



Emerging Waste – ENDS

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Review – What Is “Waste?”

USEPA – Title 40 CFR §243.101(y)

- ❖ Solid waste means garbage, refuse, sludges, and other discarded solid materials, including solid waste materials resulting from industrial, commercial, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial wastewater effluents, dissolved materials in irrigation return flows or other common water pollutants. Unless specifically noted otherwise, the term “solid waste” as used in these guidelines shall not include mining, agricultural, and industrial solid wastes; hazardous wastes; sludges; construction and demolition wastes; and infectious wastes.

Review – What Is “Waste?”

CalRecycle – Waste Prevention Terms & Definitions:

- ❖ “Waste” is defined as objects or materials for which no use or reuse is intended. Some statutory and regulatory definitions use the terms discarded, relinquished, stored, and accumulated to define waste.

Review – What Is “Waste?”

DTSC – Title 22 CCR §66261.2

- ❖ “Waste” means any discarded material of any form (for example, liquid, semi-solid, solid or gaseous) that is not excluded by Title 22 CCR §66261.4(a), §66261.4(e), HSC §25143.2(b), or HSC §25143.2(d)

Do You Know This Fact?



In 2013, more than **a quarter million** middle and high school students **never** smoked regular cigarettes but **had** used e-cigarettes...

3 times
as many as 2011!



Electronic Nicotine Delivery System (ENDS)

Electronic cigarette

- “E-cigarette”
- “E-cig”
- “E-smoke”
- “Mod(s)” or “MOD(s)”



Vaporizer (tank system)

- “E-pipes”
- “Mod” or “MOD”
- “PV”
- “Vape pens” or “Vape”



Advertisements

Start the hobby

STOP the HABIT

vype
e-cigarettes

EXPERIENCE THE BREAKTHROUGH

No tobacco. No smoke. Just pure satisfaction for smokers.

Contains nicotine. 18+ only. Read leaflet in pack.

goVype.com

VaporPlants

Your online Hydroponics, Vaporizers,
Herbal Remedies store

blu ELECTRONIC CIGARETTES

SLIM. CHARGED. READY TO GO.

AVAILABLE NATIONWIDE!

Visit us at blucigs.com/store-locator

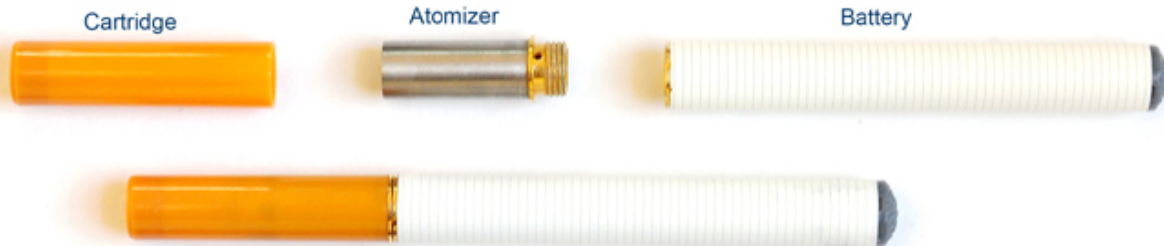
blu
CLASSIC TOBACCO

Anatomy

1



2



3



Cartridge: e-juice/e-liquid



Disposal Challenge

- Battery
- E-liquid
- Whole unit



Battery Waste

- Universal Waste – both federal¹ & CA²
- Covers both battery & battery containing device

¹ 40 CFR § 273.2

² 22 CCR §66273.33

E-liquid or E-juice



E-liquid Waste – Regulated by Who?

Known Ingredients:

- Nicotine – EPA Waste Code P075



- Cannabis/marijuana (THC) – DEA Schedule 1

- Various flavorings – CDPH or USEPA?



E-liquid Waste – Regulated by Who?

Unknown Ingredients:



- Home-made cocktail – CDPH, DEA or USEPA?
 - Painkiller (i.e. fentanyl, oxycodone, etc.)
 - Ecstasy
 - Methamphetamine (meth)
 - Flavorings – non-food graded (i.e. aromatic scent)

“Legal” Demo on E-liquid

DISCLAIMER / HEALTH & SAFETY FACTORS
Safety and health risks of using ejuice is debatable and the methods used here have not been scientifically tested. This experimental method is for educational purposes and should not be used to break any laws. If you decide to make your own cannabis juice, you do so at your own risk.

