

SECTION REVIEW

Assess Your Learning

Key Concept Review

1. Why is it important for pollution chemists to know about prevailing winds?
2. Match the words in column A with their synonyms or definitions in column B.

Column A

dispersion
dilution
biodegradation
photolysis

Column B

degradation caused by light
scattering
break up by living things
reduction in concentration

3. Why should an aerosol container be completely emptied before it is discarded?
4. You have designed a new insecticide. In order for your new insecticide to be sold to the public, what information would be required by government regulations?
5. Describe three factors that affect biodegradation.

Connect Your Understanding

6. Explain why you must be very careful when storing oxidizers such as hydrogen peroxide.
7. Why is it bad practice to throw household chemicals such as bleach on garden soil?
8. Look at Figure 3.23. Some hazardous household products are being transported in an unsafe manner. List as many things as you can that are wrong or unsafe in this picture. Then suggest better, safer ways to transport or handle these products.



Figure 3.23 Question 8

9. Why is it important that chemicals used in the classroom be labelled?
10. What types of information are found on MSDS documents?

Extend Your Understanding

11. Choose two of the substances listed below and write a paragraph or draw a series of pictures to show how each affects living things.
nitrogen compounds
mercury
oil
selenium
12. An old gasoline storage depot is torn down, and the land is used for a children's playground. Later, it is discovered that the soil in the playground is contaminated with lead. What clean-up program would you suggest to the town?
13. Suppose that you have just finished using a poisonous zinc solution to preserve a wood deck.
 - a) How would you dispose of the leftover product and the tools that you used? Are there any risks in the method that you chose?
 - b) If the leftover product were going to be stored, how and where would you suggest storing it?

**Focus
On****SOCIAL AND ENVIRONMENTAL CONTEXT**

Chemicals exist naturally everywhere on Earth. However, human activities can introduce other potentially harmful chemicals to the environment. Decisions on developing and using chemicals should be based on a variety of considerations. These include social, environmental, ethical, and economic concerns. Answer the following questions, and use examples from this section to support your answers.

1. Write a statement that expresses an economic viewpoint in favour of few restrictions on the transport of crude oil.
2. Write a statement that expresses an environmental viewpoint in favour of strict government controls on the transport of crude oil.
3. Testing indicates that the soil in a new subdivision is contaminated with lead. Identify the types of viewpoints expressed in the following comments made by residents in the area. (Hint: Are they worried about health, economic considerations, the environment, ethics?)
 - a) "I am worried about my three young children developing serious nerve problems."
 - b) "I think that the people responsible for the lead problem should pay for the clean-up."
 - c) "I am very concerned about property values going down."
 - d) "I think that more testing should be done so that all of the problem areas can be identified."
 - e) "My family is interested in finding out the various methods that can be used to reduce the concentration of lead."

