City of Vacaville
Community Development
Building Division

Hazardous Material Form

Policy/ Procedure Memo **Effective Date 9/5/12**

TO: Affected parties

FROM: Jay Salazar, Chief Building Official, P.E., M.P.A

RE: Application of Section 414, Hazardous Material Information required

Background:

Section 414 of the California Building Code requires a report be submitted to the Building Official regarding the maximum expected quantities of hazardous material to be stored, used in an open system or used in a closed system. In addition the Building requires that the information be represented format using terms and definitions related to Table 307.1 (1) and 307.1(2) of the California Building Code. In addition, emergency personnel, including first responders, must be aware of any hazardous chemical they may encounter at a location with Vacaville.

Procedure:

All applicants submitting an building permit application for construction of a new nonresidential building (not shell only), tenant improvement, alteration permit or business license shall accurately complete the attached hazardous material form or submit a copy of an approved Solano County Hazardous material Management Plan. Any application or request for a business license that is not accompanied by the items stated above shall be deemed incomplete and the application shall be returned to the applicant along with a declaration the application is incomplete.

If they have no hazardous materials or have hazardous materials that are common cleaning chemicals, toners, inks, and touch up paints in normal office, retail, or household quantities (e.g. less than 5 gallons or 1 pound), at the business location then they are to complete the attached Non**-Use of Hazardous Material Verification Form** on the page listed “Page 2 of 5”.

If they have hazardous materials on site they are to submit an approved Solano County Hazardous Material Management Plan **or** complete the attached **Hazardous Materials Use Disclosure Form** located on the pages listed Pages 3 of 5, 4 of 5 and 5of 5”. This form must be filled out with the definitions and terms used in Tables 307.1(1) and 307.1(2).

This procedure applies to all nonresidential uses in the City of Vacaville including but not limited to Cell sites, Dry cleaners, manufacturing facilities, private schools, home occupation businesses, or any other commercial facility.

A copy of the form or an approved Solano county hazardous Material Management Plan shall be routed to the Building Official and to Fire Prevention Staff.

HAZARDOUS MATERIALS FORMS

Use the following forms and/or format to disclose hazardous materials information.

If you DO NOT exceed normal consumer amounts of hazardous materials, complete the first form ONLY.

If you DO exceed normal consumer amounts of hazardous materials, DO NOT complete the first form, but complete ALL ADDITIONAL forms.

Additional information on classification of chemicals and exempt amounts can be found in the International Fire Code. Information on control areas can be found in the International Building Code.

[F] TABLE 307.1(1)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, j, m, n, p]

