# Hazard Mapping

## Training from the NJ Work Environment Council

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**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**

**For more information about WEC programs and services, contact:**
**New Jersey Work Environment Council**
**172 West State Street, Second Floor**
**Trenton, New Jersey 08608**
**Telephone: (609) 882-6100 Extension 308**
**E-mail: cgilliganleto@njwec.org**

## Training from the New Jersey Work Environment Council

**Educational materials and training focus on identifying hazards and employer responsibilities to prevent hazards as well as worker rights, including whistleblower protection, under the Occupational Safety and Health Act (OSHA) and NJ Public Employees OSH Act (PEOSH).**

**Topics include….**

- **Identifying and Mapping Hazards.**
- **Chemical Hazards, Extremely Hazardous Chemicals, and OSHA's PSM Standard.**
- **Health Care Hazards, with emphasis on Workplace Violence and Safe Lifting.**
- **Injury and Illness Prevention Programs.**
- **Mold.**
- **Skills for education through the media (print, radio TV, social) to help highlight and prevent workplace hazards and inform workers about their rights.**

### How WEC Can Help

**Speakers and presentations by technical experts. WEC is developing a directory of volunteer experts in a Technical Assistance Network.**

**Educational materials. WEC provides free information at www.njwec.org.**

### Training

**WEC offers on-site training and can refer you to other organizations and agencies for help.**

**Media outreach. WEC is a resource for reporters, workers and employers and distributes information through traditional and social media. WEC provides public service announcements through television and radio.**

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

# 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.**

# 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 10 through 18. 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 15 through 18 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 12 and 13.)**

## Step 3:

**Rate each hazard on a scale of 1 to 4. (See Factsheets 3 and 4 on pages 12 and 13.)**

## Step 4:

**Label each hazard with a name or brief description. (See Factsheets 5 and 6, on pages 14 through 18.)**

## 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:**

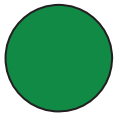
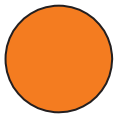
- **Respect;**
- **Working Collectively; and**
- **Sharing the Power.**

**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)** |

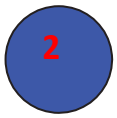
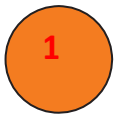
**LEVEL OF HAZARD**

| | |
|---|---|
| **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**

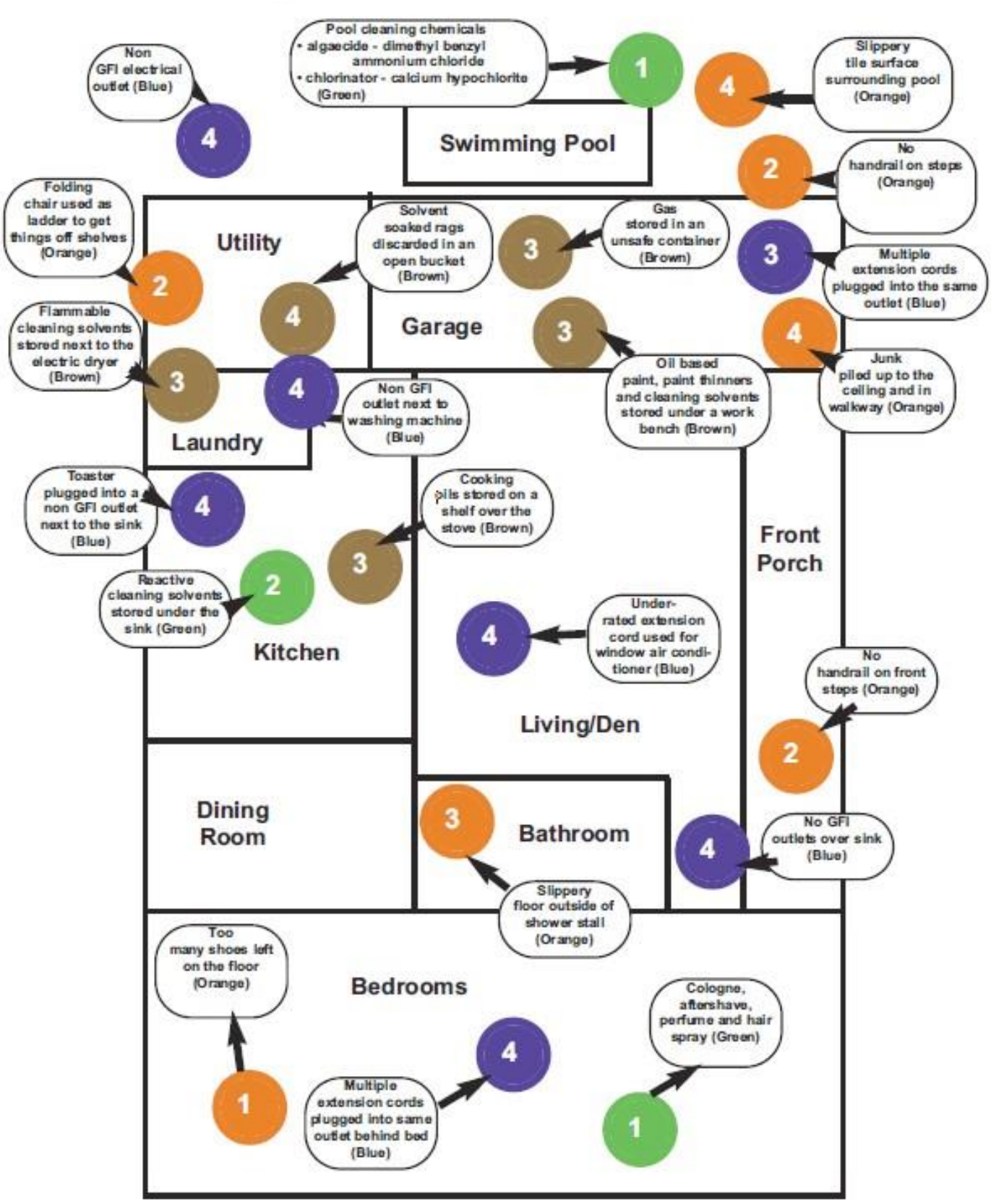
| | |
|---|---|
|   | A number "2" inside a Blue Circle indicates "Class 2, Medium Hazard, Electrical." |
|   | A number "3" inside a Green Circle indicates "Class 3, High Hazard, Chemical." |
|   | A number "1" inside an Orange Circle Indicates "Class 1, Low Hazard, Physical." |
|   | A number "4" inside 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

