

Hazard Mapping

**Training from the
NJ Work Environment Council**



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About WEC

The New Jersey Work Environment Council (WEC) is a non-profit collaboration of organizations working for safe, secure jobs, and a healthy, sustainable environment.

Visit WEC's website at www.njwec.org

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Injury and Illness Prevention Programs

Training from the New Jersey Work Environment Council

About Prevention Programs

Every employer should have an overall injury and illness prevention program. Prevention programs improve health and safety conditions for both large and small employers, reduce workplace injuries and illnesses, improve compliance with laws and regulations, and reduce workers' compensation premiums.

OSHA has announced that it will develop an Injury and Illness Prevention Program standard (rule) in the near future.

Effective training about Injury and Illness Preventions Programs can help achieve safer, healthier, and more productive workplaces.

WEC's curriculum covers key aspects of an effective workplace prevention program. Training introduces the concept of effective management systems and explain why facilities should establish a prevention program at their workplace.

The New Jersey Work Environment Council (WEC) can provide **free** training at your workplace. This training includes free materials. The training is supported by a grant from the U.S. Occupational Safety and Health Administration (OSHA). Training can be from two to eight hours.

For more information, contact:

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The Small Group Activity Method

Basic Structure

The Small Group Activity Method* is based on a series of problem-solving activities. An activity can take from 45 minutes to an hour. Each activity has a common basic structure:

- **Small Group Tasks**
- **Report-Back**
- **Summary**

1. Small Group Tasks: The training always begins with groups working together at their tables. Each activity has a task, or set of tasks, for the groups to work on. The task asks that the groups use their experience and the factsheets to solve problems and make judgments on key issues.

2. Report-Back: For each task, the group selects a scribe who takes notes on the small group discussion and reports back to the class as a whole. During the report-back, the scribe informs the entire class as to how his or her group solved the particular problem. The trainer records each scribe's report-back on large pads of paper in front of the class so that everyone can refer to them.

3. Summary: Before the discussion drifts too far, the trainer needs to bring it all together during the summary. Here, the trainer highlights the key points of the activity and brings up any problems or points that may have been overlooked during the report-back.

*The Small Group Activity Method (SGAM) is based on a training procedure developed by England's Trades Union Congress (TUC) in the 1970s. The Labor Institute and Oil, Chemical, and Atomic Workers Union (now part of the United Steelworkers) used a similar method around economic and health and safety issues for workers and further developed the procedure into SGAM. The New Jersey Work Environment Council has used SGAM since 1986.

Three Basic Learning Exchanges

The Small Group Activity Method (SGAM) is based on the idea that every training is a place where learning is shared. With SGAM, learning is not a one-way street that runs from trainer to worker. Rather SGAM is a structured procedure that allows us to share information. It is based on three learning exchanges:

- **Worker-to-Worker**
- **Worker-to-Trainer**
- **Trainer-to-Worker**

Worker-to-Worker: Most of us learn best from each other. SGAM is set up in such a way as to make the worker-to-worker exchange a key element of the training. The worker-to-worker exchange allows participants to learn from each other by solving problems in their small groups.

Worker-to-Trainer: Lecture-style training assumes that the trainer knows all the answers. With SGAM it is understood that the trainers also have a lot to learn and this is the purpose of the worker-to-trainer exchange. It occurs during the report-back and it is designed to give the trainer an opportunity to learn from the participants.

Trainer-to-Worker: This is the trainer's opportunity to clear up any confusion and make points they think are key. By waiting until the summary section, trainers know better what people need to know.

The Factsheet Reading Method

The process described below focuses everyone on the important information in the factsheets.

The process is as follows:

- **First, select a scribe for this Task.**

Each of you will be assigned a small number of factsheets to read. You will then share the factsheet information with your table.

- **Your trainer will assign your individual factsheets this way:**
- **Starting with the scribe and moving to the left, count out loud from one to eight. Keep going around the table until all numbers (factsheets) are distributed. The assigned numbers correspond to Factsheets 1 through 8 on the following pages.**

Once everyone has read their assigned factsheets individually, your scribe will go around the table and ask each of you to explain to the group what you have learned. Factsheets should be explained in the order assigned (1 through 8), since the factsheets build on the previous one. In this way, we all start at the same place and with the same information.

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Hazard Mapping

Purposes:

- To examine the hazards in our industries.
- To learn how to develop a Hazard Map that workers can use to identify and locate hazards so that those hazards can be targeted for elimination.
- To learn the importance of making Hazard Mapping a participatory process that involves as many coworkers as possible.

This Activity has three tasks.

