



ABOUT CODE CORNER

CCFS would like to remind you to check with your local "Authority Having Jurisdiction (AHJ)" for questions and opinions concerning your local Fire and Building Codes. The information contained in this article is supplied as a courtesy by the International Code Council (ICC) and is based on the International Fire and Building Codes and their respective commentaries. Your local codes or ordinances may vary.

Appendix H: Hazardous Materials Management Plan (HMMP) and Hazardous Materials Inventory Statement (HMIS) Instructions

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

General Comments

The requirements for a Hazardous Materials Management Plan (HMMP) or Hazardous Materials Inventory Statement (HMIS) have existed in some form since the 1988 edition of the legacy *Uniform Fire Code*. HMMPs and HMIS must be submitted with permit applications when required by the fire code official. This new (in the 2009 edition of the code) Appendix H provides an example format for these documents and also clarifies the information that is to be submitted to the building code official for review of plants to determine compliance with the hazardous material requirements in IBC Sections 414 and 415.

Appendix H was developed to provide a standard reporting format for businesses submitting a HMMP or HMIS to the fire or building code official based on the classification and quantities of materials that would be found on site for storage or use.

Appendix H is not a mandatory appendix unless it is adopted by the jurisdiction. Some jurisdictions have already developed standard formats for submittal of HMMPs and HMISs. Appendix H can be amended to provide this information to the regulated community. Appendix H is divided into four distinct sections:

1. H101: Hazardous Materials Management Plan
2. H102: Hazardous Materials Inventory Statement
3. H103: Emergency Plan
4. H104: Referenced Standards

The sample forms in this appendix and available Material Safety Data Sheets (MSDS) provide the basis for the evaluations. The use of the forms should promote uniformity in the manner that hazardous materials information is provided, stored and used.

Purpose

Sections 407.5 and 407.6 of the *International Fire Code*® (IFC®) require that the HMIS and HMMP be provided. Sections 2701.5.1 and 2701.5.2 specify their contents when these documents are required to be submitted with a permit application by the fire code official. They focus on

three important goals. First, the HMIS is formatted so that plan reviewers can determine the correct occupancy classification of the building based on material hazards. Second, the HMMP and HMIS provide hazardous materials storage and use information necessary for inspectors.

Third, the HMMP includes information that fire department operations personnel need before and during an emergency response.

The amounts of each hazard class in storage and use and the applicable maximum allowable quantities are provided in the HMIS.

SECTION H101

HMMP

HMMPs have commonly been used as a tool to help facilitate tactical preplanning of Group H occupancies or facilities storing and handling large amounts of hazardous materials, such as petroleum storage terminals. They can be beneficial when preparing tactical preplans, but can be cumbersome if actually used as such. For example, consider a typical water treatment plant that could have large amounts of anhydrous chlorine, sulfur dioxide, sodium hydroxide and hydrofluorosilic acid. To comply with all of the requirements of an HMMP for the various storage and process piping drawings, plant layout and process details could easily result in over 100 pages of information that would need to be read and understood. This level of information has not always been beneficial to emergency responders, especially given that Section 2703.9.1.1 of the IFC requires that the permit holder designate responsible persons to serve as fire department liaisons in the event of an incident. It is expected that these responsible persons have a good understanding of the hazardous materials and the processes involving their storage and use.

H101.1 Part A (See Example Format in Figure 1).

1. Fill out items and sign the declaration.
2. Part A of this section is required to be updated and

submitted annually, or within 30 days of a process or management change.

The business information portion of the plan is to identify the business, location and responsible people who will interact with the fire department, both during normal review periods and during an emergency incident. Also included is general information regarding the type of process, procedures, and storage, the number of people normally in the facility during the shifts and time periods the business is open to assist in accounting for them during an emergency. This plan assists not only the fire department, but also the business to establish a listing of employees to be accounted for during an emergency. The plan must be continually reviewed by the company to ensure the information is current and reviewed by the fire department during inspections.

H101.2 Part B-General Facility Description/Site Plan (See Example Format in Figure 2).

