

**Missoula Municipal Code**  
**Chapter 8 (Health and Safety)**

**Chapter 8.65**  
**MISSOULA PLASTICS ORDINANCE**

**Sections:**

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- 8.65.020 Definitions
- 8.65.030 Prohibition of Polystyrene, Plastic Bags
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**8.65.010 Findings**

Montana state law grants citizens the right to bring ballot initiatives and Article IX Section 1 of the Montana Constitution states each person shall maintain and improve a clean and healthful environment in Montana for present and future generations. The findings with respect to this ordinance are as follows:

WHEREAS, humans have created over 10.2 billion tons of plastic since 1950, almost all of which is still with us today.<sup>1</sup>

WHEREAS, the production, use, and disposal of plastics causes harm to human health and the environment at every phase.<sup>2</sup>

WHEREAS, over 40% of plastic current being produced is packaging, and one third of that packaging escapes collection systems and becomes litter.<sup>3</sup>

WHEREAS, plastic in the environment never biodegrades, but instead breaks into smaller and smaller pieces and eventually into microplastics (smaller than 5mm) and nanoplastics (smaller than a human blood cell).<sup>4</sup>

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<sup>1</sup>Geyer, Rolland. "Production, use, and fate of synthetic polymers." *Plastic Waste and Recycling*. Ed. Trevor M. Letcher Academic Press, 2020. 13-32. <https://doi.org/10.1016/B978-0-12-817880-5.00002-5>.

<sup>2</sup> Minderoo-Monaco Commission on Plastics and Human Health. *Annals of GlobalHealth*. 89.1. Boston, MA, March 21, 2023. ([Minderoo-Monaco Commission on Plastics and Human Health 2023](#))

<sup>3</sup> Fitterling, Jim. Dow CEO: "My company is a major plastic producer. We must end plastic pollution." *Fortune*. April 16, 2024. ([Fitterling 2024](#))

<sup>4</sup> Simon, Matt. *A Poison Like No Other. How Microplastics Corrupted Our Planet and Our Bodies*. Island Press, 2022. ([Simon 2022](#))

WHEREAS, microplastics and nanoplastics have been found in nearly every corner of the ecosystem that investigators have looked for them, including arctic snow, agricultural soil, livestock, crops.

WHEREAS, the concentration of microplastics in the environment doubled every 15 years from 1945 to 2009.<sup>5</sup>

WHEREAS, microplastics have been detected in numerous water bodies important to Montana, including Flathead Lake,<sup>6</sup> Yellowstone Lake,<sup>7</sup> Gallatin River,<sup>8</sup> and fishing access sites.<sup>9</sup>

WHEREAS, one third of fish sampled from Yellowstone Lake in a 2021 study<sup>10</sup> had microplastic particles in their stomachs.

WHEREAS, scientists estimate that people consume, on average, hundreds of thousands of microplastic per year from just a portion of foods and beverages.<sup>11</sup>

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<sup>5</sup>Brandon, Jennifer A., William Jones, Mark D. Ohman. "Multidecadal increase in plastic particles in coastal ocean sediments." *Science Advances* 2019; 5.9. DOI:10.1126/sciadv.aax0587. ([Brandon, Jones, & Ohman, 2019](#))

<sup>6</sup> The University of Montana. "Microplastic pollution in Montana's Flathead Lake." *ScienceDaily*. June 23, 2022. <[www.sciencedaily.com/releases/2022/06/220623153704.htm](http://www.sciencedaily.com/releases/2022/06/220623153704.htm)>.

"Microplastics in Flathead Lake." Flathead Lake Bio Station. University of Montana. June 17, 2022.

<sup>7</sup> Driscoll, Stephanie C., Hayley C. Glassic, Christopher S. Guy, and Todd M. Koel. "Presence of Microplastics in the Food Web of the Largest High-Elevation Lake in North America." *Water*. 2021; 13.3: 264. <https://doi.org/10.3390/w13030264>.

