

Hazardous Material Inventory Statement (HMIS) – Short Form (Rev 11.04.22)

MAX ALLOWABLE QUANTITY PER CONTROL AREA* (Per IBC Table 307.1(1) & (2))				Storage						Closed-loop Systems						Open-loop Systems				Combined Total Maximum	
				Solid		Liquid		Gas		Solid		Liquid		Gas		Solid		Liquid			
				pounds (cubic feet)		gallons (pounds)		cubic feet at NTP (pounds)		pounds (cubic feet)		gallons (pounds)		cubic feet at NTP (pounds)		pounds (cubic feet)		gallons (pounds)			
ID	Material Name	Material Category	Class	Actual Max	Cabinet	Actual Max	Cabinet	Actual Max	Cabinet	Actual Max	Cabinet	Actual Max	Cabinet	Actual Max	Cabinet	Actual Max	Cabinet	Actual Max	Cabinet		
Ex. A	Ex) Dry Plant Material (Cannabis)	Combustible Fiber	Loose	(27)		(100)														27 cu ft.	
Ex. B	Ex) Ethanol	Flammable Liquid	IB Flammable Liquid			55		120											1	30	56 gal.
#1																					
#2																					
#3																					
#4																					
#5																					
#6																					
#7																					
#8																					
#9																					
#10																					

SECTION 1: LOCATION DETAILS

Business Name:

Location Address:

Are there existing Fire Sprinklers? Yes No

Grade level of Control Area :

Which activities are occurring on-site? (Select all that apply)

Dispensary Cultivation Extraction CO2 Enrichment Laboratory
 Infused Product Other:

*Describe any applicable footnotes from [IBC Table 307.1\(1\)](#) that increase the max allowable quantity (M.A.Q.) or any conditions from [IBC Section 414](#) which reduce the M.A.Q. :

Note: If using cabinets include spec sheets when you submit this form.

Select how you meet the requirements for control areas [[IBC Section 414.2](#)]:

See report associated with a previously completed change-of-use.

(Required) Provide permit number:

See licensed professional's stamped report attached.

See specifications for approved flammable cabinet attached. As well as an exhibit showing the location of the approved cabinet with room use labels; exhibit can be hand drawn if legible.

SECTION 2: OWNER INVENTORY STATEMENT

- I. I (owner) understand that I am responsible for knowing and complying with all applicable Montana State, local laws, and regulations. I am aware of the hazardous materials involved, the control areas in the space, proper handling of declared materials, and managing the *maximum allowable quantity* (M.A.Q.) of hazardous materials in each control area per [IBC Table 302.1\(1\) & \(2\)](#) and [Section 414](#). Where I am unclear on the requirements or unclear on how to complete this form, I have consulted with a licensed professional.
- II. I understand I am responsible for compliance with subsequent updates to cannabis cultivation laws and regulations. I understand I must maintain, at all times, an up-to-date copy of this hazardous materials inventory statement (HMIS) in city records. I understand If the *maximum allowable quantity* of hazardous materials (M.A.Q.) increases at any time or if the *use* of the space changes, I need to submit an updated copy of this form by applying for a commercial building permit (and in some cases, complete a change-of-use), *prior* to the increase/change.
- III. I physically inspected the facility and reviewed the operational procedures and equipment for this business. I confirm that there ARE or ARE NOT hazardous materials such as solvents, cryogenic materials, CO2, flammable gasses, liquified petroleum gasses, sulfur, combustible fiber (such as dry plant material) to be involved, stored, or used on site.
- IV. Where processing or extraction of cannabis will occur on-site, I am providing the fire department a technical report per IFC 3904 for all equipment used in the extraction, post-process purification, and winterization process. Ex) Extractors, stills, vacuum ovens, CO2 generators, sulfur evaporators, etc.
- N/A Report attached See change-of-use for report [permit number: -MSS-COM-]
- V. I hereby declare the information contained within and attached to this application is complete, true, and accurate. I understand a misrepresentation of fact is cause for rejection of this application, denial of the license, or revocation of an issued license.
- VI. Owner Signature: _____



When is this form required?