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[b]			USE-CLOSED SYSTEMS[b]			USE-OPEN SYSTEMS[b]	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)
Combustible dust	N/A	H-2	Note q	N/A	N/A	Note q	N/A	N/A	Note q	N/A
Combustible liquid[c, i]	II IIIA IIIB	H-2 or H-3 H-2 or H-3 N/A	N/A	120[d, e] 330[d, e] 13,200[e, f]	N/A	N/A	120[d] 330[d] 13,200[f]	N/A	N/A	30[d] 80[d] 3,300[f]
Combustible fiber	Loose Baled[o]	H-3	(100) (1,000)	N/A	N/A	(100) (1,000)	N/A	N/A	(20) (200)	N/A
Consumer fireworks	1.4G	H-3	125[d, e, l]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cryogenics, flammable	N/A	H-2	N/A	45[d]	N/A	N/A	45[d]	N/A	N/A	10[d]
Cryogenics, inert	N/A	N/A	N/A	N/A	NL	N/A	N/A	NL	N/A	N/A
Cryogenics, oxidizing	N/A	H-3	N/A	45[d]	N/A	N/A	45[d]	N/A	N/A	10[d]
Explosives	Division 1.1 Division 1.2 Division 1.3 Division 1.4 Division 1.4G Division 1.5 Division 1.6	H-1 H-1 H-1 or H-2 H-3 H-3 H-1 H-1	1[e, g] 1[e, g] 5[e, g] 50[e, g] 125[d, e, l] 1[e, g] 1[d, e, g]	(1)[e, g] (1)[e, g] (5)[e, g] (50)[e, g] N/A (1)[e, g] N/A	N/A N/A N/A N/A N/A N/A N/A	0.25[g] 0.25[g] 1[g] 50[g] N/A 0.25[g] N/A	(0.25)[g] (0.25)[g] (1)[g] (50)[g] N/A (0.25)[g] N/A	N/A N/A N/A N/A N/A N/A N/A	0.25[g] 0.25[g] 1[g] N/A N/A 0.25[g] N/A	(0.25)[g] (0.25)[g] (1)[g] N/A N/A (0.25)[g] N/A
Flammable gas	Gaseous Liquefied	H-2	N/A	N/A (150)[d,e]	1,000[d,e] N/A	N/A	N/A (150)[d,e]	1,000[d,e] N/A	N/A	N/A
Flammable liquid[c]	1A 1B and 1C	H-2 or H-3	N/A	30[d, e] 120[d, e]	N/A	N/A	30[d] 120[d]	N/A	N/A	10[d] 30[d]
Flammable liquid, combination (1A, 1B, 1C)	N/A	H-2 or H-3	N/A	120[d, e, h]	N/A	N/A	120[d, h]	N/A	N/A	30[d, h]

(continued)

[F] TABLE 307.1(1)—(continued)

MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, l, m, n, p]

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[b]			USE-CLOSED SYSTEMS[b]			USE-OPEN SYSTEMS[b]	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)
Flammable solid	N/A	H-3	125[d, e]	N/A	N/A	125[d]	N/A	N/A	25[d]	N/A
Inert gas	Gaseous	N/A	N/A	N/A	NL	N/A	N/A	NL	N/A	N/A
	Liquefied	N/A	N/A	N/A	NL	N/A	N/A	NL	N/A	N/A
Organic peroxide	UD	H-1	1[e, g]	(1)[e, g]	N/A	0.25[g]	(0.25)[g]	N/A	0.25[g]	(0.25)[g]
	I	H-2	5[d, e]	(5)[d, e]	N/A	1[d]	(1)[d]	N/A	1[d]	(1)[d]
	II	H-3	50[d, e]	(50)[d, e]	N/A	50[d]	(50)[d]	N/A	10[d]	(10)[d]
	III	H-3	125[d, e]	(125)[d, e]	N/A	125[d]	(125)[d]	N/A	25[d]	(25)[d]
	IV	N/A	NL	NL	N/A	NL	NL	N/A	NL	NL
	V	N/A	NL	NL	N/A	NL	NL	N/A	NL	NL
Oxidizer	4	H-1	1[e, g]	(1)[e, g]	N/A	0.25[g]	(0.25)[g]	N/A	0.25[g]	(0.25)[g]
	3[k]	H-2 or H-3	10[d, e]	(10)[d, e]	N/A	2[d]	(2)[d]	N/A	2[d]	(2)[d]
	2	H-3	250[d, e]	(250)[d, e]	N/A	250[d]	(250)[d]	N/A	50[d]	(50)[d]
	1	N/A	4,000[e, f]	(4,000)[e, f]	N/A	4,000[f]	(4,000)[f]	N/A	1,000[f]	(1,000)[f]
Oxidizing gas	Gaseous	H-3	N/A	N/A	1,500[d,e]	N/A	N/A	1,500[d,e]	N/A	N/A
	Liquefied		N/A	(150)[d,e]	N/A	N/A	(150)[d,e]	N/A	N/A	N/A
Pyrophoric material	N/A	H-2	4[e, g]	(4)[e, g]	50[e, g]	1[g]	(1)[g]	10[g]	0	0
Unstable (reactive)	4	H-1	1[e, g]	(1)[e, g]	10[g]	0.25[g]	(0.25)[g]	2[e, g]	0.25[g]	(0.25)[g]
	3	H-1 or H-2	5[d, e]	(5)[d, e]	50[d, e]	1[d]	(1)[d]	10[d, e]	1[d]	(1)[d]
	2	H-3	50[d, e]	(50)[d, e]	250[d, e]	50[d]	(50)[d]	250[d, e]	10[d]	(10)[d]
	1	N/A	NL	NL	NL	NL	NL	NL	NL	NL
Water reactive	3	H-2	5[d, e]	(5)[d, e]	N/A	5[d]	(5)[d]	N/A	1[d]	(1)[d]
	2	H-3	50[d, e]	(50)[d, e]	N/A	50[d]	(50)[d]	N/A	10[d]	(10)[d]
	1	N/A	NL	NL	N/A	NL	NL	N/A	NL	NL

