

KSU – Chemical Engineering Department
ChE 418 (Chemical Plant Economics and Safety) – TUT #1 (Process Safety)
Name: _____ ID: _____ SN: _____

1. What is the difference between the classical concept of safety and the modern one?

2. Consider the Flixborough disaster occurred on June 1, 1974 in England. A temporary bypass pipe (containing cyclohexane at 150°C and 1 MPa) ruptured, possibly as a result of a fire on a nearby pipe which had been burning for nearly an hour. Within a minute, about 40 tons of the plant's 400 tons store of cyclohexane leaked from the pipe and formed a vapor cloud 100–200 meters in diameter. The cloud, on coming in contact with an ignition source (probably a furnace at a nearby hydrogen production plant) exploded, completely destroying the plant.

Identify the initiation, propagation, and termination steps for that accident.