

# Town of Brunswick

## **Hazard Communication and Global Harmonization System (GHS) Plan**

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**Town of Brunswick  
Hazard Communication and Global Harmonization System (GHS) Plan**

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## **Town of Brunswick Hazard Communication and Global Harmonization System (GHS) Plan**

### **1. Policy**

This program is designed to ensure that information about the dangers of all hazardous chemicals used by the Town of Brunswick is known by all affected employees and to ensure that employees are able to work safely with these products. The Town will maintain a hazardous chemical list, use Safety Data Sheets (SDS), ensure that containers are labeled and provide employee training to ensure compliance with 29 CFR 1910.1200. All departments of the Town of Brunswick will participate in the hazard communication program.

This written program will be maintained as part of the Town's overall Safety Program and will be available on the Town's website or upon request by any interested employee. Individual Department level responsibilities are detailed within this document. The individual Department Program Coordinators are as follows:

Administration	Human Resources Manager	725-6653
Fire Department	Deputy Chief Operations	725-5541
Police Department	Dept. Designee	725-5521
Public Works Department	Director	725-6654
Parks and Recreation Department	Parks & Facilities Manager	725-6656

To avoid injury and/or property damage, persons who handle chemicals in any of the Town's workplaces must understand the hazardous properties of the chemicals with which they are using. Chemicals can be explosive, corrosive, flammable, or toxic. Other chemicals are relatively safe to use and store, but may become dangerous when they interact with other substances. Before using a specific chemical, safe handling methods and health hazards must always be reviewed. Supervisors are responsible for ensuring that personal protective (PPE) and other equipment needed to work safely with chemicals are always accessible and maintained for all employees on all shifts.

Each task that requires the use of chemicals should be evaluated to determine the potential hazards associated with the work or task. This hazard evaluation must include the chemical or combination of chemicals that will be used in the work, as well as other materials that will be used nearby. If a malfunction during the operation has the potential to cause serious injury or property damage, a Safe Operational Procedure (SOP) should be prepared and followed. Operations must be planned to minimize the generation of hazardous wastes.

## 2. General Safety Practices

This document provides detailed guidance for the establishment and maintenance of an effective Hazard Communications and Global Harmonization System Plan. There are, however, some basic safety practices that are applicable to all employees whenever they are working with chemical products. Those practices are as follows:

- Assume all chemicals are hazardous
- Read and understand the Safety Data Sheets.
- Use chemicals in as small quantities as possible to minimize exposure and reduce possible harmful effects.
- Keep the work area clean and in order.
- Use the necessary safety equipment.
- Carefully label every container with the identity of its contents and appropriate hazard warnings.
- Store incompatible chemicals in separate areas.
- Substitute less toxic materials whenever possible.
- Limit the volume of volatile or flammable material to the minimum needed for short operation periods.
- Provide means of containing the material if equipment or containers should break or spill their contents.
- Maintain the smallest possible inventory of chemicals to meet immediate needs.
- Periodically review stock of chemicals on hand and ensure the SDS is appropriate.
- Rinse emptied bottles that contain acids or inflammable solvents before disposal.
- Recycle unused chemicals wherever possible.
- DO NOT place hazardous chemicals in salvage or garbage receptacles.
- DO NOT pour chemicals onto the ground.
- DO NOT dispose of chemicals through the storm drain system.
- DO NOT dispose of highly toxic, malodorous chemicals down sinks or sewer drains.

## 3. Container Labeling

Each department manager will verify that all containers received for use will be clearly labeled as to:

- Product Identifier
- Signal Word
- Pictograms
- Hazard Statements
- Precautionary Statements
- Supplier Identification

Labels:

<p><b>2</b></p> 	<p><b>1</b> Sulfuric Acid</p>	<p><b>2</b></p> 
<p><b>3</b> Danger! May be harmful if swallowed. Causes severe skin burns and eye damage. Fatal if inhaled. Harmful to aquatic life.</p>		
<p>Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection.</p>		
<p><b>5</b></p>	<p><b>IF IN EYES:</b> Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.</p>	
<p><b>In case of fire</b> Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.</p>		
<p>See Material Safety Data Sheet for further details regarding safe use of this product.</p>		
<p><b>6</b> Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA Telephone : +18003255832</p>		
<p><b>1</b> Product Identifier</p>	<p><b>4</b> Hazard Statements</p>	
<p><b>2</b> Pictograms</p>	<p><b>5</b> Precautionary Statements</p>	
<p><b>3</b> Signal word, "Danger!"</p>	<p><b>6</b> Supplier Information</p>	

