

Objective 21

**Assignment Sheet 1—Complete a Student Safety Pledge Form**

Name \_\_\_\_\_ Overall Rating \_\_\_\_\_

Date \_\_\_\_\_

Evaluation Criterion	Rating
<ul style="list-style-type: none"> <li>• Student completed safety pledge form</li> </ul>	_____

Basic Skills



\_\_\_\_\_, who is enrolled in \_\_\_\_\_, will, as a part of his/her shop experience, operate machines, providing that the parent or guardian gives written permission.

It is important that each student be given proper instruction, both in the use of the equipment and in the correct safety procedures concerning it, before being allowed to operate it. The student must assume responsibility for following safe practices, and we therefore ask that the student subscribe to the following safety pledge.

1. I promise to follow all safety rules for the shop.
2. I promise never to use a machine without first having permission from the instructor.
3. I will not ask permission to use a particular machine unless I have been instructed in its use, and have scored 100% on the safety test for that machine.
4. I will report any accident or injury to the teacher immediately.

Date \_\_\_\_\_ Student's signature \_\_\_\_\_

I hereby give my consent to allow my son or daughter to operate all machines and equipment necessary in carrying out the requirements of the course in which he/she is enrolled.

Date \_\_\_\_\_ Parent's signature \_\_\_\_\_

Parents are cordially invited to visit the shop to inspect the machines and to see them in operation.



Objective 22

**Assignment Sheet 2—Survey the Shop and Identify Correct Safety Practices**

Name \_\_\_\_\_ Overall Rating \_\_\_\_\_

Date \_\_\_\_\_

Evaluation Criteria	Rating
• Student participated in shop survey	_____
• Questionnaire was completed	_____
• Questions answered correctly	_____
• Proper teamwork was utilized by the group to complete survey	_____

Basic Skills



Reading



Writing



Oral Communication



Interpersonal



Critical Thinking

Introduction

In this unit you will be introduced to proper shop safety practices. An important part of shop safety is a safe work environment. In this assignment you will explore your shop and evaluate the shop's safety.

Directions

Form a group of two to three students. As a team, inspect each area of your shop carefully and answer the following questions.

1. What safety practices are used in your shop to promote general safety?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. What practices are used to maintain an orderly shop? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. Are warnings and cautions posted? If so, where? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Where is the emergency eye wash station? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

5. Where is your shop fire extinguisher located; what type is it; and on what kinds of fires may it be used? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Where is your shop first aid kit located? Who is permitted to use it?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. What equipment and machines in your shop must you run separate safety tests on before you are allowed to operate them? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. Are the guards in place on all equipment? Where are the emergency cutoff switches located? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. What personal safety protection devices or clothing must you wear while working in the shop? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10. What procedure should you follow if you see an accident happen?

---

---

---

11. Are chemicals stored properly? Are areas where chemicals are used properly ventilated? Are MSDS sheets available for chemicals used in shop? \_\_\_\_\_

---

---

12. What procedure should you follow to dispose of chemicals? \_\_\_\_\_

---

---

---



Objective 23

**Assignment Sheet 3—Interpret a Material Safety Data Sheet**

Name \_\_\_\_\_ Overall Rating \_\_\_\_\_

Date \_\_\_\_\_

Evaluation Criteria	Rating
• Student participated in assignment	_____
• Student answered questions correctly	_____
• Assignment was neat and completed on time	_____

Basic Skills



Materials list

- Objective 6
- Student Supplement 1

Directions

Review the material in Objective 6 of the information sheet, and locate and study the information presented in Student Supplement 1, “Guidelines for Interpreting Material Safety Data Sheets.”

Use the MSDS at the end of this assignment sheet to answer the following questions. Write your answers on the blanks provided.

1. What is the name of the substance? \_\_\_\_\_

\_\_\_\_\_

2. What potentially hazardous ingredients does it contain?

\_\_\_\_\_

\_\_\_\_\_

3. What possible injury could occur from external contact?

\_\_\_\_\_

4. Is this substance heavier or lighter than water? \_\_\_\_\_

5. What is its boiling range? \_\_\_\_\_

6. What is its OSHA flammability classification? \_\_\_\_\_

7. How should first aid for eye contact be administered? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

8. Is this a stable product? \_\_\_\_\_

9. What kind of protective equipment should be used when handling this substance? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

