

Skills and Strategies

- Processing and Analyzing
- Evaluating
- Communicating

What You Need

- Safety in Your Science Classroom on pages xiv–xvii
- Internet access
- several copies of an SDS

Explore Safety Data Sheets

Under the WHMIS 2015 system, each chemical has a Safety Data Sheet (SDS). The SDS lists information about the properties of the chemical, as well as instructions about how to handle and store it safely. For example, your teacher may use a concentrated hydrochloric acid, such as 37% hydrochloric acid, to make the solutions you use in class. Because it is reactive and corrosive, this acid has many safety precautions associated with its use. A portion of an SDS for concentrated hydrochloric acid is shown below.

A1 Chemical Company
Safety Data Sheet (SDS)
Version 5.4
Revision Date 05/17/2016
Print Date 07/20/2016

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Hydrochloric acid 37%

Brand: A1

Product use: For research purposes

Supplier: A1 Chemical Company

Manufacturer: Acme Chemical Manufacturer

Telephone: (555) 555-5555



2. HAZARDS IDENTIFICATION

Emergency Overview

WHMIS Classification
E Corrosive Material Corrosive

GHS Classification
Corrosive to metals (Category 1)
Skin corrosion (Category 1B)
Serious eye damage (Category 1)
Specific target organ toxicity – single exposure (Category 3), Respiratory system

GHS Label elements, including precautionary statements

Pictogram:  

Signal word: Danger

Question

What is an SDS and how is it meant to be interpreted and used?

Procedure

1. Work in small groups. Each group will be given several copies of the SDS of a particular hazardous material. (If possible, your teacher will also provide a sample of the material for your reference.)
2. Read the procedure and divide up tasks among group members.
3. Research and answer the following questions about SDSs in general.
 - What are the purposes of an SDS?
 - What types of materials are required to have an SDS?
 - How is the information on an SDS categorized?
4. Research and answer the following questions about your SDS.
 - What is the name of your material?
 - Where and how is the material used?
 - What are the chemical and physical properties of your material?
 - What first-aid measures are recommended if one of the following occurs:
 - inhalation
 - skin contact
 - eye contact
 - ingestion
 - What precautions are listed for safe handling and storage?
5. Each member of the group must come up with at least one additional question about your assigned material or about SDSs in general that arose from the research. Do additional research to answer your questions.

Process and Analyze

1. Within your group, share the results of your research. How do the chemical and physical properties of your material affect the safety measures listed on the SDS?
2. Which sections on the SDS are most relevant to you as a student in a high school science classroom?

Communicate

3. Give each member of your group a number. For a group of five, for example, give each person a unique number from one to five. Have all the like numbers in the classroom gather in groups. Be sure there is one person from each of the original groups in each new group.
4. In the new groups, take turns sharing what you learned about your assigned material and its SDS.
5. From a First Peoples perspective, safe interactions with the natural world may be seen as part of our reciprocal relationships with the universe. How does understanding and following safety procedures show respect for the interconnectedness of life?

