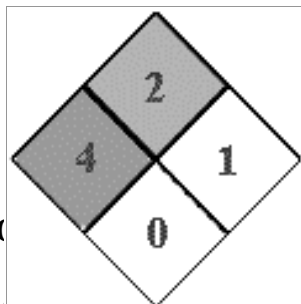


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## "What's On The Label?"

CC  
Material Safety Data Sheets (MSDS) for household chemicals.

### NATIONAL SCIENCE STANDARDS:

A	B	C	D	E	F	G

### BACKGROUND:

Students need to be aware of potential dangers when working with chemicals.

This activity deals with some of the information that is available to help in maintaining a safe classroom. In particular, the activity uses material safety data sheets (MSDSs) which were enacted in 1985 by OSHA for use with industrial chemicals.

### OBJECTIVES:

1. Students will be able to identify chemicals used in household products.
2. Students will be able to use MSDSs to identify hazardous components of commonly used household products.

**GRADE LEVEL:** 6 – 9

### ESTIMATED TIME:

One to three, 45 minute classes, depending on whether teacher provides MSDSs

or

whether students obtain them as part of the activity. ie. MSDSs are readily

available

on the internet and may be located using internet search engines. One example is

<http://www.ilpi.com/msds/index.shtml>.

### **MATERIALS (for 30 students):**

- One complete set of MSDS sheets or student access to internet
- Student Activity sheets – see page 13 - “What’s On The Label?”
- Blank MSDSs for student use – see page 14 .
- Ream of paper, markers, and colored pens (for extension activities)

### **PROCEDURE:**

★ **NOTE: All classroom activities must be performed in a manner that follows your school district’s safety guidelines. It is each teacher’s responsibility to determine if this activity is appropriate for your classroom. Students must wear goggles when doing this activity.**

1. Assign data sheet similar to the sample “What’s on The Label?” as a homework assignment. Be sure to stress safety precautions and have a parent or guardian assist the students and sign their form.
2. Find five common household products and list three chemicals in each. (Try to avoid listing chemicals by trade names since it may be difficult to find MSDS for them.)
3. Bring completed list to school.
4. Find MSDSs on the chemicals listed.
5. Complete a properties sheet for each household chemical using MSDS or other sources.

### **SAFETY / DISPOSAL:**

- Eye protection



should be worn as appropriate and

remind students to always handle

chemicals safely.

- Information should be compiled as shown on the data sheets “What’s On The Label?”.
- Students do not have to bring products to school for this activity.

### **FOLLOW UP QUESTIONS:**

1. What might be an easier way to learn about household chemicals than an MSDS? Would this information be reliable?
2. Should household chemicals be labeled differently? Suggest alternative labeling for chemicals.
3. Should people wear goggles and/or gloves when they clean the kitchen and bathroom in their homes? How about when they clean their drain?  
(Note: In some cases, products are labeled to encourage the use of protective clothing.)
4. MSDSs do not consider concentration effects. Are chemicals equally hazardous in concentrated or dilute solutions?

### **EXTENSION ACTIVITIES:**

1. Make a label that would be easier to use and understand.
1. Have a student or small group of students create an “imaginary” chemical and fill in a blank MSDS form with all of the pertinent information.
3. In an art class, have students make the safety label as well as the glue and/or gummy backing for stickers to explain their understanding of the MSDS data sheet.
4. Contact chemical disposal companies for a classroom demonstration.

**WRAP – UP:** Discuss safety features for people who use household chemicals. Include in discussion

the use of safety goggles and rubber gloves with household chemicals.

**REFERENCES / BIBLIOGRAPHY:**

1. The MSDS Your Guide to Chemical Safety. 1 (800) 727-5257 Fax: (203) 245-2559. The pamphlet costs run: 1-25= \$3.39, 26-50= \$2.79, 51-100= \$2.19.
2. Based on an activity presented by Dr. Steve Wright (University of Wisconsin Stevens Point). Stevens Point, Wisconsin
3. The internet contains many references to MSDS information. You may begin to utilize this information by first using a search engine such as Yahoo and find sites under MSDS.
4. OSHA is the Occupational Safety and Health Act implemented by the Environmental Protection Agency.
5. The Lab Standard, "Working Safely with Chemicals", Conforti, John V., Gannon, Maureen, ad, Genium Publishing Corporation NY, p57.

# Sample

## *What's On The Label?*

Student Name \_\_\_\_\_ Parent/Guardian \_\_\_\_\_

### PROCEDURE:

1. Make your parents aware of this chemical inquiry and have them sign above.
2. Be sure to follow all safety instructions given by your teacher.
3. Find and list five (5) active ingredients from chemicals found in products used in your home. For each of these products, refer to the label and write down the chemical name of three ingredients. Proper spelling is important for completing this activity.

PRODUCT NAMES		CHEMICAL NAMES		
1.		A.	B.	C.
2.		A.	B.	C.
3.		A.	B.	C.
4.		A.	B.	C.
5.		A.	B.	C.

4. Bring this activity sheet to class to complete the activity.
5. Use the proper MSDS form to complete the activity sheets.

### DISCUSSION QUESTIONS:(These are suggestions.)

1. What might be an easier way to learn about household chemicals than an MSDS? Would this information be reliable?
2. Should household chemicals be labeled differently? Explain.
3. Should people wear goggles and/or gloves when they clean the sinks, bathtubs, and toilets in their home?

# Sample

## WHAT'S ON THE LABEL? Student Activity Sheet

Student Name: \_\_\_\_\_

1. Chemical

Name: \_\_\_\_\_

2. Use of

Chemical: \_\_\_\_\_

—

3. Physical Data:

Melting Point: \_\_\_\_\_

Water

Solubility: \_\_\_\_\_

Boiling Point: \_\_\_\_\_

Appearance &

Odor: \_\_\_\_\_

Specific Gravity: \_\_\_\_\_

4. Fire and Explosion Hazards:

Flash Point: \_\_\_\_\_

Fire or Explosion

Hazards \_\_\_\_\_

5. Reactivity Data:

Hazardous Decomposition or

Byproducts: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. Health Hazard Data:

Carcinogenicity: \_\_\_\_\_

\_\_\_\_\_

Medical Conditions Generally Aggravated by

Exposure: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Acute  
Effects: \_\_\_\_\_  
\_\_\_\_\_

Chronic  
Effects: \_\_\_\_\_  
\_\_\_\_\_

Routes of Entry (inhalation, skin,  
ingestion): \_\_\_\_\_

# Sample

## 7. Precautions for Safe Handling and Use:

Steps to Be Taken in Case Material is Released or Spilled:\_\_\_\_\_

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Precautions to Be Taken in Handling and Storing:\_\_\_\_\_

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