

EVE 290
Introduction to Environmental Engineering

HW #9

An acute toxicity study has been conducted on laboratory rats in an effort to predict human health effects associated with 2 chemicals, XJ-5 and RU-37. Results of the experiment (after forty-eight hours) are provided below.

XJ-5 Dose (mg/kg body weight)	#rats given dose	#dead
0.005	250	0
0.05	239	10
0.5	210	39
5	145	124
50	98	96

RU-37 Dose (mg/kg body weight)	#rats given dose	#dead
0.005	247	0
0.05	252	0
0.5	100	30
5	62	47
50	120	100

- a. Plot the dose-response curves on the same set of axes.
- b. Identify NOAEL, LOAEL, threshold, and RfD
- c. Determine LD₅₀ for each chemical.
- d. Which chemical is more toxic?