Task 1

In your groups, choose a scribe. Working together, list the hazards commonly associated with the industry in which you work. Be prepared to explain how each item constitutes a hazard at your facility.

Have there been any accidents at your facility from the hazards you identified?

Task 2

In your groups, choose a scribe and review the factsheets on pages 4 through 12. The factsheets will help you learn about Hazard Mapping and how it can be used to help you identify the areas in your facility where the risks of accidents and injuries are greatest.

Then, based on your own experience and the factsheets, use the sheet of paper and markers and follow steps 1 through 5 below to help you create your Hazard Map. Write large and use the entire sheet of paper for your map. Use the factsheets to help you label and describe the specific hazard areas.

Step 1:

Make a drawing on the sheet of paper that shows the basic layout of your facility. (See Factsheet 6, pages 9 through 12 for examples of what a hazard map looks like.)

Step 2:

Identify the hazards in each area of the facility using a color-coded circle on the map. (See Factsheets 3 and 4 on pages 6 and 7.)

Step 3:

Rate each hazard on a scale of 1 to 4. (See Factsheets 3 and 4 on pages 6 and 7.)

Step 4:

Label each hazard with a name or brief description. (See Factsheets 5 and 6, on pages 8 through 12.)

Step 5:

Based on your map, make a list of the hazards that concern you the most and be ready to tell us why these hazards are a concern for your group.

1. Using Hazard Mapping to Identify Possible Risks

A Hazard Map is a visual representation of the workplace where there are hazards that could cause injuries or illness.

The Hazard Mapping method draws on what workers know from on the job experience. The Hazard Mapping approach works best when conducted with a small group of workers with some similarity in their work. For example, a group of workers from the same building or a group of maintenance workers who all worked in several buildings but do the same kind of work.

For example, these maps might target:

- **Physical hazards;**
- **Frequency of exposure;**
- **Level of exposure;**
- **A specific chemical or agent; or**
- **Workers or job titles most likely to be exposed.**

2. Using Hazard Mapping to Identify Facility-wide Hazards or Hazards in Specific Areas of Work

The Hazard Mapping process can be used to identify risks at an entire facility and to specify hazards associated with an **AREA, BUILDING, JOB CLASSIFICATION or PROCESS**.

The facility map can be used to show at a glance the major hazards throughout the facility.

After completing the facility map, it may be obvious that a more detailed map of certain buildings would be helpful in “narrowing down” the processes, areas or jobs that have more dangerous hazards or where worker exposures to hazards are greatest.

To get more specific information, you can conduct another Hazard Mapping session to focus on a specific area, building, job classification or process. These **area-specific Hazard Maps** can be used to get more detailed information.

3. Why Hazard Map?

Hazard Mapping is only one method for identifying occupational safety and health hazards. If your workplace has other systems for identifying hazards, those results can be included on your Hazard Map.

The point of Hazard Mapping is to pool the knowledge about hazards from all of your coworkers so that you can organize to eliminate the hazards. In the next Activity you will discuss how to organize effective involvement in the process. In additional Activities you will discuss how to assess ways to fix the hazards you have identified.

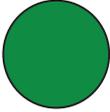
We use the same principles in Hazard Mapping as we use in the Small Group Activity Method of learning:

- **Respect;**
- **Working Collectively; and**
- **Sharing the Power.**

Hazard Mapping **respects** the vast array of skill, experience and know-how that workers have about their jobs and their dangers.

Hazard Mapping requires **working collectively** to more completely and creatively pool our knowledge and prioritize what problems to eliminate. Both Systems of Safety and Hazard Mapping **share the power** by involving all our coworkers in organizing for safer workplaces.

4. Hazard Mapping Labels

HAZARD CODE KEY		
	Blue	Electrical Hazards
	Green	Chemical Hazards
	Orange	Physical Hazards (heat, noise, air quality, slippery floors, poor lighting, poorly designed work stations, etc.)
	Brown	Flammable/Explosive Hazards
	Black	Other Hazards (specify)

LEVEL OF HAZARD	
1	Low Hazard
2	Medium Hazard
3	High Hazard
4	Very High Hazard

NOTE: Definitions of the four hazard levels vary from industry to industry and site to site. Each workplace should develop their own guidelines.