## Pictograms:

<p style="text-align: center;"><b>Health Hazard</b></p>  <ul style="list-style-type: none"> <li>▪ Carcinogen</li> <li>▪ Mutagenicity</li> <li>▪ Reproductive Toxicity</li> <li>▪ Respiratory Sensitizer</li> <li>▪ Target Organ Toxicity</li> <li>▪ Aspiration Toxicity</li> </ul>	<p style="text-align: center;"><b>Flame</b></p>  <ul style="list-style-type: none"> <li>▪ Flammables</li> <li>▪ Pyrophorics</li> <li>▪ Self-Heating Gas</li> <li>▪ Emits Flammable Gas</li> <li>▪ Self-Reactives</li> <li>▪ Organic Peroxides</li> </ul>	<p style="text-align: center;"><b>Exclamation Mark</b></p>  <ul style="list-style-type: none"> <li>▪ Irritant (skin and eye)</li> <li>▪ Skin Sensitizer</li> <li>▪ Acute Toxicity</li> <li>▪ Narcotic Effects</li> <li>▪ Respiratory Tract Irritant</li> <li>▪ Hazardous to Ozone Layer (Non-Mandatory)</li> </ul>
<p style="text-align: center;"><b>Gas Cylinder</b></p>  <ul style="list-style-type: none"> <li>▪ Gases Under Pressure</li> </ul>	<p style="text-align: center;"><b>Corrosion</b></p>  <ul style="list-style-type: none"> <li>▪ Skin Corrosion/Burns</li> <li>▪ Eye Damage</li> <li>▪ Corrosive to Metals</li> </ul>	<p style="text-align: center;"><b>Exploding Bomb</b></p>  <ul style="list-style-type: none"> <li>▪ Explosives</li> <li>▪ Self-Reactives</li> <li>▪ Organic Peroxides</li> </ul>
<p style="text-align: center;"><b>Flame Over Circle</b></p>  <ul style="list-style-type: none"> <li>▪ Oxidizers</li> </ul>	<p style="text-align: center;"><b>Environment (Non-Mandatory)</b></p>  <ul style="list-style-type: none"> <li>▪ Aquatic Toxicity</li> </ul>	<p style="text-align: center;"><b>Skull and Crossbones</b></p>  <ul style="list-style-type: none"> <li>▪ Acute Toxicity (fatal or toxic)</li> </ul>

**Secondary containers**, such as spray bottles, may either be labeled with the same as would be on shipped containers for the original chemical received; or with label alternatives that meet the requirements for the standard. Alternative labeling systems such as the National Fire Protection Association (NFPA) 704 Hazard Rating and the Hazardous Material Information System (HMIS) (See Attachment A) are permitted for workplace containers. However, the information supplied on these labels must be consistent with the revised Hazard Communication Standard, e.g., no conflicting hazard warnings or pictograms.

**‘Immediate-use’ containers** – such as containers of oil that will be placed directly into a vehicle – do not have to be labeled unless mandated by the Program Administrator.

#### **4. Hazardous Materials Inventory**

Each Department will be responsible for establishing and maintaining a list of all known hazardous chemicals used by their employees. These inventories will be alpha tabbed to the name of the chemical. The inventories will be updated within 30 days of introduction of the new chemical into the workplace. Duplicate copies of the various Town Department’s SDS index will be maintained in the Town’s Fire Department.

#### **5. Safety Data Sheets (SDS)**

The program coordinators are responsible for monitoring the status of the Department’s SDS documentation. Employees will advise the program coordinator upon receipt of new chemical products to ensure the necessary SDSs have been received. The program coordinator will review incoming SDSs for new or significant health and safety information. The program coordinator will ensure that any new information is communicated to affected employees. A product should not be accepted for use without the SDS.

SDS will be readily available during each work shift to employees for products used in their department. If an SDS is not available, employees should contact the area supervisor or the program coordinator. Prior MSDS or SDS sheets (for those products no longer in use) will be maintained in a separate file for 30 years.