For SI: 1 cubic foot = 0.028 m^3, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

NL = Not Limited; N/A = Not Applicable; UD = Unclassified Detonable

a. For use of control areas, see Section 414.2.

b. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited provided the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs, consumer or industrial products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.

d. *[SFM] In other than Group L occupancies,* maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.

e. *[SFM] In other than Group L occupancies,* maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, day boxes, gas cabinets or exhausted enclosures or in listed safety cans in accordance with Section 5003.9.10 of the *California Fire Code*. Where Note d also applies, the increase for both notes shall be applied accumulatively.

f. The permitted quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

g. Permitted only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

h. Containing not more than the maximum allowable quantity per control area of Class IA, IB or IC flammable liquids.

i. The maximum allowable quantity shall not apply to fuel oil storage complying with Section 603.3.2 of the *California Fire Code*.

j. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.

k. A maximum quantity of 200 pounds of solid or 20 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment. Storage containers and the manner of storage shall be approved.

l. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks, including packaging, shall be used.

m. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the *California Fire Code*.

n. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).

o. Densely packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.

p. The following shall not be included in determining the maximum allowable quantities:

1. Liquid or gaseous fuel in fuel tanks on vehicles.
2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with this code.
3. Gaseous fuels in piping systems and fixed appliances regulated by the *California Fuel Gas Code*.
4. Liquid fuels in piping systems and fixed appliances regulated by the *California Mechanical Code*.

q. Where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.

[F] TABLE 307.1(2)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIAL POSING A HEALTH HAZARD[a, b, c, i]

MATERIAL	STORAGE[d]			USE-CLOSED SYSTEMS[d]			USE-OPEN SYSTEMS[d]	
	Solid pounds (cubic feet)	Liquid gallons (pounds)[e, f]	Gas (cubic feet at NTP)[e]	Solid pounds[e]	Liquid gallons (pounds)[e]	Gas (cubic feet at NTP)[e]	Solid pounds[e]	Liquid gallons (pounds)[e]
Corrosive	5,000	500	Gaseous 810[f] Liquefied (150)[h]	5,000	500	Gaseous 810[f] Liquefied (150)[h]	1,000	100
Highly toxic	10	(10)[h]	Gaseous 20[g] Liquefied (4)[g,h]	10	(10)[i]	Gaseous 20[g] Liquefied (4)[g,h]	3	(3)[i]
Toxic	500	(500)[h]	Gaseous 810[f] Liquefied (150)[f,h]	500	(500)[i]	Gaseous 810[f] Liquefied (150)[f,h]	125	(125)

For SI: 1 cubic foot = 0.028 m^3, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

a. For use of control areas, see Section 414.2.

b. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs, consumer or industrial products, and cosmetics, containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.

c. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).

d. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

e. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Where Note f also applies, the increase for both notes shall be applied accumulatively.

f. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, gas cabinets or exhausted enclosures as specified in the *California Fire Code*. Where Note e also applies, the increase for both notes shall be applied accumulatively.

g. Allowed only when stored in approved exhausted gas cabinets or exhausted enclosures as specified in the *California Fire Code*.

h. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.

i. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the *California Fire Code*.