5. Examples of Hazard Mapping Labels

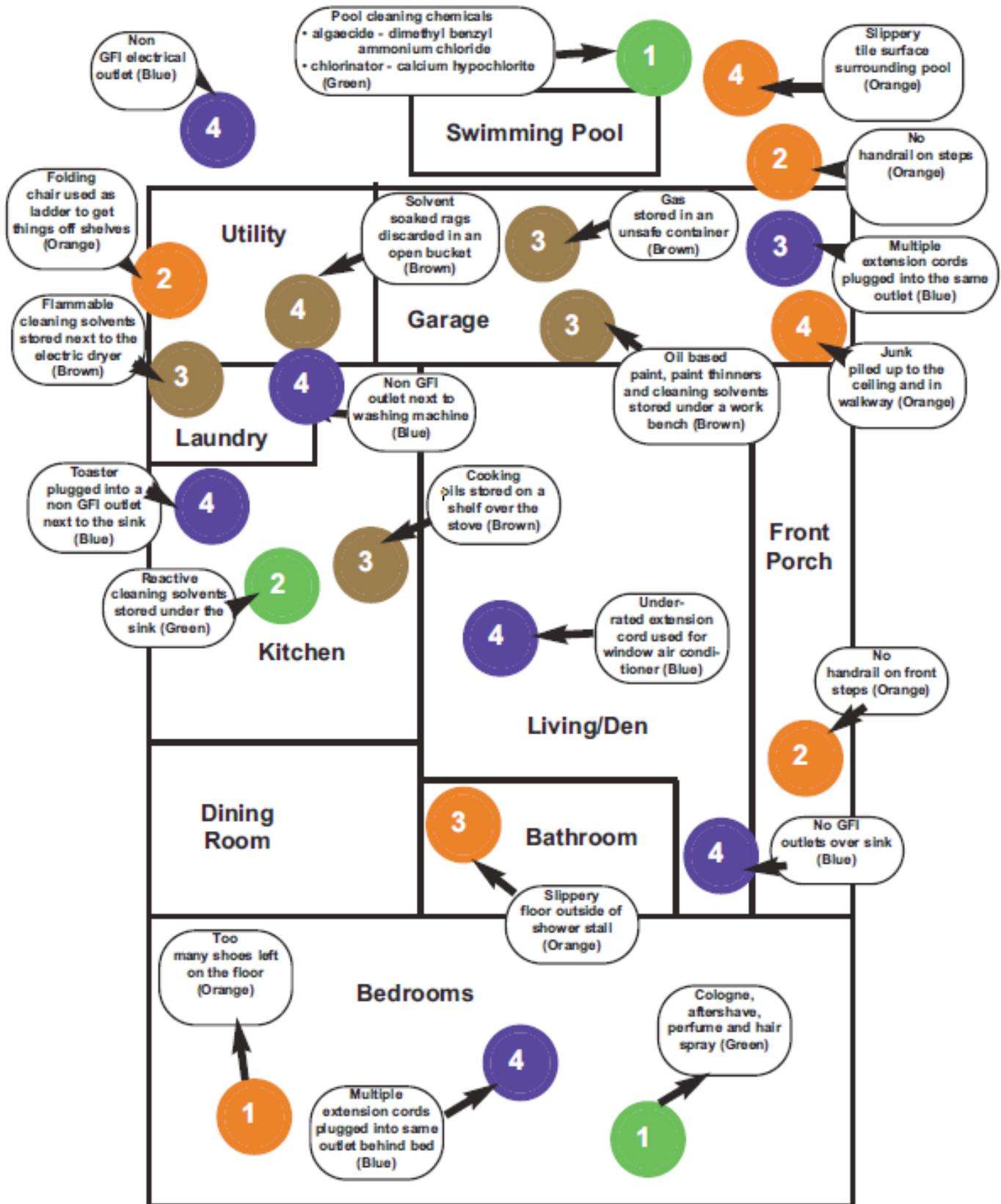
HAZARD CODES AND LEVELS OF HAZARDS	
	A number “2” inside a Blue Circle indicates “Class 2, Medium Hazard, Electrical.”
	A number “3” inside a Green Circle indicates “Class 3, High Hazard, Chemical.”
	A number “1” inside an Orange Circle Indicates “Class 1, Low Hazard, Physical.”
	A number “4” inside a Brown Circle indicates “Class 4, Very High Hazard, Flammable/ Explosive.”
	A number “2” inside a Black Circle indicates “Class 2, Medium Hazard, Other Hazard.”