Safety Data Sheets (SDS) will contain the following information:

- Common name and chemical name of the material
- Name, address and phone number of the manufacturer
- Emergency phone numbers for immediate hazard information
- Date the SDS was last updated
- Listing of hazardous ingredients
- Chemical hazards of the product
- Information for identification of chemical and physical properties

Safety Data Sheets (SDS) to include (continued):

- First Aid procedures
- Required Personal Protective Equipment (PPE)
- Spill, disposal and transport information
- Firefighting information

When updated SDSs are received, the program coordinator will produce sufficient copies to replace the original versions in the appropriate department/facility notebook, update the inventory and provide an SDS copy to the fire department.

In order for the SDSs to be an effective part of the safety program, all employees must:

- Be aware of the location of the SDS binder (see listing below).
- Understand the critical information for each chemical
- Check SDS when more information is needed or questions arise
- Be able to quickly locate the emergency information on the SDS
- Follow the safety practices provided on the SDS

#### **SDS Binder Locations:**

- Fire Department:
  - Central Station: Located on the front wall in the apparatus bay.
  - Emerson Station: Located on the front hallway by the map board.
- Public Works Department:
  - Main Garage/Office (9 Industry Road): Located in the bottom file cabinet drawer to the right of the Head Mechanic's desk in main garage bay 1-2. (See label that book is within cabinet). Duplicate SDS Book on the second floor; see shelf past the photocopier in the Operations Assistant/reception area of the office.
  - Landfill: Located on the book shelf in the garage bay; see the wall next to the restroom door.
- Police Department: On the shelf in the Supervisor's office.
- Parks & Recreation Department:
  - Edwards Field: Maintenance garage; next to entrance in lunch room.
  - Coffin Pond: In the chlorine building.
  - Parks & Recreation building: Located in the Parks & Facilities Manager's office.
- Town Hall: Facilities Foreman's office; first floor, just off Union Street entrance.

## **6. Additional Hazard Identification Systems**

In addition to the SDS system, there is an additional hazard identification system that employees should be familiar with. The Hazardous Materials Identification System (HMIS) is found in Attachment A.

## 7. Employee Training and Information

**Initial Orientation Training --** As part of new employee training, each department will be responsible for the initial Hazard Communication and Global Harmonization System (GHS) Plan orientation. This orientation will be included as part of the overall health and safety briefing and will include the following:

- An overview of the requirements contained in the Hazard Communication Standard.
- Viewing of the Global Harmonization System (GHS) video.
- Any operations in their work area where hazardous chemicals are present.
- Location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals and safety data sheets.
- The physical and health risks of the hazardous chemicals in the work area.
- Methods and observations that may be used to detect the presence or release of hazardous chemicals in the work area.
- How to reduce or prevent exposure to hazardous chemicals through use of control procedures, work practices and personal protective equipment (PPE).
- Steps the Town has taken to reduce or prevent exposure to hazardous chemicals.
- Procedures to follow if employees are overexposed to hazardous chemicals.
- How to read labels and SDSs to obtain hazard information. This includes the HMIS (Hazard Material Identification System) outlined in Attachment A.

### **Job Specific Training --**

Employees will receive on-the-job training from their supervisors (or designated Department representative) specific to the chemicals they will be working with. This should include the proper use, inspection and storage of necessary personal protective equipment (PPE). Prior to introducing a new chemical hazard into any department, each employee in that department will be given information and training as outlined above for the new chemical hazard. This training will generally be in the nature of a verbal briefing, but may take any form sufficient to ensure the necessary information is transmitted to every affected employee.

Individual Departments may elect to conduct more in-depth training to meet the needs of the Department's mission or because of the level of potential exposure their employees may face.

**Immediate On-the-Spot Training --** This training will be conducted by Departments for any employee that requests additional training or exhibits a lack of understanding of the safety requirements.

**Training Records --** Each Department will maintain training records to document the training employees have received. A copy will be provided to Human Resources for each

employee's personnel file. Training records must be maintained for 3 years post the date of training.

## **8. Hazardous Non-Routine Tasks**

Periodically, employees are required to perform non-routine tasks that are hazardous. Non-routine is defined as working on, near, or with unlabeled piping, unlabeled containers of an unknown substance, confined space entry where a hazardous substance may be present and/or a one-time task using a hazardous substance differently than intended (example: using a solvent to remove stains from a tile floor). Employees who perform non-routine tasks will be trained on the hazards associated with that chemical as outlined in the training section of this program.

