



DENVER
THE MILE HIGH CITY

THC Extraction

City Council Briefings
September, 2014

THC Extraction-Background

- The THC extraction process involves dissolving the psychoactive cannabinoids from the marijuana plant leaving behind a high-potency form of cannabis called marijuana concentrate or “hash oil”.
 - The concentrate can be used to ingest directly either by vaporizing, through oral consumption in marijuana-infused products, or in tinctures and ointments.
- Since the legalization of retail marijuana through Amendment 64, production of hash oil has proliferated in licensed MJ businesses, as well as outside of the licensed environment.
- An unlicensed individual conducting hash oil extractions may include individuals in their homes, apartments, and other non-commercial locations or caregivers in cooperative marijuana grows.



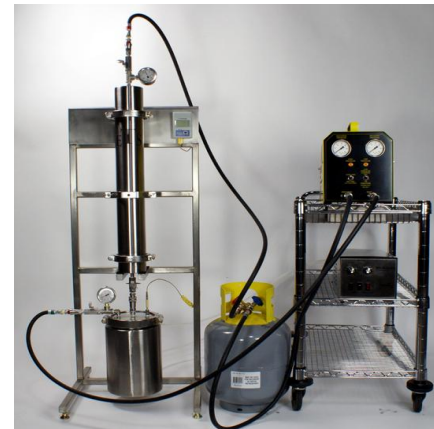
Types of Extractions:

1. Solvent-Based Extractions:

- Butane Hash Oil
- Distillation or boil-off using flammable liquids
- Carbon Dioxide

Solvent-Based Extractions are permitted in licensed MIP facilities under rigorous State and Local regulations and oversight:

- State regulations require a fully enclosed room, following applicable sanitary rules, a written training manual, emergency procedures, adequate training, records of every person involved in the process. Additionally, a closed-loop extraction system capable of recovering the solvent must be used and the equipment must be certified.
- Denver Building and Fire and Fire Code requires regular inspections, operational permits, compliance with occupancy requirements, a hazardous exhaust system, identification of process through placard system, a hydrocarbon or CO2 detection system, compliance with electrical, construction, mechanical and plumbing standards and equipment that is UL listed or certified by an engineer.



Types of Extractions, continued:

2. Non Solvent-Based Extractions:

- Water
- Dry Ice
- Food

Non Solvent-Based Extractions are permitted in licensed MIP and Grow facilities and will continue to be permitted outside of licensed facilities :

- There are some risks associated with these types of extractions as well. However, these risks are comparable to the risks associated with everyday cooking (boil overs, release of CO2 into the air, etc.)



When not conducted properly, the production of marijuana concentrate can be very hazardous.

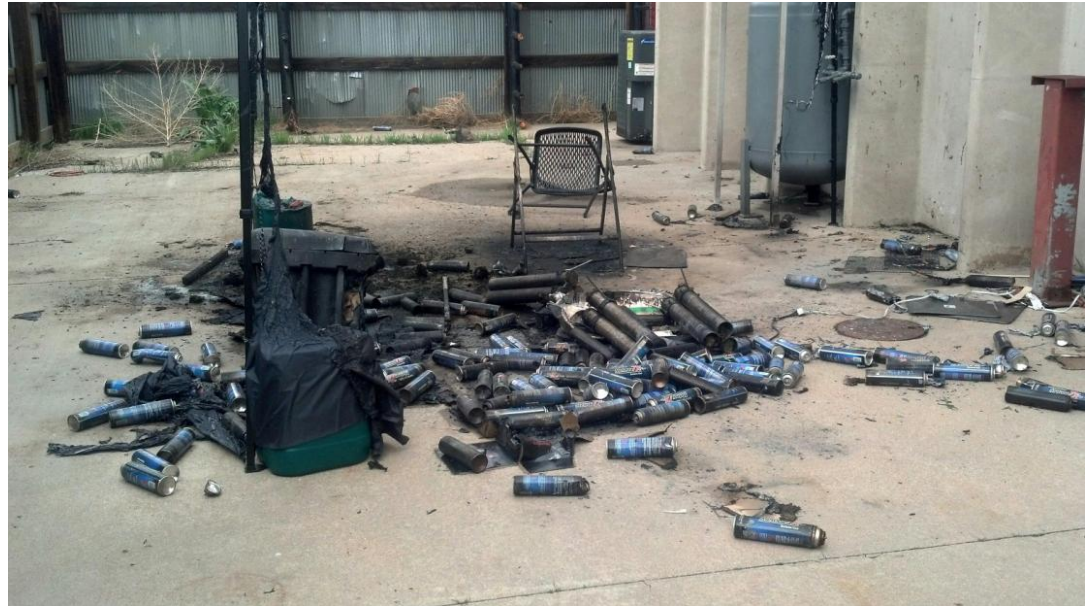
- 8 THC Extraction explosions in Denver since January 2014.
 - 7 in unlicensed facilities
 - 2 in single family residences (one resulted in two people being injured)
 - 5 in unlicensed co-ops located in commercial warehouses (1 resulted in two people being injured)
 - 1 in licensed dispensary that was not approved for extractions
- 30 explosions throughout Colorado since January 2014.

THC Extraction-Hazards

- A very common method of producing hash oil is through open Butane extractions. However, this process is not actually permitted by the Denver Fire Code as it can be very dangerous and can lead to explosions.



Open Butane Extraction



Explosion that occurred during an open Butane extraction process in Denver.

The storage and use of solvents used to extract hash oil in quantities not typically found in residential settings can be very dangerous and hazardous.

- If butane is used in an enclosed space without sufficient ventilation, any ignition source—including light switches, electrical outlets, cell phones or refrigerator compressors— could produce a violent explosion.
- The presence of hazardous materials presents additional safety concerns for first responders who need to take appropriate precautions when responding to fires involving dangerous solvents.



Amendment 20, Amendment 64 and State Law, recognize that additional laws or regulations may and should be imposed for health and safety reasons.

- Amendment 20 prohibits patients and primary caregivers from acquiring or producing marijuana concentrate in a way that endangers the health or well-being of any person.
- Amendment 64 provides that, in the interest of the health and public safety of our citizenry, marijuana sold in Colorado will be subject to additional regulations to ensure that consumers are protected.
- In 2013, the State legislature passed a law affirmatively stating “a local government may ban the use of a compressed flammable gas as a solvent in the extraction of THC or other cannabinoids in a residential setting.” (C.R.S. Section 9-7-113).

Public safety concerns demand immediate action to control these unsafe extraction methods. Therefore, the proposal is to:

- *Amend the Denver Revised Municipal Code (DRMC) to make it unlawful to produce marijuana concentrate (hash oil) by any means except by water-based or food-based extraction methods outside of a licensed facility.*

- This change to the DRMC would prohibit the use of “flammable liquids” in food-based extractions but would allow all other types of food extractions.
- Water-based extractions would be allowed through the use of water, ice or dry ice.
- Currently, Denver has no law that specifically prohibits dangerous hash oil extractions. The laws that might be used to control the dangerous methods– the general zoning and fire codes – have not been a sufficient deterrent to such hash oil extractions.

Other cities and states have also taken action to protect their citizens from this safety hazard:

- California
- Telluride
- Centennial
- Greenwood Village

- Like other criminal violations of the DRMC, penalties for this code violation include up to one year in jail and a \$999 fine.
- The proposed criminal penalty underscores the serious threat to life and safety presented by these dangerous extraction methods.
- Nothing in this legislation will prohibit individuals from making hash oil at home or other locations outside of a licensed facility using safer methods or from purchasing hash oil from a licensed facility.