

# Nā Ea Kini Weliweli (Volatile Organic Compounds) Palapala Ho'ākāka (VOCs)



## NO KA PO'E NOHO MA MAUI I PŌ'INO O KE AHI NĀHELEHELE

### He aha nā Ea Kini Weliweli (VOCs)?

'O ka VOCs, he ea lewa ma ke ea ā lilo Eia kekahi mau 'ano ea VOCs benzene, toluene, trichloroethylene (TCE), a me ka perchloroethylene (TCE). Ua nui ke ea VOCs ma loko o nā mea kū'ai ('o ka 'ea, ka pena, ka lā'au ho'oma'ema'e hale, ka leki paha) a ho'oku'u 'ia mai loko mai o nā mea i kūkulu 'ia ai ka hale ('o ka moena weleweka, linoleum, nā mea i hana 'ia ai nā mea lā'au, insulation paha). Hiki nō ho'i ke ho'oku'u 'ia ma ka 'āina ma loko o ka uahi o ke ahi nāhelehele, ka hale pau i ke ahi, a me ka lā'au, 'aila, a ea 'ā i ke ahi.

### Ke Ea VOCs o Loko o ka Wai Inu Ma Hope o ke Ahi Nāhelehele

Hiki ke haumia ka 'oihana paipu wai kahe i ke ea VOC i ke ahi nāhelehele (ka paipu, piula, mika paha), a kahe nā lā'au i loko o nā paipu 'oihana wai kahe. Ua 'ike 'ia ka haumia ma loko o nā 'oihana wai kahe ma California me ka pi'i pū o ke ea VOCs ma hope o nā ahi nāhelehele o ka 2017 a me ka 2018. 'A'ole i maopopo nā kumu o ke ahi, akā, ua haumia nō paha ka wai ma muli o ka loa'a o ka:



Ke emi 'ana o ka polyvinyl chloride (PVC), ka nui 'ana o ka density polyethylene (HDPE) a i 'ole nā mea 'ea ke wela ihola.



Ke emi 'ana o ke kahe 'ana o ka wai ma muli o ka paipu hemo a i 'ole nui 'ino ka ho'ohana 'ana i ka wai ma kahi kokoke i ka uahi, ke 'ea wela a/a i 'ole nā lā'au (i.e., VOCs) i komo i ka paipu wai.

Hiki ke haumia ka wai me ka maopopo 'ole; a no laila, 'o ka ho'ā'o wale nō ka hana e 'ike ai i ka nui o ke ea VOCs o loko me ka maopopo loa.

### Nā Palena Palekana o ke Ea VOCs

Na ka 'Oihana US Environmental Protection Agency (EPA) i ho'okumu i ka palena palekana no ke ea VOCs o loko o ka wai inu

Ka Lā'au	Ka Palena Nui Loa o ka Mea Haumia ma Lalo o ka US EPA (māhele o ka piliona)*
Benzene	5
Carbon tetrachloride	5
p-dichlorobenzene	75
Trichloroethylene	5
Vinyl chloride	2
1,1,1-trichloroethane	200
1,1-dichloroethylene	7
1,2-dichloroethane	5
cis-1,2-dichloroethylene	70
Ethylbenzene	700
Chlorobenzene	100
o-dichlorobenzene	600

# Nā Ea Kini Weliweli (Volatile Organic Compounds) Palapala Ho'ākāka (VOCs)



NO KA PO'E NOHO MA MAUI I PŌ'INO O KE AHI NĀHELEHELE



## Ke Ea VOCs a me ke Olakino

Ke ma'i 'oe i ka lā'au, penei nā hō'ailona o ka pilikia olakino i ka pā i ke ea VOC:

- **Ko'iko'i:** lua'i, 'ano 'ē ka 'ōpū, pōniuniu, hia'ā ka hiamoe, ha'alulu ke kino, pana māmā ka pu'uwai.
- **No ka wā lō'ihī:** koko hōwai, ma'i 'a'ai, ma'i a'alolo nā hopena, pilikia hānau keiki, a me ka pilikia o ka ulu 'ana o ke kino.

### Nā Kumu Waiwai

- [Contamination of Drinking Water Distribution Systems \(epa.gov\)](https://www.epa.gov/contamination-of-drinking-water-distribution-systems)
- [Volatile organic compounds | Chemical Classifications | Toxic Substance Portal | ATSDR \(cdc.gov\)](https://www.cdc.gov/atsdr/toxicsubstances/chemical-classifications/)
- [EPA National Primary Drinking Water Regulations](https://www.epa.gov/primary-drinking-water-regulations)
- Drinking water contamination from the thermal degradation of plastics: implications for wildfire and structure fire response. Isaacson KP, Proctor CR, Wang QE, Edwards EY, Noh Y, Shah AD, and Whelton AJ, Environmental Science: Water Research and Technology, 2021, 7, 274-284, <https://doi.org/10.1039/d0ew00836b>

## Nā Palena Palekana o ke Ea VOCs

Ka Lā'au	Ka Palena Nui Loa o ka Mea Haumia ma Lalo o ka US EPA (māhele o ka piliona)*
Styrene	100
Tetrachloroethylene	5
Toluene	1,000
Trans-1,2-Dichloroethylene	100
Xylenes	10,000
1,2-dichloropropane	5
Dichloromethane	5
1,1,2-trichloroethane	5
1,2,4-trichlorobenzene	70

\*Palena Pale Haumia (Maximum Contaminant Level: MCL): palena nui loa o ka mea haumia i 'ae 'ia ma loko o ka wai inu

## LOA'A NŌ KA NĪNAU?

Hawai'i Poison Control Center: 1-800-222-1222 | DOH: 833-833-3431 a i 'ole 808-586-4468  
[health.hawaii.gov/mauiwildfires](https://health.hawaii.gov/mauiwildfires)

E HANA NŌ E LIKE ME KE KUHIKUHI 'ANA O NĀ LUNA AUPUNI KŪLOKO.