## **9. Contractors and Other Employers**

It is the responsibility of the department program coordinators to provide contractors who will be working in their area with information about hazardous chemicals their employees may be exposed to on the job site. This includes suggested precautions and PPE usage, location of SDSs and an explanation of labeling systems as required. It is the responsibility of the program coordinator to obtain information about hazardous chemicals used by other employers to which the town's employees may be exposed. If requested, a copy of the SDSs will be provided to contractors or other employers.

In addition, other employers will be informed of required precautionary measures as needed to protect their employees who are exposed to operations performed by the Town.

## **10. Chemical Storage**

The separation of chemicals (solids or liquids) during storage is necessary to reduce the possibility of unwanted chemical reactions caused by accidental mixing. Use either distance or barriers (e.g., trays) to isolate chemicals into the following groups:

- Flammable Liquids: store in approved flammable storage lockers.
- Other liquids: ensure liquids that are incompatible are not stored together.
- Separate and secure acetylene and oxygen tanks.

Chemicals will not be stored in any refrigerator used for food storage. Refrigerators used for storing chemicals must be appropriately identified by a label on the door.

## **11. Emergencies and Spills**

In the event of a chemical related emergency or spill, the following actions should occur:

- Evacuate personnel from the area
- Isolate the area
- If the material is flammable, turn off ignition and heat sources
- Call 911 for Emergency Response Team assistance if required
- Ensure that only personnel specifically trained in emergency procedures are permitted to participate in the response beyond evacuation activities

## 12. Responsibilities

- Management
  - Ensure compliance with this program
  - Conduct immediate corrective action for deficiencies found in the program
  - Maintain an effective Hazard Communication/Global Harmonization System (GHS) Plan training program
  - Make this plan available to employees at all times (website)
- Supervisors
  - Comply with all specific requirements of the program
  - Provide specific chemical safety training for assigned employees
  - Ensure chemicals are properly used, stored, & labeled
  - Ensure only the minimum amount necessary is kept at work stations
  - Ensure up-to-date SDS are readily accessible to all employees on all shifts
- Employees
  - Comply with chemical safety requirements of this program
  - Report any problems with storage or use of chemicals
  - Immediately report spills of chemicals to your supervisor
  - Use only those chemicals for which you have been trained
- Safety Coordinators
  - Maintain a list of hazardous chemicals using the identity that is referenced on the SDS
  - Monitor the effectiveness of the program
  - Conduct annual audit of the program
  - Monitor employee training to ensure effectiveness
  - Keep management informed of necessary changes
  - Ensure SDSs are available as required
  - Monitor facility for proper use, storage and labeling of chemicals

## Attachment A (Sheet 1 of 4) Hazardous Materials Identification System (HMIS)

**HMIS**- The Hazardous Materials Identification System, was developed by the National Paint & Coatings Association (NPCA) to help employers comply with OSHA's Hazard Communication (HCS), 29 CFR 1910.1200.

The system utilizes colored bars, numbers and symbols to convey the hazards of chemicals used in the workplace.



Health	
The Health section conveys the health hazards of the material. In the latest version of HMIS, the blue Health bar has two spaces, one for an asterisk and one for a numeric hazard rating. If present, the asterisk signifies a chronic health hazard, meaning that long-term exposure to the material could cause a health problem such as emphysema or kidney damage. NFPA lacks this important information because the NFPA system is meant only for emergency or acute (short-term) exposures.	
<b>4</b>	Life-threatening, major or permanent damage may result from single or repeated overexposures.
<b>3</b>	Major injury likely unless prompt action is taken and medical treatment is given.
<b>2</b>	Temporary or minor injury may occur.
<b>1</b>	Irritation or minor reversible injury possible.
<b>0</b>	No significant risk to health.

Flammability	
For HMIS I and II, the criteria used to assign numeric values (0 = low hazard to 4 = high hazard) are identical to those used by NFPA. In other words, in <b>this</b> category, the systems are identical. For HMIS III, the flammability criteria are defined according to OSHA standards:	
<b>4</b>	Flammable gases, or very volatile flammable liquids with flash points below 73 °F, and boiling points below 100°F. Materials may ignite spontaneously with air. (Class IA) .
<b>3</b>	Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 °F and boiling points above 100 °F, as well as liquids with flash points between 73 °F and 100 °F. (Classes IB & IC).
<b>2</b>	Materials that must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 °F but below 200 °F. (Classes II & IIIA).
<b>1</b>	Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 °F. (Class IIIB).
<b>0</b>	Materials that will not burn.