1. Provide a site plan on 8 1/2- by 11-inch (215 mm by 279 mm) paper, showing the locations of all buildings, structures, outdoor chemical control or storage and use areas, parking lots, internal roads, storm and sanitary sewers, wells and adjacent property uses. Indicate the approximate scale, northern direction and date the drawing was completed.

The facility description and site plan is a description of what occurs at the facility and where. This form needs to correlate the processes and procedures with the location on the building and site plans to be provided on Figure 3 (see commentary, Section H101.3).

H101.3 Part C-Facility Storage Map-Confidential Information (See Example Format in Figure 3).

1. Provide a floor plan of each building identified on the site plan as containing hazardous materials on 8 1/2 - by 11-inch (215 mm by 279 mm) paper, identifying the northern direction, and showing the location of each storage and use area.

2. Identify storage and use areas, including hazard waste storage areas.
3. Show the following:
 - 3.1. Accesses to each storage and use area.
 - 3.2. Location of emergency equipment.
 - 3.3. Location where liaison will meet emergency responders.
 - 3.4. Facility evacuation meeting point locations.
 - 3.5. The general purpose of other areas within the building.
 - 3.6. Location of all aboveground and underground tanks to include sumps, vaults, below-grade treatment systems, piping, etc.
 - 3.7. Show hazard classes in each area.
 - 3.8. Show locations of all H occupancies, control areas, and exterior storage and use areas.
 - 3.9. Show emergency exits.

□ In creating the facility map, it is usually best to follow the map maker's guide of orientating the site so that North is at the top of the page, identified by the use of a compass arrow pointing toward the top of the page. Wherever possible, standard map symbols should be used but in any event, the clear identification of the required features is essential to the effectiveness of the map. *NFPA 170 Fire Safety and Emergency Symbols* may be useful in map preparation. Identify the use, storage and waste storage using different types of symbols. With the areas identified, it is important to identify the access to each area and emergency exits, and the location of emergency equipment that is available for the hazard. The meeting location point for the facility liaison to meet the fire department is important for the prompt exchange of information regarding the facility and a location where employees are to go to keep them safe and out of the way of emergency responders.

The location of tanks at the facility, especially the underground tanks, piping and valves, and the material classes is needed in addition to the control areas or Group H occupancies within the buildings. Exterior

storage and use areas also need to be clearly identified.

H101.4 HMMP short form. Facilities with the *maximum allowable quantities or less per control area* in Tables

2703.1.1(1) through 2703.1.1(4) of the *International Fire Code* and where the threshold planning quantities at EPA 40 CFR Part 355, Sections 302 and 304 are not exceeded, shall be allowed to file a short-form HMMP which shall include all of the following components:

1. General facility information.
2. A simple line drawing of the facility showing the location of storage facilities and indicating the hazard class or classes and physical state of the hazardous materials being stored.
3. Information that the hazardous materials will be stored and handled in a safe manner and will be appropriately contained, separated and monitored.
4. Assurance that security precautions have been taken, employees have been appropriately trained to handle the hazardous materials and react to emergency situations, adequate labeling and warning signs are posted, adequate emergency equipment is maintained and the disposal of hazardous materials will be in an appropriate manner.

Facilities which have prepared, filed and submitted a Tier II Inventory Report required by the U.S. Environmental Protection Agency (USEPA) or required by a state which has secured USEPA approval for a similar form shall be deemed to have complied with this section.

□ When a facility has hazardous materials in amounts equal to or less than the maximum allowable quantities, but at or over the permit amounts, the reporting requirements may be more easily fulfilled by completing a short HMMP form that needs to include only the listed information.

SECTION H102 HMIS

HMISs are commonly used for determining a building's occupancy classification and to satisfy the requirements in Section 105 of the IFC for operational permits to store, handle, dispense and use hazardous materials. Section 2701.5.2 of the IFC previously required that product information, the MSDS for each product, the hazard classification of the material using the criteria in Section 2701.2.2 of the IFC and the maximum quantity stored on site be reported. While this information is helpful in understanding the hazards that may be associated with a particular occupancy or premises, it does not require reporting amounts in open or closed systems or the identification of the control areas locations.