<sup>8</sup> Global & Gallatin Microplastics Initiative. Microplastics Final Report. Prepared by Katie Shepherd Christiansen, Microplastics Project Manager. Adventure Scientists. 2018.

<sup>9</sup> "Microplastic in Montana. A Study of Fifty River Access Sites." Report. Environment Montana Research & Policy Center. October 30, 2019.

<https://environmentamerica.org/montana/center/resources/microplastic-in-montana/>

<sup>10</sup> Driscoll et al.

<sup>11</sup> Senathirajah, Kala, Simon Attwood, Geetika Bhagwat, Maddison Carbery, Scott Wilson, Thava Palanisami. "Estimation of the mass of microplastics ingested – A pivotal first step towards human health risk assessment." *Journal of Hazardous Materials*. February 15, 2021; 404.B: 124004.

<https://doi.org/10.1016/j.jhazmat.2020.124004>. ([Senathiraja et al, 2021](#))

WHEREAS, inhaled and ingested microplastics do not simply “pass” through the digestive system. They have been found within human tissue, including lungs,<sup>12</sup> intestines,<sup>13</sup> veins,<sup>14</sup> and even the placenta.<sup>15</sup> They have also been identified in human blood,<sup>16</sup> breast milk,<sup>17</sup> and the carotid artery.<sup>18</sup>

WHEREAS, animal studies indicate that micro- and nanoplastics can cause toxic effects at multiple sites inside of living bodies.<sup>19</sup>

WHEREAS, the presence of microplastics and nanoplastics in the human body presents serious concerns for human health.<sup>20</sup>

NOW THEREFORE, it is the intent of this ballot initiative in Missoula to enact an ordinance that will protect public and environmental health by banning the use of single-use plastic and polystyrene carry-out containers. Plastic straws and stirrers would be available upon request.

WHEREAS, there is no known method for “cleaning up” the macroplastics, microplastics, and nanoplastics diffused throughout the environment.

#### **8.65.020 Definitions**

- A. DEPARTMENT – The term "department" means the City of Missoula Code Compliance.
- B. FOOD VENDOR – The term "food vendor" means an operation that stores, prepares, packages, serves, vends, distributes, or otherwise provides food for human consumption, including but not limited to any establishment requiring a permit to operate in accordance with the State Food Code §50-50-132(1), MCA.
- C. GOVERNMENT – The term "Government" is intended to apply to the City of Missoula

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<sup>12</sup>Amato-Lourenço LF, et al. “Presence of airborne microplastics in human lung tissue.” *National Library of Medicine. National Center for Biotechnology Information*. August 15, 2021; 416: 126124. doi: 10.1016/j.jhazmat.2021.126124. Epub 2021 May 24. PMID: 34492918.

<sup>13</sup>Stock, Valerie, et al. “Uptake and effects of orally ingested polystyrene microplastic particles in vitro and in vivo.” *Archives of Toxicology*. 2019; 93: 1817–1833. <https://doi.org/10.1007/s00204-019-02478-7>.

<sup>14</sup>Wu, Di, et al. “Pigment microparticles and microplastics found in human thrombi based on Raman spectral evidence.” *Journal of Advanced Research*. 2023; 49: 141-150. ISSN 2090-1232, <https://doi.org/10.1016/j.jare.2022.09.004>.

<sup>15</sup> Antonio Ragusa, et al. “Plasticenta: First evidence of microplastics in human placenta.” *National Library of Medicine. National Center for Biotechnology Information*. January 2021; 146:106274. doi: 10.1016/j.envint.2020.106274. Epub 2020 Dec 2. PMID: 33395930.

<sup>16</sup>Leslie, Heather A., et al. “Discovery and quantification of plastic particle pollution in human blood.” *Environment International*. 2022; 163: 107199 (2022). ISSN 0160-4120, <https://doi.org/10.1016/j.envint.2022.107199>.