6. Some Examples of Hazard Maps

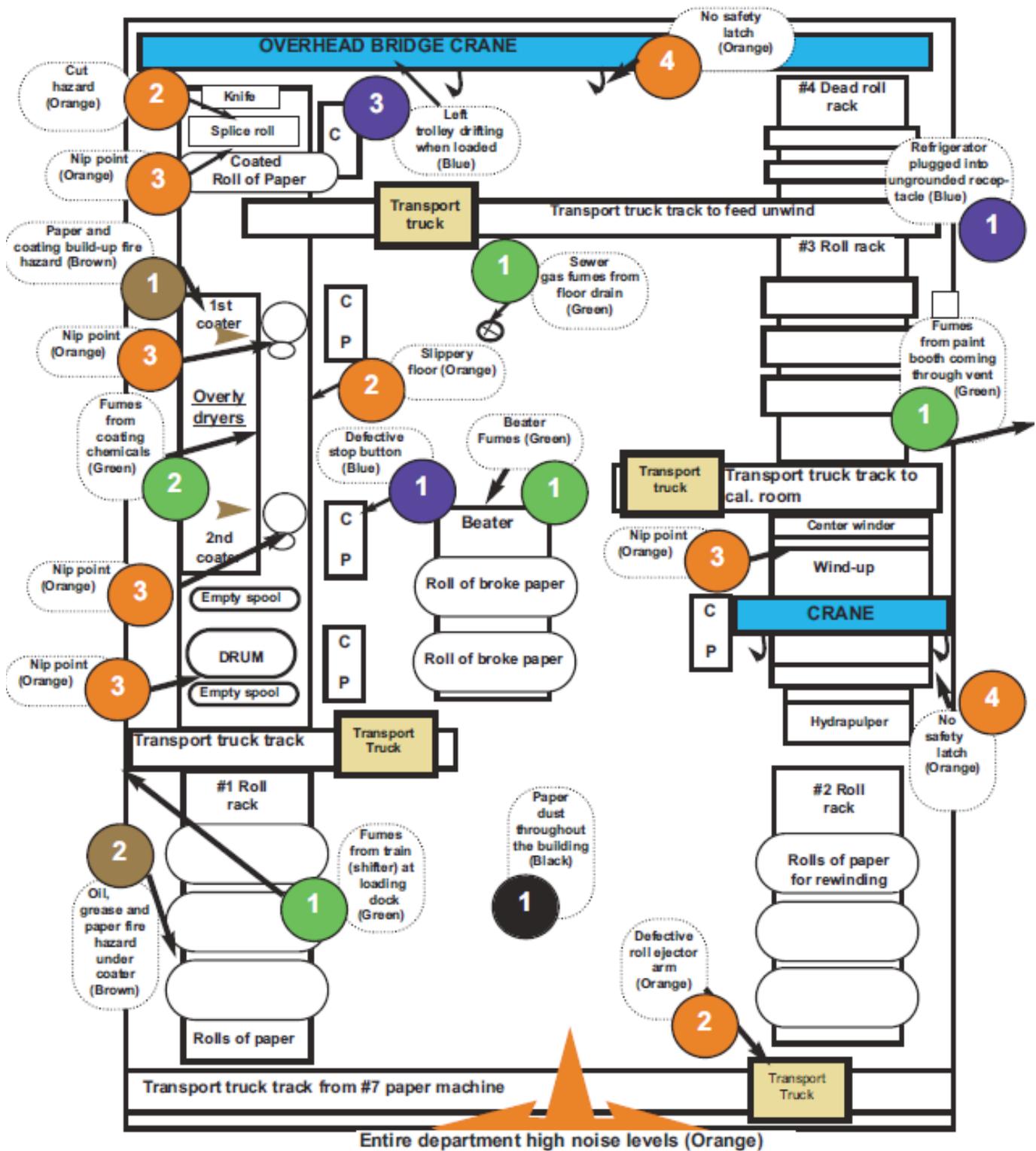
On the next three pages are examples of Hazard Maps. These are included to:

- **Show how a home would appear when you identify present hazards and assign them a level of severity (6a);**
- **Show how a workplace would appear when you identify present hazards and assign them a level of severity. The two examples shown are from a paper plant and a chemical plant (6b and 6c);**
- **Allow workers to begin to view their workplace with hazards in mind; and**
- **Begin to think about how to create a Hazard Map of an area in your workplace.**