H102.1 Inventory statement contents.

1. HMIS Summary Report (see Example Format in Figure 4).

1.1. Complete a summary report for each control area and Group H occupancy.

1.2. The storage summary report includes the HMIS Inventory Report amounts in storage, use-closed and use-open conditions.

1.3. Provide separate summary reports for storage, use-closed and use-open conditions.

1.4. IBC/IFC Hazard Class.

1.5. Inventory Amount. [Solid (lb), Liquid (gal), Gas (cuft, gal or lbs)].

1.6. IBC/IFC Maximum Allowable Quantity per control area (MAQ). (If applicable, double MAQ for sprinkler protection and/or storage in cabinets. For wholesale and retail sales occupancies, go to Tables 2703.11.1 and 3404.3.4.1 of the *International Fire Code* for MAQs.).

2. HMIS Inventory Report (see Example Format in Figure 5).

2.1. Complete an inventory report by listing products by location.

2.2. Product Name.

2.3. Components. (For mixtures specify percentages of major components if available.)

2.4. Chemical Abstract Service (CAS) Number.

(For mixtures list CAS Numbers of major components if available.)

2.5. Location. (Identify the control area or, if it is a Group H occupancy, provide the classification, such as H-2, H-3, etc.)

2.6. Container with a capacity of greater than 55 gallons (208 L). (If product container, vessel or tank could exceed 55 gallons, indicate yes in column.)

2.7. Hazard Classification. (List applicable classifications for each product.)

2.8. Stored. (Amount of product in storage conditions.)

2.9. Closed. (Amount of product in use-closed systems.)

2.10. Open. (Amount of product in use-open systems.)

Facilities which have prepared, filed and submitted a Tier II Inventory Report required by the U.S. Environmental Protection Agency (US EPA) or required by a state which has secured US EPA approval for a similar form shall be deemed to have complied with this section.

Facilities which have prepared, filed and submitted a Tier II Inventory Report required by the U.S. Environmental Protection Agency (US EPA) or required by a state which has secured US EPA approval for a similar form shall be deemed to have complied with this section. The HMIS Report is a comprehensive summary of the hazardous materials to be found at the facility for each control area or Group H occupancy area, and is to contain all of the information listed in Items 1 and 2 of this section (see also Section 2701.5.2 of the IFC). Note that this section of the HMIS is only needed if a SARA Tier II Report has not been filed.

SECTION H103

EMERGENCY PLAN

1. Emergency Notification. (See Example Format in Figure 6.)

2. Where OSHA or state regulations require a facility to have either an Emergency Action Plan (EAP) or an Emergency Response Plan (ERP), the EAP or ERP shall be included as part of the HMMP.

▫When state or OSHA regulations require an Emergency Action Plan or Emergency Response Plan, it is necessary to ensure that the emergency plan provides the contact information for the liaisons of the business to the agencies that would respond to an incident at the facility.

SECTION H104

REFERENCED STANDARDS

EPA 40 CFR

Part 355–2008

Emergency Planning and Notification H101.4

ICC IBC-09 International Building Code H102.1

ICC IFC-09 International Fire Code H101.4, H102.1

**FIGURE 1
HAZARDOUS MATERIALS MANAGEMENT PLAN
SECTION I: FACILITY DESCRIPTION**

1. Business Name: _____ Phone: _____
 Address: _____

2. Person Responsible for the Business

Name	Title	Phone
_____	_____	_____

3. Emergency Contacts:

Name	Title	Home Number	Work Number
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