<sup>17</sup> Ragusa, A.; Notarstefano, V.; Svelato, A.; Belloni, A.; Gioacchini, G.; Blondeel, C.; Zucchelli, E.; De Luca, C.; D’Avino, S.; Gulotta, A.; et al. Raman Microspectroscopy Detection and Characterisation of Microplastics in Human Breastmilk. *Polymers* 2022, 14, 2700. <https://doi.org/10.3390/polym14132700>.

<sup>18</sup>Raffaele Marfella, et al. “Microplastics and Nanoplastics in Atheromas and Cardiovascular Events.” *New England Journal of Medicine*. 2024; 390.20: 900-910. DOI: 10.1056/NEJMoa2309822.

<sup>19</sup> Minderoo-Monaco Commission. ([Minderoo-Monaco Commission on Plastics and Human Health 2023](#))

<sup>20</sup> Philip Landrigan. “Plastics, Fossil Carbon, and the Heart.” *New England Journal of Medicine*. 2024; 390.10: 948-950. DOI: 10.1056/NEJMe2400683. ([Landrigan 2024](#))

operations and facilities.

- D. PLASTIC – The term "plastic" means an organic or petroleum derivative synthetic or a semisynthetic organic solid that is moldable, and to which additives or other substances may have been added.
- E. POLYSTYRENE FOAM –The term "polystyrene foam" means blown polystyrene as well as expanded and extruded foams using polystyrene, including thermoplastic petrochemical materials utilizing a styrene monomer and processed by any number of techniques including, but not limited to, fusion of polymer spheres (expandable bead polystyrene), injection molding, form molding, and extrusion-blow molding (extruded foam polystyrene).
- F. RECYCLABLE – The term "recyclable" means, with respect to material, any material that would otherwise be disposed of or processed as waste that can be recovered, separated, collected, and reprocessed for the purpose of using the reprocessed material in the manufacture of a new product.
- G. RETAIL SALES ESTABLISHMENT – The term "retail sales establishment" means any person, corporation, partnership, business venture, or vendor that sells or provides merchandise, goods or materials directly to a customer, whether for profit or not for profit, including but not limited to restaurants, pharmacies, convenience and grocery stores, liquor stores, seasonal and temporary businesses, clothing stores, hardware stores, department stores, jewelry stores, and household goods stores.
- H. REUSABLE BAG – The term "reusable bag" means a sewn bag with stitched handles that is –
  - 1. Not made of plastics;
  - 2. Can carry 25 pounds over a distance of 300 feet; and
  - 3. Is machine-washable.
- I. SINGLE-USE CARRYOUT BAG – The term "single-use carryout bag" means a bag made of plastic, paper, or other material that is –
  - 1. Provided by a retail sales establishment to a customer at the point of sale; and
  - 2. Not a recycled paper bag or a reusable bag.
- J. SINGLE-USE PLASTIC STRAW –
  - 1. IN GENERAL – The term "single-use plastic straw" means a single-use, disposable tube made of plastic derived from either petroleum or a biologically based polymer, such as corn or other plant sources, used to transfer a beverage from a container to the mouth of the person drinking the beverage.
  - 2. EXCEPTION – The term "single-use plastic straw" shall not include straws made from non-plastic materials, including, but not limited to metal, glass, paper, pasta, sugar cane, wood, or bamboo;
- K. SINGLE-USE PLASTIC STIRRER – The term "single-use plastic stirrer" means a device that is used to mix beverages and designed as a single-use product made of plastic.

#### **8.65.030 Prohibition of Polystyrene, Plastic Bags**

- A. After 05/01/2025, no business or person may sell or provide in Missoula, MT, any food

ware product composed in whole or in part of polystyrene foam. The following shall be effective immediately subject to this subsection:

1. No Retail Sales Establishment or Food Vendor shall serve or sell prepared food or beverage in polystyrene foam containers and shall not package meats, eggs, bakery products, fruits or vegetables, or other food in polystyrene foam containers;
2. No Retail Sales Establishment that sells tangible personal property at retail shall sell or distribute polystyrene foam food or beverage containers;
3. No polystyrene foam food or beverage container shall be used in any government facility or at any government sponsored event;
4. No government department or facility shall purchase or acquire polystyrene foam food or beverage containers;
5. All parties who contract with the government shall be prohibited from using polystyrene foam food and beverage containers in government facilities or on government-funded projects within Missoula.