## Attachment A (Sheet 2 of 4) Hazardous Materials Identification System (HMIS)

### Reactivity (HMIS I and II - now obsolete)

The criteria used to assign numeric values (0 = low hazard to 4 = high hazard) were identical to those used by NFPA. In other words, in this category, the systems were identical.

**This version is now obsolete.** The yellow section has been replaced with an orange section titled **Physical Hazards** – see the next section for more information.

### Physical Hazard (HMIS III)

Reactivity hazard are assessed using the OSHA criterion of physical hazard. Seven such hazard classes are recognized:

Water Reactives	Organic Peroxides	Explosives	Compressed Gases
Pyrophoric Materials	Oxidizers	Unstable Reactives	

This version replaces the now-obsolete yellow section titled **Reactivity**. See the previous section for more information. As with the Health and Flammability sections, the level of hazard is indicated using numeric values (0 = low hazard to 4 = high hazard):

<b>4</b>	Materials that are readily capable of explosive water reaction, detonation or explosive decomposition, polymerization, or self-reaction at normal temperature and pressure.
<b>3</b>	Materials that may form explosive mixtures with water and are capable of detonation or explosive reaction in the presence of a strong initiating source. Materials may polymerize, decompose, self-react, or undergo other chemical change at normal temperature and pressure with moderate risk of explosion.
<b>2</b>	Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.
<b>1</b>	Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.
<b>0</b>	Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.

Attachment A (Sheet 3 of 4)  
**Hazardous Materials Identification System (HMIS)**

**Personal Protection**

This is by far the largest area of difference between the NFPA and HMIS systems. In the NFPA system, the white area is used to convey special hazards whereas HMIS uses the white section to indicate what personal protective equipment (PPE) should be used when working with the material.

**Note:** The NPCA specifically recommends that "preparers of MSDSs **should not place HMIS PPE designation codes on the MSDSs or labels that leave the facility**, as they do not know the conditions under which their customers use those products." However, these still turn up on some MSDS's.

HMIS uses a letter coding system for this section. We at ILPI find this unacceptable because we would rather see the PPE listed explicitly instead of having employees try to remember a bunch of codes or consult a chart, something that could lead to confusion and/or a fatal accident. Likewise, the "custom codes" aspect is particularly dangerous for visitors and contractors who may not remember/recognize that these could vary from job site to job site.

We present the lettering scheme here, along with a series of graphics meant to reinforce the meaning of each letter.

**Attachment A (Sheet 4 of 4)  
Hazardous Materials Identification System (HMIS)**

HMIS Letter	Required Equipment
A	 Safety Glasses
B	 Safety Glasses  Gloves
C	 Safety Glasses  Gloves  Protective Apron
D	 Face Shield  Gloves  Protective Apron
E	 Safety Glasses  Gloves  Dust Respirator
F	 Safety Glasses  Gloves  Protective Apron  Dust Respirator
G	 Safety Glasses  Gloves  Vapor Respirator
H	 Splash Goggles  Gloves  Protective Apron  Vapor Respirator
I	 Safety Glasses  Gloves  Dust Respirator  Vapor Respirator
J	 Splash Goggles  Gloves  Protective Apron  Dust Respirator  Vapor Respirator
K	 Air Line Mask or Hood  Gloves  Full Suit  Boots
L through Z	Site-specific label. Ask your supervisor or safety specialist for handling instructions.

**Town of Brunswick  
85 Union Street  
Brunswick, ME 04011**

**Hazardous Communication Policy and GHS Video Review  
Acknowledgement Form**

This acknowledges that I have reviewed the Hazardous Communications Policy of the Town of Brunswick.

If I am a new employee, I will check below that I have also viewed the SafetyWorks video, which describes the changes to the Global Harmonization program.

_____	_____
Signature	Department
_____	_____
Printed Name	Date

\_\_\_\_\_ I am a new Employee and have viewed the Global Harmonization Video on \_\_\_\_\_.  
(Date)

\_\_\_\_\_ I attest this Employee has viewed the GHS Video.  
(H.R. or Training Officer, please initial).