4. Person Responsible for the Application/Principal Contact:

Name	Title	Phone
_____	_____	_____

5. Principal Business Activity:

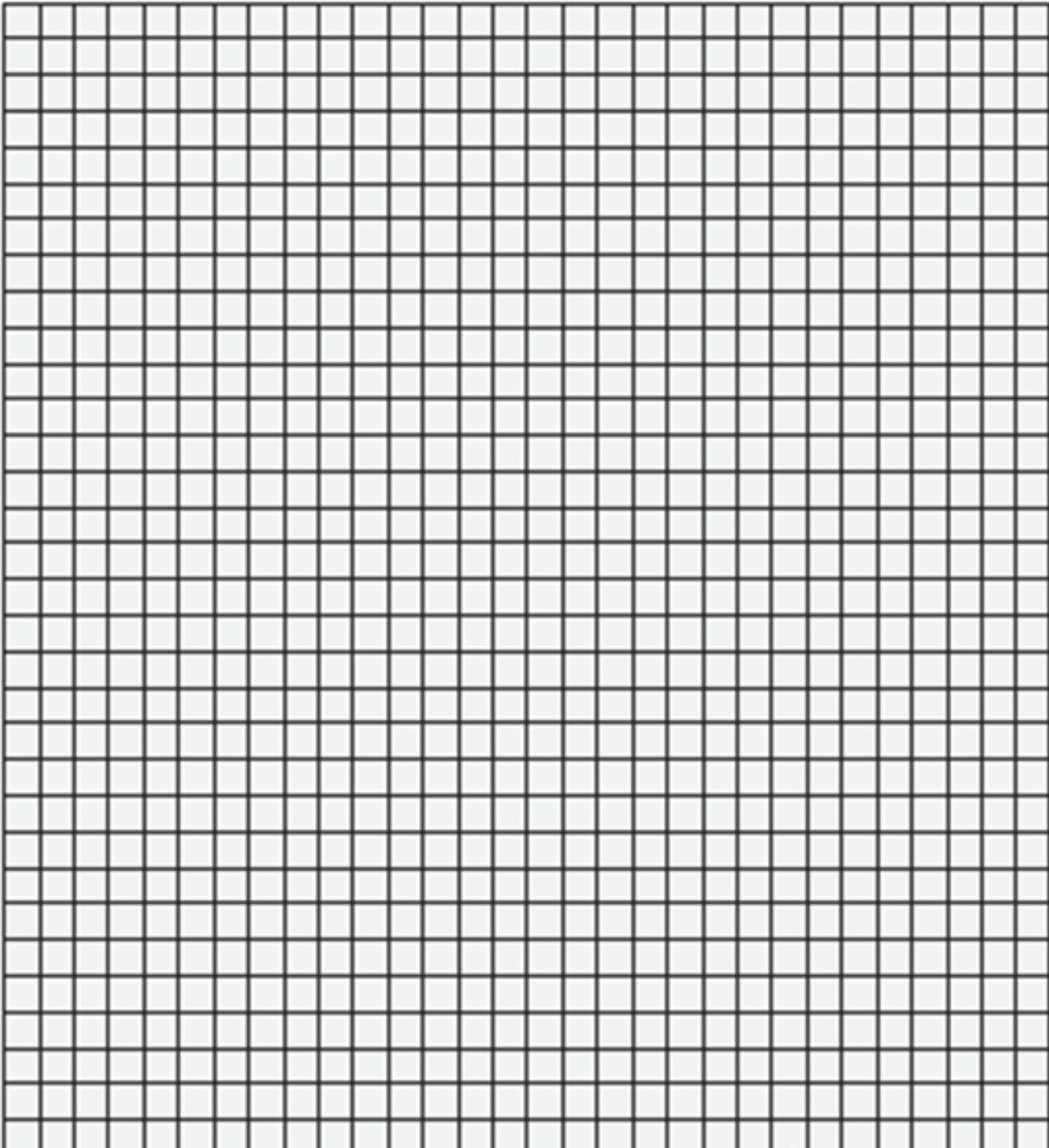
6. Number of Employees: _____

7. Number of Shifts: _____
 a. Number of Employees per Shift

8. Hours of Operation: _____

FIGURE 3
HAZARDOUS MATERIALS MANAGEMENT PLAN

SECTION I: FACILITY DESCRIPTION
PART C—FACILITY MAP



Business Name	Date
Address	Page of

FIGURE 4
SECTION II — HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS) HMIS SUMMARY REPORT^a
 (Storage^b Conditions)^c