10. What instructions are given for handling and storage of this substance?

\_\_\_\_\_  
\_\_\_\_\_

<b>MATERIAL SAFETY DATA SHEET</b>		<b>HAZARD RATINGS</b>	
<b>FOR PRINTING INK AND RELATED MATERIALS</b>		Minimal.....0	
Information on this form is proprietary information solely for the use of our customers		Slight..... 1	
DATE OF PREP. <u>11-25-85</u> PREPARED BY <u>S. L. MAKI</u>		Moderate.. 2	
		Severe.....4	
		HEALTH <u>3</u>	
		FLAMMABILITY <u>0</u>	
		REACTIVITY <u>0</u>	
<b>SECTION I</b>			
MANUFACTURER'S NAME: <b>Flint Ink Corporation</b>			
STREET ADDRESS: <b>25111 Glendale Avenue</b>		CITY, STATE AND ZIP CODE: <b>Detroit, MI 48239-2689</b>	
EMERGENCY TELEPHONE NUMBER: <b>(313) 538-6800</b>			
PRODUCT CLASS: <b>Fountain Solution</b>			
TRADE NAME: <b>MIRACLE "V-2020" CONCENTRATE</b> MANUFACTURER'S CODE IDENTIFICATION: <b>UW-W-35, UW-W020</b>			
<b>Section II — HAZARDOUS INGREDIENTS</b>			
Ingredient:	Hazard Data:		
Ethylene Glycol	TLV-Vapor 50ppm. Vapor & mist may cause irritation to the eyes. Ingestion may cause central nervous system depression and also can cause liver or kidney damage.		
Alkaline Phosphates & Silicates	Eye & skin irritation.		
<b>Section III — PHYSICAL DATA</b>			
BOILING RANGE °F <b>215-220</b>	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR <b>Antifreeze</b>
APPEARANCE <b>Liquid</b>	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. <b>85-90%</b>	
<b>Section IV — FIRE &amp; EXPLOSION DATA</b>			
FLAMMABILITY CLASSIFICATION		OSHA <b>Class IIIB</b>	
		FLASH POINT °F <b>Greater than 200°F</b>	
LEL <b>3.2% for Ethylene Glycol</b>			
DOT <b>Not regulated</b> (Method Used) <b>T.C.C.</b>			
EXTINGUISHING MEDIA:			
<input checked="" type="checkbox"/> FOAM <input checked="" type="checkbox"/> ALCOHOL FOAM <input checked="" type="checkbox"/> CO2 <input checked="" type="checkbox"/> DRY CHEMICAL <input checked="" type="checkbox"/> WATER FOG <input checked="" type="checkbox"/> OTHER			
UNUSUAL FIRE AND EXPLOSION HAZARDS			
<b>No fire hazard; nonflammable.</b>			
SPECIAL FIREFIGHTING PROCEDURES			
<b>Water may be used to cool containers to prevent pressure build-up.</b>			

<b>SECTION V — HEALTH HAZARD DATA</b>		
<small>EFFECTS OF OVEREXPOSURE</small>		
This material is an eye irritant. Prolonged or repeated contact with skin will cause irritation; very alkaline. DO NOT INGEST.		
<hr/>		
<small>PRIMARY ROUTE(S) OF ENTRY:</small>	<input checked="" type="checkbox"/> DERMAL	<input checked="" type="checkbox"/> INHALATION
<small>EMERGENCY AND FIRST AID PROCEDURES</small>		
Eye contact: Flush immediately with large amounts of water for at least 15 minutes. Contact physician. Skin contact: Wash affected areas with soap & water. Remove contaminated clothing. Ingestion: Drink 1 or 2 glasses of water to dilute. DO NOT INDUCE VOMITING. Contact physician; treat symptomatically.		
<b>Section VI — REACTIVITY DATA</b>		
<small>PRODUCT STABILITY</small>	<input checked="" type="checkbox"/> STABLE	<input type="checkbox"/> UNSTABLE
<small>CONDITIONS TO AVOID</small>		
Contact with strong oxidizers.		
<b>SECTION VII — SPILL OR LEAK PROCEDURES</b>		
<small>PROCEDURE WHEN MATERIAL SPILLED OR RELEASED</small>		
Flush area with water. Wipe up and dispose of in approved containers.		
<small>WASTE DISPOSAL METHOD</small>		
In accordance with local, state and federal regulations.		
<b>Section VIII — SPECIAL PROTECTION INFORMATION</b>		
<small>VENTILATION</small>	Normal for work area.	
<small>PROTECTIVE GLOVES</small>	Recommended	
<small>RESPIRATORY PROTECTION</small>	Not normally required with adequate ventilation.	
<small>EYE PROTECTION</small>	Recommended	
<small>OTHER PROTECTIVE EQUIPMENT</small>	None	
<b>Section IX — SPECIAL PRECAUTIONS</b>		
<small>HANDLING AND STORING</small>		
Keep containers closed when not in use.		
<small>OTHER PRECAUTIONS</small>		
For industrial use only.		
<small>THIS FORM IS AN INDUSTRY SERVICE BY THE NATIONAL ASSOCIATION OF PRINTING INK MANUFACTURERS, INC.                  (Information on this form is supplied by the individual ink manufacturer)</small>  <small>NAPIM 4-35</small>		

Objective 24

**Assignment Sheet 4—Draw a Floor Plan and Locate Safety Equipment in Your Shop**

Name \_\_\_\_\_ Overall Rating \_\_\_\_\_

Date \_\_\_\_\_

Evaluation Criteria	Rating
• Student followed directions	_____
• Student's floor plan accurately represented the shop	_____
• All nine locations were correctly labeled and identified	_____
• Drawing is neat and labels are legible	_____