A hazardous material inventory statement (HMIS) is required:

- 1) For all cultivation and extraction businesses.
- 2) Upon request by the building/fire department.

When am I not allowed to use this short form?

The short form is limited to F-1 occupancies with a single control area, located on the ground level, which do not exceed the maximum allowable quantity (M.A.Q.) of hazardous materials; if you do *not* meet all of the above criteria, you should contact the Building Department for instructions how to proceed with your project.

See included instructions to complete form. If you are unsure if a material is hazardous or not, please contact the Fire Department at 406-552-6210.

For other questions: 420License@ci.missoula.mt.us

If you require assistance completing this form please contact a licensed professional to assist you.

[Instructions] Hazardous Material Inventory Statement (HMIS) – Short Form (Rev 11.04.22)

Step 1: Determine if there are any hazardous materials stored or used at your location.

There are two major categories of hazardous materials - physical and health - based on the International Building Code and the International Fire Code.

Hazardous materials under the physical category are subcategorized as combustible (dust, fibers, and liquids), cryogenic (flammable, inert, oxidizing), explosives, flammable (gas, liquids, and solids), inert gas, organic peroxide, oxidizers, oxidizing gas, pyrophoric materials, unstable and water-reactive materials [see [IBC Table 307.1\(1\)](#)].

Materials under the health hazard category are subcategorized as corrosive, toxic, or highly toxic [See [IBC Table 307.1\(2\)](#)]. **For more information on the properties of a given material, see [Appendix E](#) of the International Fire Code or visit CAMEO: <https://cameochemicals.noaa.gov/>.**

Step 2: Determine category and class of each material and determine how it will be used (i.e., storage, open/ closed-loop).

Attached is a list of common hazardous materials and their category/class [See Figure A] to act as a guide. If you are using a hazardous material that is not listed, contact the fire department at 406-552-6210 to determine whether a material is considered hazardous or not and what the materials hazard category/class is.

How do I know if I have an open or closed loop?

A **closed** system is defined as the use of a solid or liquid hazardous material involving a closed vessel or system that remains closed during normal operations where vapors emitted by the product are not liberated outside of the vessel or system and the product is not exposed to the atmosphere during normal operations; and all uses of compressed gases. An example of a closed system is a product conveyed through a piping system into a piece of equipment or container.

An **open** system is the use of a solid or liquid hazardous material involving a vessel or system that is continuously open to the atmosphere during normal operation and where vapor is liberated, or the product is exposed to the atmosphere during normal operations. An example of an open system for solids and/or liquids includes dispensing to and from open beakers or containers along with dip tank and plating tank operations.



Cannabis and Hazardous Materials

Hazardous materials are commonly used in Cannabis extraction, post-process purification and winterization processes. Dry plant materials such as tobacco or hemp/cannabis are a *combustible fiber* regulated by Table 307.1(1) in the International Building Code. Keep in mind, both extraction and cultivation facilities may be storing dry plant materials as part of their process. Even **solvent-free extraction** processes may use materials such as CO₂, flammable cryogenic materials, or ethanol. CO₂ extraction or enrichment puts workers at risk of asphyxiation in the event there is a carbon dioxide leak and enough of the solvent fills a space. Carbon dioxide gas is colorless and odorless, so it is not an obvious threat. In the presence of too much CO₂, workers can become unconscious or even lead to death if there are no monitoring systems. Solvent extraction devices commonly use flammable gases, liquefied petroleum gases, and high-pressure carbon dioxide systems. Other appliances include extractors, stills, vacuums, ovens, kitchens, CO₂ generators, sulfur evaporators.

Step 3: Use the category/class/use information to determine the M.A.Q. of each material.

The Maximum Allowable Quantity (M.A.Q.) is the maximum quantity of hazardous material allowed to be stored or used within a tenant space or **single control area** at any one time. See [IBC Table 307.1\(1\) and \(2\)](#) in the International Building code to determine the M.A.Q. and see [IBC Section 414](#) for adjustments to the M.A.Q. listed in Table 307.1.

Example

Given: A business with a 3'x3'x3' (27 cu. ft.) bag of loose, dry hemp material, in storage, located on the ground floor.