B. After 05/01/2025 no business or person may sell or provide in Missoula any packing material products composed in whole or in part of polystyrene foam, including, but not limited to, polystyrene packing peanuts. The following shall be effective immediately subject to this subsection:

1. No Retail Sales Establishment that sells tangible personal property at retail shall sell or use polystyrene foam packaging;
2. No polystyrene foam packaging materials shall be used in any government facility or government sponsored event;
3. No government department or facility shall purchase or acquire polystyrene foam packaging materials;
4. All parties who contract with the government shall be prohibited from using polystyrene foam packaging materials in government facilities or on government funded projects within Missoula.

C. After 05/01/2025, except as provided in this subsection, a Retail Sales Establishment shall not provide a single-use plastic carryout bag to a customer at the point of sale or otherwise make plastic bags available to customers. This prohibition does not apply to:

1. Non-handled bags used to protect items from damaging or contaminating other purchased items placed in a recycled paper bag or a reusable grocery bag;
2. Bags provided by a business to customers to package loose items, such as fruits, vegetables, nuts, ground coffee, grains, candies, small hardware items; bags used to contain or wrap frozen foods, meat and fish, flowers or potted plants; or other items to contain dampness;
3. Laundry, dry cleaning, or garment bags, including bags provided by hotels to guests to contain wet or dirty clothing;
4. Bags sold in packages containing multiple bags intended for use as garbage, pet waste, or yard waste;
5. Bags used to contain or transport live animals, such as fish or insects sold in pet stores;
6. Bags used to transport chemical pesticides, drain-cleaning chemicals, or other caustic chemicals sold at the retail level, provided that this exemption shall be

limited to one bag per customer.

- D. After 05/01/2025 a Food Vendor shall not provide a single-use plastic straw to a customer, unless that customer requests a plastic straw.
- E. After 05/01/2025 a Food Vendor shall not provide a single-use plastic stirrer to a customer, unless the customer requests a single-use plastic stirrer.

#### **8.65.040 Implementation**

- A. Before 05/01/2025 the City of Missoula shall design and post for free usage on the municipal website educational materials for display in Retail Sales Establishments and by Food Vendors. Educational materials shall include the following elements, including but not limited to –
  - 1. An announcement of the effective date of this ordinance;
  - 2. A reminder to bring reusable bags.
- B. Before 05/01/2025 the City of Missoula shall issue a news release including –
  - 1. An announcement of the effective date of this ordinance;
  - 2. A reminder to bring reusable bags.
- C. The City of Missoula shall provide a written notice to each affected establishment prior to the effective date of this ordinance.
- D. The City Council may promulgate rules and regulations to implement Sec. 8.65.030 of this Chapter.
- E. A Retail Sales Establishment affected by regulations pursuant to Sec. 8.65.030 of this ordinance shall clearly and visibly display at the store entrance signage developed by the City, as described in Sec. 8.65.040.A. of this ordinance.
- F. Food Vendors required to only provide straws upon request shall clearly and visibly display signage developed by the City, as described in Sec. 8.65.040.A. of this ordinance.

#### **8.65.050 Enforcement and Penalties**

- A. Upon being made aware of a potential violation of this ordinance, the City of Missoula's Code Compliance Officers shall determine whether a violation has occurred.
- B. If the department confirms that a violation has occurred, the department shall give written notice to the owner of the property, the owner's agent, and/or the person committing the violation that the violation is occurring and must immediately cease.
- C. If an additional violation of this ordinance occurs after a warning notice is issued for an initial violation, the department shall issue a notice of violation and shall impose a penalty against the noncompliant party.
- D. The penalty for each violation that occurs after the issuance of the warning notice shall be no more than –
  - 1. \$300 for the first violation;
  - \$500 for the second offense and all subsequent violations.
- E. Payment of such fines may be enforced through civil action.