

## Activity 1.2.2 Deciphering SDS

### Purpose

Safety Data Sheets (SDS) are provided by manufacturers of nearly all chemical materials. There's even an SDS for water. Safety Data Sheets are designed to provide both workers and emergency personnel with the proper procedures for handling or working with a particular substance. They include information such as physical data, health effects, first aid, storage, disposal, protective equipment needed, and spill procedures. These are of particular use if a spill or other accident occurs. SDS should be stored in an easily accessible area in the laboratory. How is the information provided on a SDS is used in a laboratory?

### Materials

#### Per student:

- 2 SDS forms
- Pen
- *Agriscience Notebook*

### Procedure

In this activity, you will read SDS forms to determine important safety and cleanup information. Use one of the forms provided by your teacher to complete the information needed for Table 1 on *Activity 1.2.2 Student Worksheet*. Use the second form to complete the SDS review questions on the worksheet. When you have completed the worksheet, answer the Conclusion questions.

### Conclusion

1. When should you consult a SDS form when working in the laboratory?

Before you use the product you should be familiar with the SDS sheet. If an accident occurs you should refer to it right away.

2. What differences did you observe in the spill clean-up procedures for each substance?

Since the hydrochloric acid is hazardous, there is more involved with clean-up such as ventilating the room and neutralizing the acid. The Agar should be autoclaved and it can be thrown in the garbage.

3. How might your observation in question 2 impact how you handle spills in the laboratory?

You need to be aware of the proper clean-up procedures for every chemical, so it can reduce the risk of injury.

1. Why are SDS forms organized in specific ways?

They are organized in specific ways to make it easy to find the information in a quick fashion.

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

## Activity 1.2.2 Student Worksheet

**Table 1. SDS Review Form**

| <b>SDS Form 1</b>  |  |
|--|--|
| <b>Name of Material</b>  | Hydrochloric Acid Solution   |
| <b>Use(s) of Material</b>  | Specific Lab Use   |
| <b>First Aid Measures</b>  |  |
| <ul style="list-style-type: none"> <li>• Eye Contact</li> </ul>                          | Eye Wash Rinse with water for several minutes  |
| <ul style="list-style-type: none"> <li>• Skin Contact</li> </ul>                         | Remove clothing and Rinse Skin with water  |
| <ul style="list-style-type: none"> <li>• Inhalation</li> </ul>                           | Remove victim to fresh air and set up  |
| <ul style="list-style-type: none"> <li>• Ingestion</li> </ul>                            | Rinse mouth and Call Poison Center   |
| <b>Fire and Explosion Hazards</b>  |  |
| <ul style="list-style-type: none"> <li>• Flammability of Product</li> </ul>              | Non-flammable  |
| <ul style="list-style-type: none"> <li>• Fire Fighting Media</li> </ul>                  | Use a tri-class dry chemical fire extinguisher   |
| <b>Precautions for Safe Handling and Use</b>   |  |
| <ul style="list-style-type: none"> <li>• Handling a Spill</li> </ul>                     | Ventilate area and contain the spill with sand or other inert material. Neutralize with sodium bicarb. |
| <ul style="list-style-type: none"> <li>• Precautions for Handling and Storage</li> </ul> | Wear protective gloves, clothing and eye protection. Use hood or well ventilated area.                 |
| <b>Personal Protective Equipment Needed</b>  | Protective gloves, clothing and eye protection   |
| <b>Physical and Chemical Properties</b>  |  |
| <ul style="list-style-type: none"> <li>• Physical State and Appearance</li> </ul>        | Clear, colorless liquid,   |
| <ul style="list-style-type: none"> <li>• Odor</li> </ul>                                 | Chlorine smell   |
| <ul style="list-style-type: none"> <li>• Color</li> </ul>                                | colorless  |
| <ul style="list-style-type: none"> <li>• pH</li> </ul>                                   | < 1  |
| <ul style="list-style-type: none"> <li>• Boiling Point</li> </ul>                        | Not given  |
| <ul style="list-style-type: none"> <li>• Melting Point</li> </ul>                        | Not given  |

## SDS Review Questions

1. What is the name of this product?

Nutrient Agar

2. What should one do if this chemical is spilled on skin?

Wash with plenty of water

3. Should you use this chemical if you are wearing contacts?

You can wear them, but if you get in in your eyes you need to remove them and rinse

4. If this chemical is swallowed, what organs will most likely be damaged?

No target organs However, could irritate digestive system organs.

5. What is a hazard associated with this chemical?

Irritation to eyes. Classified as a stable nonhazardous substance

6. Is this substance flammable?

No

7. Where and how should this product be stored?

Cool Dry Place

8. What type of protective equipment is need when handling this product?

Classified as nonhazardous so no specific ppe is required. However, safety glasses and gloves should be used.

9. How should this product be disposed?

Sterilize prior to disposal and use disposal method #26a Dispose in trash.

10. If this material spills what can be used to absorb it?

Clean up spill, autoclave or sterilize if already used for culture.