Per Figure A, we know dry plant material such as hemp is considered a combustible fiber we will use [IBC Table 307.1\(1\)](#) (see snip at right) to determine the maximum allowable quantity (M.A.Q.). We know the material is loose and is being stored on site; we locate combustible fiber under the materials column and trace the row labeled 'loose' over to the storage column. Since we know hemp is a solid material, we narrow that down to the sub-column for solid materials. The Table indicates (100) and since the sub-column heading shows the units for cubic feet also in parentheses, we know the M.A.Q. for loose combustible fiber in storage is 100 cu. ft (per control area). Next, we check the footnotes of IBC Table 307.1(1) and [IBC Section 414](#) for any applicable reductions or increases to the M.A.Q. limit. Per [IBC Table 414.2.2](#) (at right) we see that the M.A.Q. is not reduced and is allowed at 100% of the limit since it will be stored at grade level in a single story building. We also see the control area requires a 1hr fire-resistance rating. Since the given business plans to never exceed 27 cu. ft. at any one time, they are well below the maximum allowable quantity limit and will NOT get bumped into an H-3 occupancy for their use of hazardous materials.

Note: The maximum allowable quantity is *per control area* and the use of this *short form* is limited to locations with a *single* control area. If a business opts to exceed the M.A.Q., they can complete a change-of-use to be an H occupancy or *avoid* an H occupancy classification by creating multiple control areas to increase the max allowable quantity. Where your project exceeds a single control area, you cannot use this short form to demonstrate compliance. Contact the building department for guidance on how to proceed with your project.

Figure A: Common Hazardous Materials		
Physical Hazard [IBC Table 307.1(1)]	Category	Class
Combustible Fiber (such as hemp/cannabis, grain)	Combustible Fiber	Loose
Combustible Fiber (such as hemp/cannabis, grain)	Combustible Fiber	Baled
Ethanol/Ethyl Alcohol (C ₂ H ₅ OH)	Flammable Liquid	IB
Carbon Dioxide (CO ₂)(Asphyxiant)	Inert Gas	Liquified
Propane (C ₃ H ₈)	Flammable Gas	Liquified
Hexane (C ₆ H ₁₄)	Flammable Liquid	IA
Butane (C ₄ H ₁₀)	Flammable Gas	Liquified
Cryogenic Oxidizer	N/A	N/A
Cryogenic Inert (nitrogen, helium, neon, argon and krypton)	N/A	N/A
Cryogenic flammable (hydrogen, methane, carbon monoxide, and liquefied natural gas)(Oxygen)	N/A	N/A

Health Hazard [IBC Table 307.1(2)]	Category	Class
Sulfur Dioxide	Toxic	Gas-Gaseous
Sulfur Dioxide	Toxic	Gas-Liquified
Sulfur Dioxide	Toxic	Solid pounds
Sulfur Dioxide	Toxic	Liquid Gallons

Note: This is not an exhaustive list, there are many other hazardous materials not listed here.

Items listed as N/A may still have an M.A.Q. see IBC Table 307.1(1)

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	NA	H-2	See Note q	NA	NA	See Note q	NA	NA	See Note q	NA
Combustible fiber ^q	Loose Baled ^o	H-3	(100) (1,000)	NA	NA	(100) (1,000)	NA	NA	(20) (200)	NA

[F] TABLE 414.2.2 DESIGN AND NUMBER OF CONTROL AREAS				
STORY	PERCENTAGE OF THE MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA ^a	NUMBER OF CONTROL AREAS PER STORY	FIRE-RESISTANCE RATING FOR FIRE BARRIERS IN HOURS ^b	
Above grade plane	Higher than 9	5	1	2
	7-9	5	2	2
	6	12.5	2	2
	5	12.5	2	2
	4	12.5	2	1
	3	50	2	1
Below grade plane	2	75	3	1
	1	100	4	1
	Lower than 2	Not Allowed	Not Allowed	Not Allowed

a. Percentages shall be of the maximum allowable quantity per control area shown in Tables 307.1(1) and 307.1(2), with all increases allowed in the notes to those tables.

b. Separation shall include fire barriers and horizontal assemblies as necessary to provide separation from other portions of the building.