NON-USE OF HAZARDOUS MATERIAL – VERIFICATION

In accordance with applicable Building Code and Fire Code requirements owners and designers are required to evaluate, and when necessary, incorporate certain design features in to any building that main contain chemicals that could be considered a physical or health hazard to occupants or the community (see below for examples of such chemicals).

In order for the designer and jurisdiction to evaluate these criteria, the owner/user must disclose any such chemicals. Common cleaning chemicals, toners, inks, and touch-up paints in normal office quantities would not generally impact such design. However, facilities that may have laboratory areas or that use or store compressed gases require disclosure of such materials.

If your facility does not store, use or handle hazardous chemicals beyond those considered to be normal consumer cleaning and office products and your facility does not have larger quantities than considered to be normal for consumer storage and use, please sign below and return to your designer or jurisdiction. If you need assistance or have questions about specific product please let us know. If you facility DOES anticipate use of products considered hazardous or that are above quantities for normal consumer use do not use this form. Instead, complete the Hazardous Materials Use Disclosure form and Hazardous Materials Inventory Statement (HMIS).

Our facility <u>does not</u> anticipate any storage or use of hazardous chemicals or agents beyond common consumer products and quantities. Therefore, our engineer and/or designer is not expected to incorporate any special design features into the indicated project.

Signature: _____ **Print:** _____

Title: _____

Company: _____ **Date:** _____

The following list provides examples of chemicals considered hazardous that require disclosure to the designer and jurisdiction. This list is only a sample of common hazardous materials. The owner/user is responsible to disclose, store and handle all hazardous materials in accordance with the applicable codes and regulations.

Flammable: acetone, alcohol, ethylene oxide, gasoline, ether, acetylene, carbon monoxide, ethane, hydrogen.

Combustible: motor oils, diesel, hydraulic fluids (other than elevators), kerosene.

Oxidizers: oxygen, nitrous oxide, chlorine, hydrogen peroxide (>10%), nitric acid, bromine, sulfuric acid, nitrates, nitrites, ozone, peroxides, perchiorates, percioric acid.

Pyrophorics: phosphine, silane, lithium, phosphorus, potassium.

Unstable materials: picric acid, peroxyacetic acid, sodium perchiorate, acetic acid, ethyl nitrate.

Water reactive: calcium carbide, sodium hydroxide, sodium metal, bromine pentafluoride.

Corrosive: nitric acid, sulfuric acid, calcium, potassium, ammonia, fluorine, iodine.

Toxic: nitrite oxide, nicotine, mercury, allyl alcohol, barium chloride, oxalic acid.

HAZARDOUS MATERIALS USE DISCLOSURE

In accordance with applicable Building Code and Fire Code requirements, a fire protection engineer or other qualified individual approved by the jurisdiction is required to evaluate, and when necessary, incorporate certain design features into any building that may contain chemicals that could be considered a physical or health hazard to occupants or the community. This form and attachments shall be used ONLY if the owner/user will store or use hazardous materials.

The owner/user shall indicate below each location that will have hazardous materials. The location name must match the location indicated on the Hazardous Materials Inventory Statements (HMIS), page 4 of this document.

LOCATION

_____

_____

_____

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_____

_____

I have reviewed the attached Hazardous Materials Inventory Statements. As the owner/user or authorized representative, I affirm that these documents accurately reflect hazardous materials, stored, used, or otherwise handled by our facility.

Signature: _____ **Print:** _____

Title: _____

Company: _____ **Date:** _____

HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS)

In accordance with applicable Building Code and Fire Code requirements, a qualified fire protection engineer or other qualified party approved by the jurisdiction is required to evaluate, and when necessary, incorporate certain design features into any building that may contain chemicals that could be considered a physical or health hazard to occupants or the community. In order for the jurisdiction and engineer to evaluate these criteria, the owner/user must provide information regarding any such chemicals. Common cleaning chemicals in normal office quantities would not generally impact such design. However, facilities that may have laboratory areas or that use or store compressed gasses require owner disclosure of such materials. See separate instructions for more information.

