

Name:

Chapter 10 Review Quiz

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- ☐ 1. Which of the following is an incorrect statement about MSDS sheets?
- They contain the correct IUPAC name, common names and chemical formula of the substance.
 - They contain precautions for safe use of the substance.
 - They can only be accessed through chemical supply companies.
 - They contain information on first aid procedures and consequences of misuse.
- ☐ 2. General safety precautions for use of organic chemicals in laboratory classrooms should include:
- using chemicals on lab benches, with lab coats and safety glasses.
 - using chemicals in a fume hood if available, so personal protective equipment is not required.
 - using chemicals on lab benches, with lab coats, safety glasses and gloves.
 - using chemicals in a fume hood if available, with lab coats, safety glasses and gloves.
- ☐ 3. Which of the following describes methods of exposure to organic chemicals?
- Inhalation, being in the same room as chemicals, eating and drinking after using chemicals
 - Inhalation of chemical vapours, absorption through the skin, ingestion
 - Eating and drinking after using chemicals, handling containers containing organic chemicals
 - Absorption through the skin, eating and drinking after using chemicals
- ☐ 4. Correct disposal of organic chemicals involves:
- washing down the sink with large volumes of water.
 - placing into plastic bags and into a rubbish bin.
 - collection into a waste container for professional disposal.
 - collection into a waste container for lab staff or teachers to wash down the sink.
- ☐ 5. Propene is reacted with hydrogen in a hydrogenation reaction. Which of the following identifies the product and reaction conditions required?
- Product: propane Reaction conditions: metal catalyst, heat and pressure
 - Product: ethane and methane Reaction conditions: metal catalyst, heat and pressure
 - Product: ethane and methane Reaction conditions: metal catalyst
 - Product: propane Reaction conditions: metal catalyst
- ☐ 6. Which of the following equations shows a balanced equation for the complete combustion of hexane?
- $\text{C}_6\text{H}_{12}(\text{l}) + 9\text{O}_2(\text{g}) \rightarrow 6\text{CO}_2(\text{g}) + 6\text{H}_2\text{O}(\text{l})$
 - $\text{C}_6\text{H}_{12}(\text{l}) + 6\text{O}_2(\text{g}) \rightarrow 6\text{CO}(\text{g}) + 6\text{H}_2\text{O}(\text{l})$
 - $2\text{C}_6\text{H}_{14}(\text{l}) + 19\text{O}_2(\text{g}) \rightarrow 12\text{CO}_2(\text{g}) + 14\text{H}_2\text{O}(\text{l})$
 - $\text{C}_6\text{H}_{14}(\text{l}) + 19\text{O}_2(\text{g}) \rightarrow 6\text{CO}_2(\text{g}) + 7\text{H}_2\text{O}(\text{l})$
- ☐ 7. The process of producing margarine from edible liquid oils is called:
- hydrogenation and results in double bonds being broken to form a more unsaturated molecule.
 - hydrogenation and requires a nickel catalyst and heat.
 - hydration and requires a nickel catalyst and heat.
 - hydration and results in double bonds being broken to form a more saturated molecule.
- ☐ 8. When bromine is added to 1-butene, the product is:

- a. 1,2-dibromobutane.
- b. 1,2-dibromobutene.
- c. 1-bromobutane.
- d. 2-bromobutane.

- ☐ 9. When water is added to ethene:
- a. ethanol forms in the presence of a metal catalyst.
 - b. ethane and hydroxide ions form as products in the presence of a dilute sulfuric acid catalyst.
 - c. ethanol forms in the presence of a dilute sulfuric acid catalyst.
 - d. ethanol forms, no catalyst is required due to the reactivity of the double bond.
- ☐ 10. When HCl is added to ethyne, the product formed is:
- a. 1,2-dichloroethane.
 - b. chloroethane.
 - c. chloroethene.
 - d. 1,2-dichloroethene.
- ☐ 11. Markovnikoff's rule says that when HBr is added to propene, the product will be:
- a. propane because multiple HBr molecules will result in 2 hydrogen atoms adding to the propene molecule.
 - b. 1,2-bromopropane because multiple HBr molecules will result in 2 bromine atoms adding to the propene molecule.
 - c. 1-bromopropane because the bromine adds to the end carbon as it has a greater number of hydrogens on it.
 - d. 2-bromopropane because the hydrogen adds to the end carbon as it has a greater number of hydrogens on it.
- ☐ 12. When methane is reacted with bromine, which of the following will occur?
- a. A series of four reactions eventually results in the formation of tetrabromomethane.
 - b. Tetrabromomethane forms immediately if UV light is present.
 - c. A series of four reactions eventually results in the formation of tetrabromomethane if UV light is present.
 - d. Tetrabromomethane forms immediately without the need for UV light.
- ☐ 13. Incomplete combustion:
- a. results in the production of more moles of carbon dioxide per mole of fuel combusted.
 - b. results in less energy produced per mole of fuel combusted.
 - c. results in more energy produced per mole of fuel combusted.
 - d. results in the production of the harmless gas carbon monoxide.
- ☐ 14. Crude oil is separated into its components in a process called:
- a. fractional distillation.
 - b. catalytic cracking.
 - c. thermal cracking.
 - d. functional distillation.
- ☐ 15. The purpose of catalytic cracking is to:
- a. split crude oil into the different components.
 - b. break down large hydrocarbon molecules into smaller hydrocarbon molecules.
 - c. add smaller hydrocarbon molecules to form larger hydrocarbon molecules.
 - d. convert small hydrocarbon alkanes into alkenes.
- ☐ 16. Which of the following is not a possible consequence of the mining, transport and use of crude oil?
- a. the enhanced greenhouse effect
 - b. oil spills from transport tankers
 - c. damage to the ozone layer
 - d. environmental damage from mining operations
- ☐ 17. The enhanced greenhouse effect:
- a. has resulted in lower overall average temperatures across the planet.

- b. is a natural part of the Earth's temperature regulation system.
- c. results in more heat energy being trapped in the Earth's atmosphere.
- d. is caused by increased heat energy from the Sun being let into the Earth's atmosphere.

▼ 18. Which of the following is not a consequence of the enhanced greenhouse effect?

- a. ocean acidification and loss of coral reefs
- b. higher average yearly temperatures
- c. shrinkage of permanent ice and resulting increase in sea levels
- d. more ice forming in the Arctic due to extreme winter weather events

▼ 19. Which of the following is in use to try and reduce carbon dioxide emissions?

- a. collection and storage of all gases from power stations
- b. storage of carbon dioxide underground in a process called sequestration
- c. incomplete combustion of coal in power stations
- d. development of synthetic coal that releases less carbon dioxide per kilogram of coal combusted

▼ 20. Polymer pollution:

- a. is not an issue as most polymers are biodegradable.
- b. is not an issue as most polymers break down within a few years.
- c. is an issue as we do not recycle any form of polymer.
- d. is an issue as we do not recycle all forms of polymers.

