Answer on Question #50643, Chemistry, Other

Task:

Green chemistry: challenges and solution with 10 examples

Answer:

Green chemistry is a philosophy, which encourages the design of sustainable processes which minimize the usage of hazardous substances.

1) Water treatment by biological principles with avoidance of chemicals
2) Catalytic process metathesis – uses less energy and has the potential to reduce greenhouse gases emissions for a number of key processes.
3) Production of computer chips from supercritical CO_2, which reduces the need of chemicals, energy and water.
4) Producing of biodegradable plastic from the material sourced from the waste.
5) Using a mixture of soya oil and sugar to replace alkyd solvents in paints.
6) Advanced phosphorus removal from sewage (struvites) to avoid the water basins pollution and substitute the conventional phosphorus mining.
7) Syngas production from organic waste to substitute the burning of fossil fuel.
8) CO_2 capture for the further usage in the oil mining.
9) H_2SO_4 production from the industrial flue gas desulphurization (FGD) complexes.
10) Valuable metals recovery (electrolysis) from the electronic waste.