Location of products: _____

Completed by: _____ Phone number: _____ Date: _____

Chemicals or Trade Name	Concentration	CAS Number (Not ingredients)	Hazard Classification (List all that apply)	Physical State (L,G,S)	Amounts (Anticipated max. at one time)		
					Storage	Use Open	Use Closed

Guidelines for Completing a Hazardous Materials Information Statement (HMIS)

The following information is provided to assist in filling out the Hazardous Materials Inventory Statement (HMIS). The International Fire Code provides detailed chapters and appendix material to assist in completing this form. Material Safety Data Sheets (MSDS) shall be available for all chemicals indicated and such MSDS sheets shall be provided.

It is important that hazardous material be listed/summarized by location. Do not lump all quantities that may be used or stored in different areas. As an example, you might use alcohol on the second and third floors. List each area separately. This is critical in establishing control areas. One-hour barriers allow a user to increase the amount of chemicals within separate control areas. Control areas are generally an inexpensive and very effective approach to increasing facilities allowable amounts while providing good protection. If an owner/user wants to calculate the information only once, it is important to do it effectively the first time.

Chemical of Trade Name: This is the chemical name that is used on the Material Safety Data Sheet (MSDS). Chemical name on containers are required to match the chemical names on the MSDS sheets.

Concentration: The chemical concentration can have a significant impact on the hazardous properties of a chemical. This concentration generally refers to the concentration with respect to an inert balance of the product such as 90% sulfuric acid in a balance of water. Chemical mixtures having various components are not required to be and should not be broken out of this form.

CAS (Chemical Abstract Service) Number: This is a number assigned to a product following testing and classification. This number must apply to the chemical or mixture as a whole. If a CAS number is not indicated on the MSDS then indicate "Not Available" in this space. Do not list CAS numbers for individual ingredients.

Hazards Classification: Chemicals presenting a hazard must be classified in accordance with each hazard. Examples include Flammable Class IA, Corrosive, and Toxic. Many chemicals will have more than one hazard as indicated in the example. List each category. Breakdowns of these hazard categories can often be found in the MSDS sheets. The International Fire Code provides additional information to assist in classifying these hazards. The hazard indicated must be the hazard for the mixture and not hazards associated with each individual ingredient. Chemical manufacturers, Certified Industrial Hygienist, Certified Safety Professionals, Fire Protection Engineers, and other qualified individuals can assist in classifying chemicals.

Physical State: Indicate whether the chemical is stored or used in a liquid, solid or gaseous state.

Amounts: Indicate the maximum anticipated amount used in each condition.

The following provides examples of chemicals considered hazardous that require disclosure to the engineer and jurisdiction. This is only a sample of common hazardous materials. The owner/user is responsible to disclose, store and handle all hazardous materials in accordance with the applicable codes and regulations.

Flammable: acetone, alcohol, ethylene oxide, gasoline, ether, acetylene, carbon monoxide, ethane, hydrogen.
Combustible: motor oils, diesel, hydraulic fluids (other than elevators), kerosene.
Oxidizers: oxygen, nitrous oxide, chlorine, hydrogen peroxide (>10%), nitric acid, bromine, sulfuric acid, nitrates, nitrites, ozone, peroxides, percloric acid.
Pyrophorics: phosphine, silane, lithium, phosphorus, potassium.
Unstable materials: picric acid, peroxyacetic acid, sodium perchlorate, acetic acid, ethyl nitrate.
Water reactive: calcium carbide, sodium hydroxide, sodium metal, bromine pentafluoride.
Corrosive: nitric acid, sulfuric acid, calcium, potassium, ammonia, fluoride, iodine.
Toxic: chlorine, nitric oxide, nicotine, mercury, allyl alcohol, barium chloride, oxalic acid.