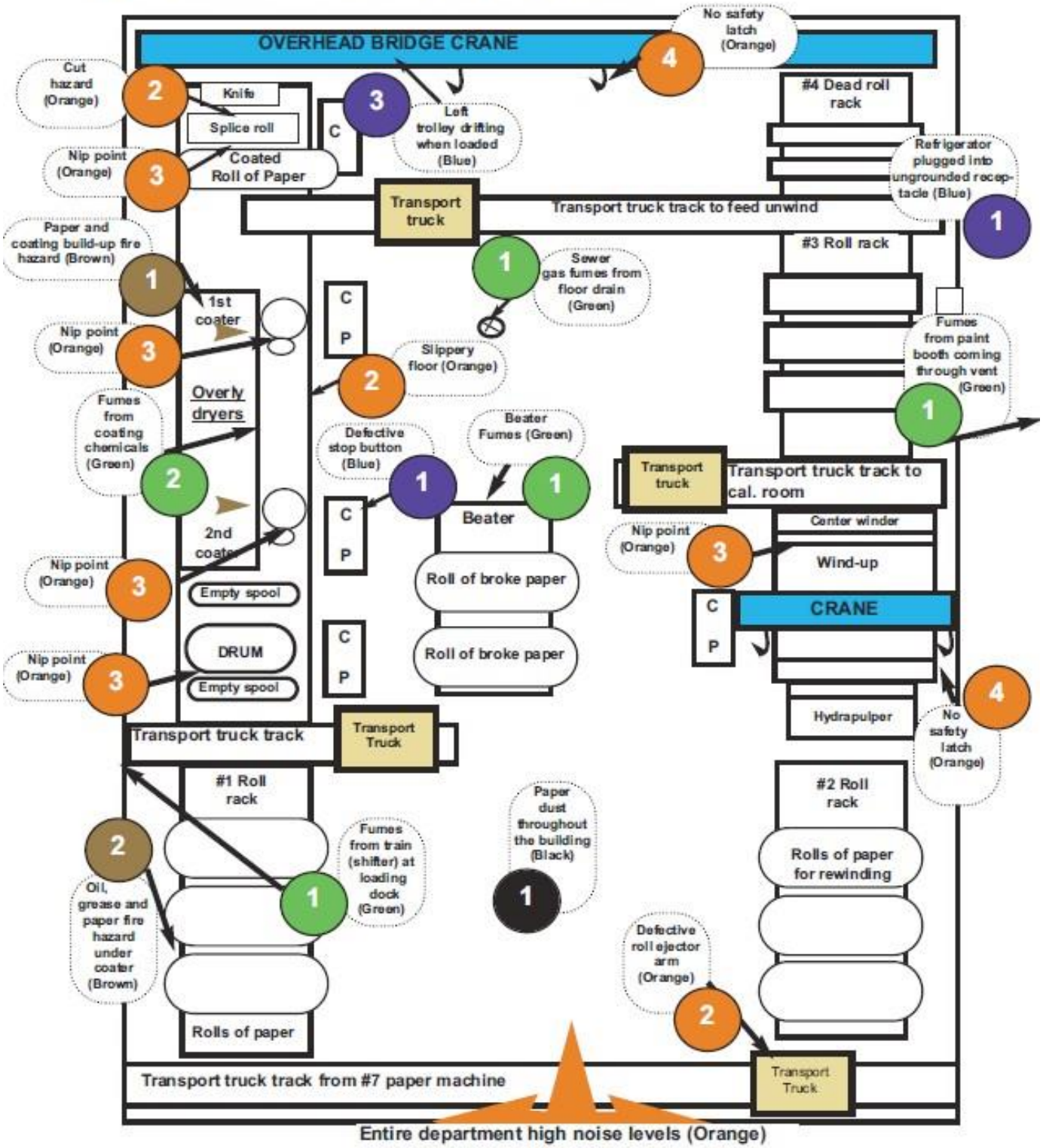
**On the next three pages are examples of Hazard Maps. These are included to:**

