

CH3041 Tutorial 7

Toxicology, Nuclear and Energy Chemistry

Name:

1. Describe the toxicity characteristics and give an example of each of the following toxicants:

chronic systemic poison

acute local poison

xenobiotic substance

carcinogenic substance

2. Explain the following toxicological terms LD_{50} , EC_{50} and banded toxicity data. How are these different methods used to assess the risk of chemicals to exposed individuals.

3. Not all nuclides are kinetically stable. Give 2 examples of nuclides that are radioactive and 1 example of a stable nuclide. For the radionuclides you have chosen show the method of decay and explain why the nuclide is not stable.
4. **Ethanol** and **Biodiesel** are alternative fuels that may be used in the automobile industry.
- Provide an illustrative molecular formulae for each of these fuels and the fossil fuels petrol and diesel.
 - Explain the advantages/disadvantages of using ethanol and biodiesel when compared with fossil fuels.