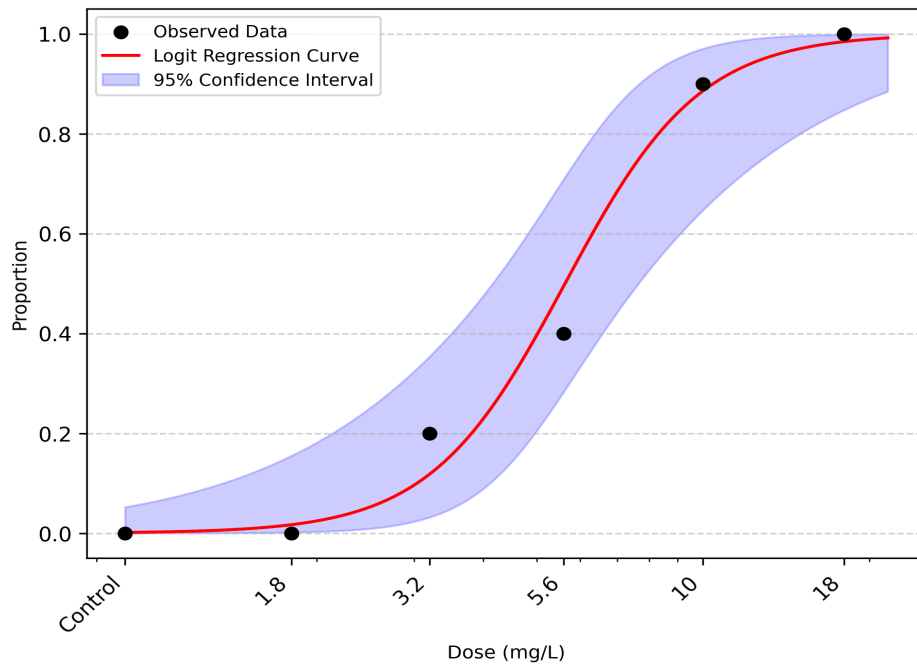


Figure 1. Dose-response curve of the Example A versus the dose.

Analyst: ToxGenie