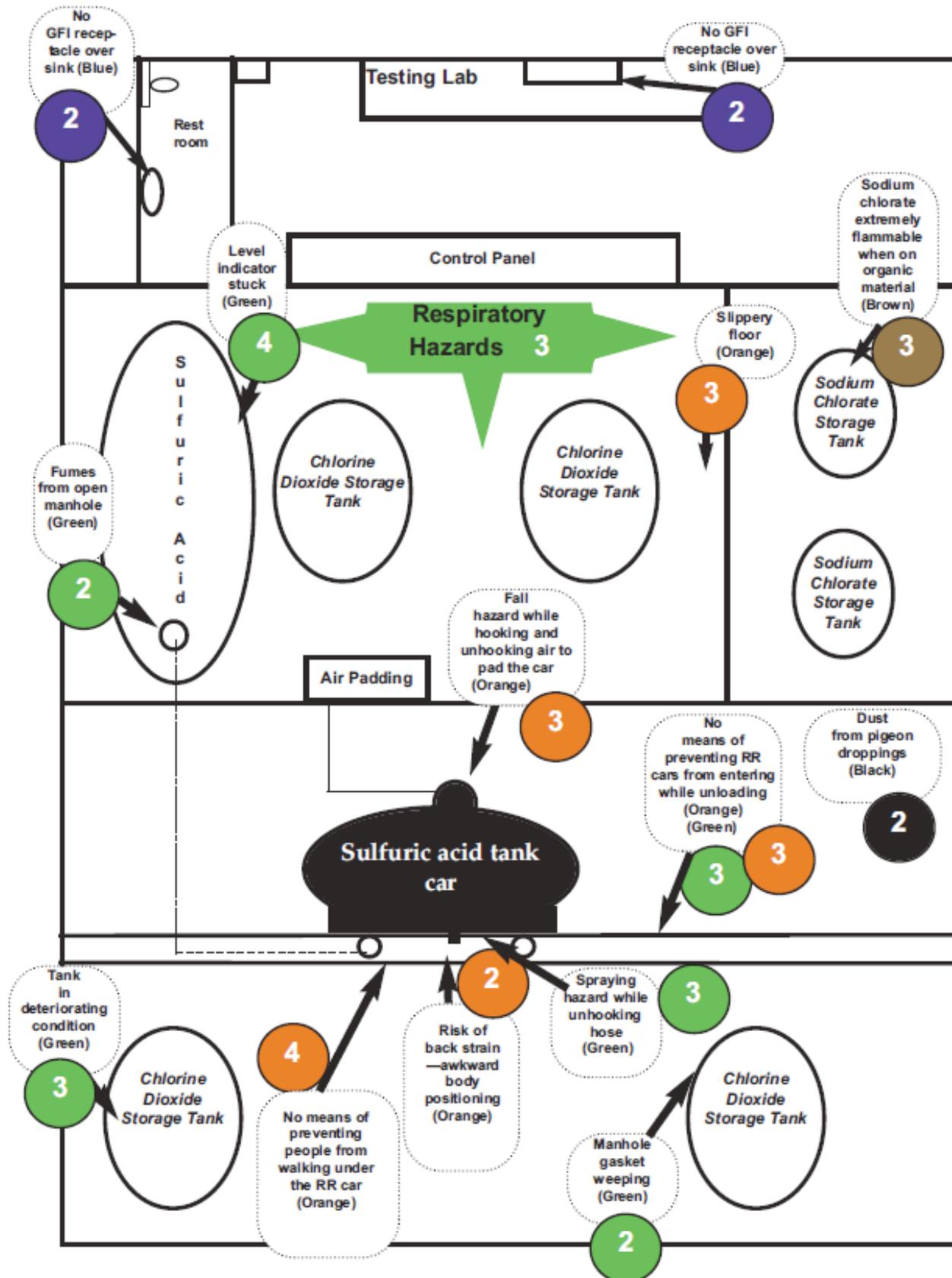
6a. Home Diagram (Entire House)



6b. In a Paper Coating Room in a Paper Plant (One Small Area of Plant)



6c. Chlorine Dioxide Generator (One Small Area of the Workplace)



Task 3

In your groups, choose a scribe. Answer the following questions and be prepared to report your answers to the group.

1. What were the positive aspects of working in a group while creating this map?

2. What would be the advantages of using Hazard Maps at your workplace?

Summary: Hazard Mapping

1. A Hazard Map is a visual representation of the workplace where there are hazards that could cause injuries.
2. Hazard mapping can help you identify occupational safety and health hazards.
3. The point of Hazard Mapping is to gather the knowledge about hazards from your coworkers so you can work together to eliminate and/or reduce the risks of accidents and injuries.

Injury and Illness Prevention Programs Training from the NJ Work Environment Council

PROGRAM EVALUATION FORM

Location: Date: Trainer(s): Cecelia G. Leto
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Training Topic: Hazard Mapping

1. Overall, how would you rate this training session?

Excellent Good Fair Poor N/A

2. Were the teaching methods (activities, exercise) effective?

Yes No Not sure

Comments: _____

3. Were the hand-outs and materials useful?

Yes No Not sure

Comments: _____

4. Will the information you received in the training program be useful on your job?

Yes No Not sure

Comments: _____

5. How could this training program be improved?

6. What subjects/topics should be added to (or taken away from) this training program to make it more useful?

7. Additional comments: _____

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