IDC/FIC HAZARD CLASS	HAZARD CLASS (Abbrev)	INVENTORY AMOUNT			IDC/FIC MAXIMUM ALLOWABLE QUANTITY ^d			
		Solid (lb)	Liquid (gal)	Gas (cu ft, gal, lb)	Solid (lb)	Liquid (gal)	Gas (cu ft, gal, lb)	
Combustible Liquid	C2		5			120		
	C3A					330		
	C3B		6			13200		
Combustible Fiber	Loose Baled							
Cryogenic, Flammable	CryO-Flam					45		
Cryogenic, Oxidizing	CryO-OX					45		
Flammable Gas	FLG			150			1000	
								(Gaseous)
								(Liquefied)
Flammable Liquid	F1A					30		
	F1B & F1C		5			120		
	Combustion (1A, 1B, 1C)		5			120		
Flammable Solid	FLS				125			
Organic Peroxide	OP1				0			
	OP2				5			
	OP3				50			
	OP4				125			
	OP5				NL			
	OP6				NL			
Oxidizer	OX4				0			
	OX3				10			
	OX2				250			
	OX1				4000			

a. Complete a summary report for each control area and 11 occupancy.
 b. Storage – storage + use-closed + use-open systems
 c. Separate reports are required for use-closed and use-open systems
 d. Include increase for sprinklers or storage in cabinets, if applicable.
 (This is an example; add additional hazard classes as needed.)

FIGURE 5
SECTION II — HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS) HMIS INVENTORY REPORT
(Sort Products Alphabetically by Location of Product and then Alphabetically by Product Name)

Product Name (Component) ^a	CAS Number	Location ^b	Container > 55 gal ^b	Haz Class 1	Haz Class 2	Haz Class 3	Stored (lb)	Stored (gal)	Stored (gms) ^d	Closed (lb)	Closed (gal)	Closed (gms) ^d	Open (lb)	Open (gal)
ACETYLENE (Acetylene gas)	74 86-2	Control Area 1		FLC	US2				150					
BLACK AEROSOL SPRAY PAINT (Mixture)	Mixture	Control Area 1		A-1.3			24							
GASOLINE, UNLEADED (Gasoline-Mixture)	8006-61-0	Control Area 1		FIB				5						
Methyl-t-Butyl Ether-15%	1634-04-4													
Diisopropyl Ether-7%	108-20-3													
Ethanol-17%	64-17-5													
Toluene-12%	108-88-3													
Xylene-11%	1330-20-7													
MOTOR OIL-10W40 (Hydrotreated Heavy Paraffinic Distillate-85%; Additives-20%)	64742-54-7 Mixture	Control Area 1		CBS				3						
DIESEL (Diesel-99-100%; Additives)	68476-34-6 Proprietary	Control Area 2	Yes	C2				225						
TRANSMISSION FLUID (Oil-Solvent-Neutral; Performance Additives)	64742-65-0	Control Area 2		CBS				3						
OXYGEN, GAS (Oxygen)	7782-44-7	H-3		OXG					5000					

- a. Identify the control area or, if it is an H occupancy, provide the classification, such as H-2, H-3, etc.
 - b. If the product container, vessel, or tank could exceed 55 gallons, indicate yes in the column.
 - c. Specify percentages of main components if available.
 - d. In cubic foot, gallons, or pounds.
- (This is an example; add additional hazard classes as needed.)

FIGURE 6
HAZARDOUS MATERIALS MANAGEMENT PLAN
SECTION II: EMERGENCY PLAN

1. In the event of an emergency, the following shall be notified:

a. Facility Liaison

Name	Title	Home Phone	Cell Phone
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

b. Agency

Agency	Contact	Phone Number
Fire Department	_____	_____
LEPC	_____	_____
Other	_____	_____