- **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.**

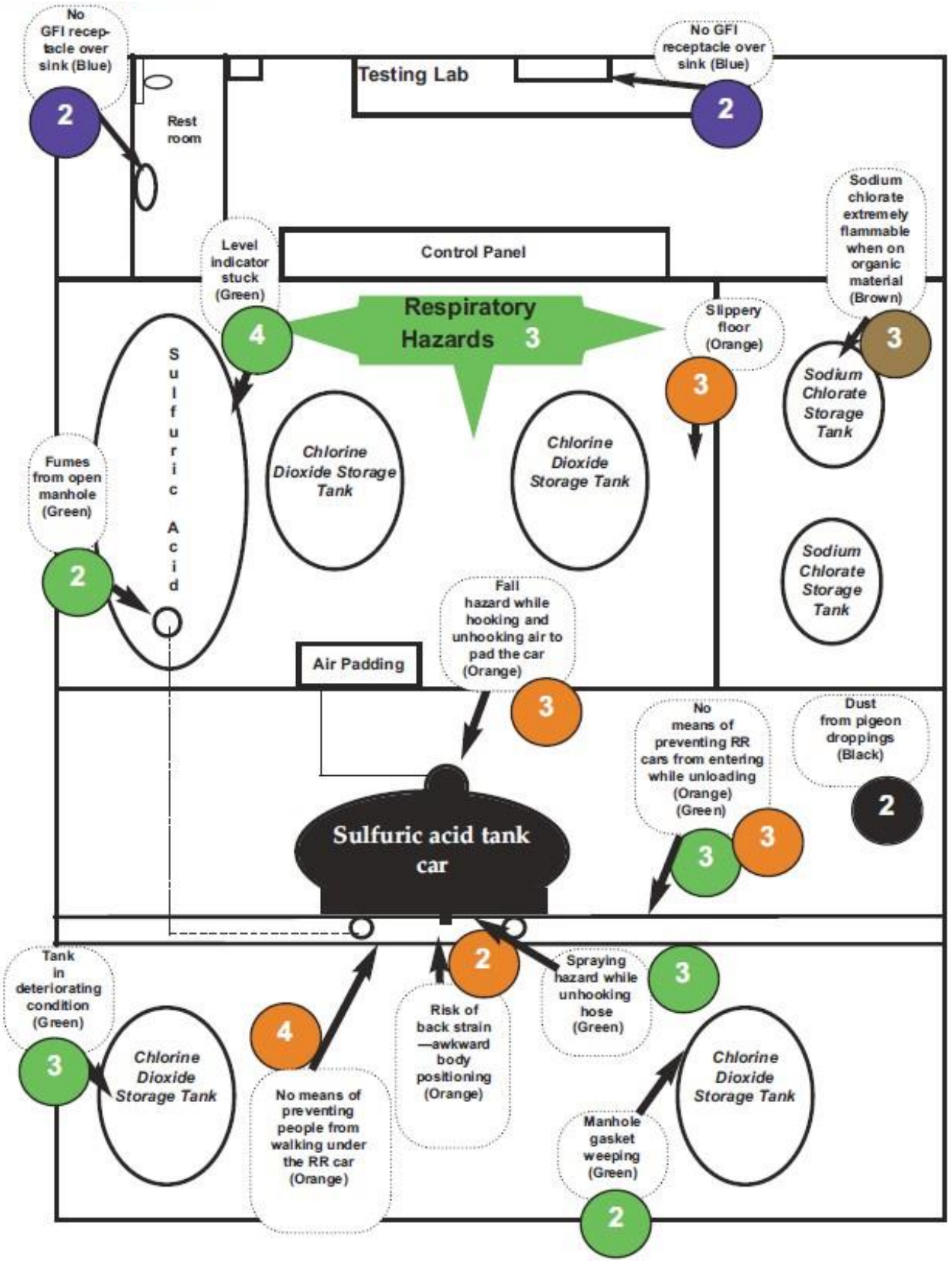
# 6a. Home Diagram (Entire House)



# 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.**