Whole Unit of ENDS Waste

- USEPA/DTSC?
 - No e-liquid = may not be UW-batteries unless tested for hazardous characteristics (no test is scheduled by DTSC)
 - Some batteries are not hazardous according to a DTSC rep.
 - E-liquid with nicotine (how do you know? GC/MS)
 - Hazardous waste from either CESQG or residents
- DEA? (how do you know? GC/MS)
 - E-liquid contains scheduled drugs
 - E-liquid = home-made cocktail
- CDPH?
 - Non-scheduled drug & no hazardous characteristics
 - Medical waste (i.e. liquid medication dispenser – med cannabis)

Confused Enough?

As of November 2, 2016, ENDS can be a:

- (Presumed) hazardous waste (USEPA/DTSC)
- Solid waste (USEPA/CalRecycle)
- Control substance waste (DEA)
- Medical waste (CDPH)

Confused Enough?

As of November 2, 2016, ENP

- (Presumed) hazardous waste (DTSC)
- Solid waste (recycle)
- Chemical waste (DEA)
- Chemical waste (CDPH)

Sorry, no decision tree
can be drawn at this time!

Personal Health Consideration

E-Cigarettes 3 strikes. You're out.



1 IN YOUR BRAIN

You think e-cigs help you quit real cigarettes. There's no evidence of this.

2 IN THE VAPOR

ACETONE AND XYLENE. Nail polish remover and paint thinner? You're going to breathe that? Really? And what about the friends next to you?

Ribar, et al. (2012). E-cigarettes: Promise or Peril? Nursing Clinics of North America, 47(1), 159-171

3 IN THE CARTRIDGE

NITROSAMINES. Known carcinogens. That means it causes cancer.

FORMALDEHYDE. Highly toxic to all animals, including you. Good for embalming dead bodies. Causes cancer.

Tobacco-Free UK
A Healthy Planet. A Healthy You.

Photo Credit: Michael Dorasuch (michaeldorasuch.com)

7/12

Safety Hazard

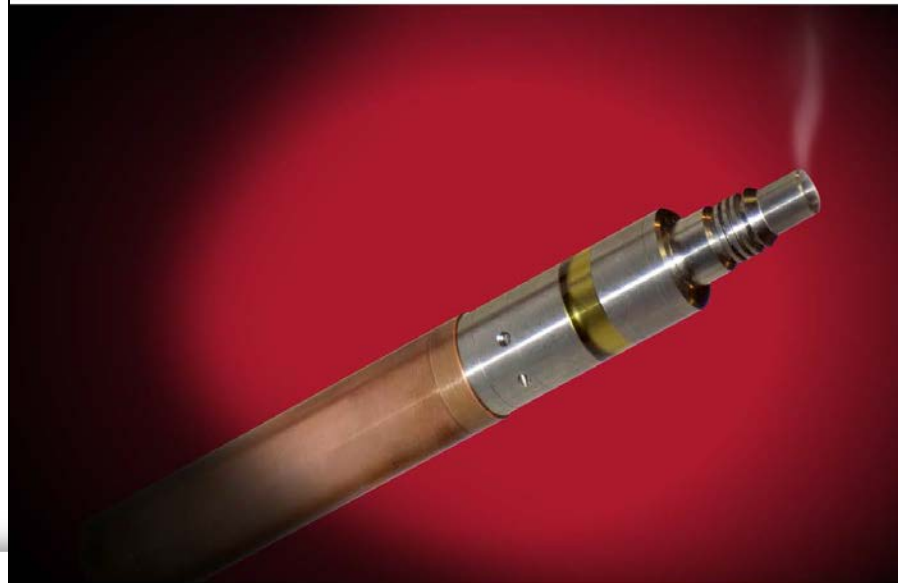
- E-cigarette Exploded:
 - <http://www.democratandchronicle.com/story/news/2016/05/04/ogden-teen-hospitalized-after-e-cigarette-explodes/83919368/>
- FEMA – Electronic Cigarette Fires & Explosions
 - https://www.usfa.fema.gov/downloads/pdf/publications/electronic_cigarettes.pdf

FEMA Report

U.S. Fire Administration

Electronic Cigarette Fires and Explosions

October 2014





Questions?

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