Basic Skills



Materials list

- Paper
- Pencil

Directions

On a separate piece of paper, sketch a floor plan of your shop; make it large enough to provide the space to indicate the location of all of the following:

1. Indicate the location of all emergency exits and label those locations **EE**.
2. Indicate where all fire extinguishers are located and label those locations **FE**.
3. Indicate where the eye wash station is located and label that location **EW**.
4. Indicate where the nearest telephone is located and label the location **T**, and beside it write the emergency telephone number.
5. Indicate where the first aid kit is located and label the location **First Aid**.
6. Indicate the reassembly point following a fire drill and show its approximate location with respect to the shop by labeling the location **RP**.
7. Indicate the safe shelter for severe weather and show its approximate location with respect to the shop by labeling the location **Safe Shelter**.
8. Indicate the location of the solvent disposal area and label the location **Solvents**.
9. Indicate the location of the combustible storage area and label the area **CS**.



Objective 25

Job Sheet 1—Operate a Fire Extinguisher

Name \_\_\_\_\_ Attempt Number \_\_\_\_\_

Date \_\_\_\_\_ Overall Rating \_\_\_\_\_

Evaluation Criteria	Rating
• Extinguisher was carried properly	_____
• User was within stream reach of fire	_____
• P-A-S-S sequence was followed	_____
• Fire was completely extinguished	_____

Basic Skills



Introduction

Using a portable fire extinguisher properly requires more than simple manipulation. You must always size up the fire and decide whether it can be extinguished with an extinguisher. If the fire is too large or too smoky, call the fire department. If the fire is small enough to be extinguished with an extinguisher, always fight it with your back to a means of escape.

Instructions

When you are ready to perform this task, ask your instructor to observe the procedure and rate your performance using the evaluation criteria.

Tools, equipment, and materials

- Portable fire extinguisher suitable for a class A fire
- Small class A fire in clear, safe area
- Charged hose (hose hooked up to a water source and with water in the hose) or another secondary means of extinguishment for backup

**Caution:** This procedure should only be performed outdoors on a windless day and only under the direct supervision of your instructor.

Procedure

- 1. Pick up the fire extinguisher by its handle.

Note: All modern fire extinguishers are designed to be used in an upright position.

- 2. Read the fire extinguisher label to determine proper stream reach.

Note: *Stream reach* is the distance the extinguishing agent is propelled. Stream reach varies with extinguisher, and may range from 3 to over 20 feet. Normally, the smaller the extinguisher, the shorter the stream reach.

- 3. Walk—do not run—to within stream reach of the fire.
- 4. **Pull** the pin at the top of the extinguisher that keeps the handle from being pressed.  
  
Note: Pulling the pin automatically breaks the plastic or thin wire inspection band.
- 5. **Aim** the nozzle toward the fire, first releasing it from its clip if applicable.
- 6. **Squeeze** the discharge handle (above the carrying handle) to release the extinguishing agent.  
  
Note: The discharge handle can be released at any time to stop the discharge.
- 7. **Sweep** the nozzle back and forth at the base of the flames.
- 8. After the fire appears to be out, probe for remaining hot spots.
- 9. Make sure the fire is out by extinguishing any hot spots.

Evaluator's Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Objective 26

Job Sheet 2—Lift a Heavy Object Properly

Name \_\_\_\_\_ Attempt Number \_\_\_\_\_

Date \_\_\_\_\_ Overall Rating \_\_\_\_\_

Evaluation Criteria	Rating
• Support belt was worn	_____
• Load was lifted safely	_____
• Load was carried and set down safely	_____

Basic Skills



Introduction

The number-one worker injury in America today is back strain or injury. Most of these injuries come from trying to lift an object that is too heavy or from lifting an object improperly. It is very important, therefore, that you learn to assess the weight of a load to be lifted, and either get help to lift the load or lift the load properly, using your leg muscles, not your back.

Instructions

When you are ready to perform this task, ask your instructor to observe the procedure and rate your performance using the evaluation criteria.

Tools, equipment, and materials

- Large, heavy box
- Gloves
- Lower-back support belt

Procedure

1. Put on gloves and lower-back support belt.
2. Size up the load.
3. Place your feet close to the object and 8 to 12 inches apart for good balance.
4. Bend your knees to a degree that is comfortable.
5. Grip the box firmly with both hands.
6. Keeping your back straight and using your leg muscles, lift the box to waist height and hold close to your body.

**Caution:** Do not make any turning or twisting motions until the lift is complete.

- 7. Turn by changing foot position, making sure that your path is clear.
- 8. Carry the box to the new location, using a normal walking gait and keeping your view unobstructed.
- 9. Reverse the lifting procedure to set the box down, taking care to bend your knees, keep your back straight, and avoid setting the box on your fingers or feet.

Evaluator's Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_