



Emerging Chemicals of Concern







Batteries on-site

- Approximately 15,000 lbs of batteries
 - Around 90% of them were once 14 lb 476 wH scooter batteries
 - Half of those were still largely intact and half were individual cells separated into groups









First Fire of the Day – recently packaged bucket



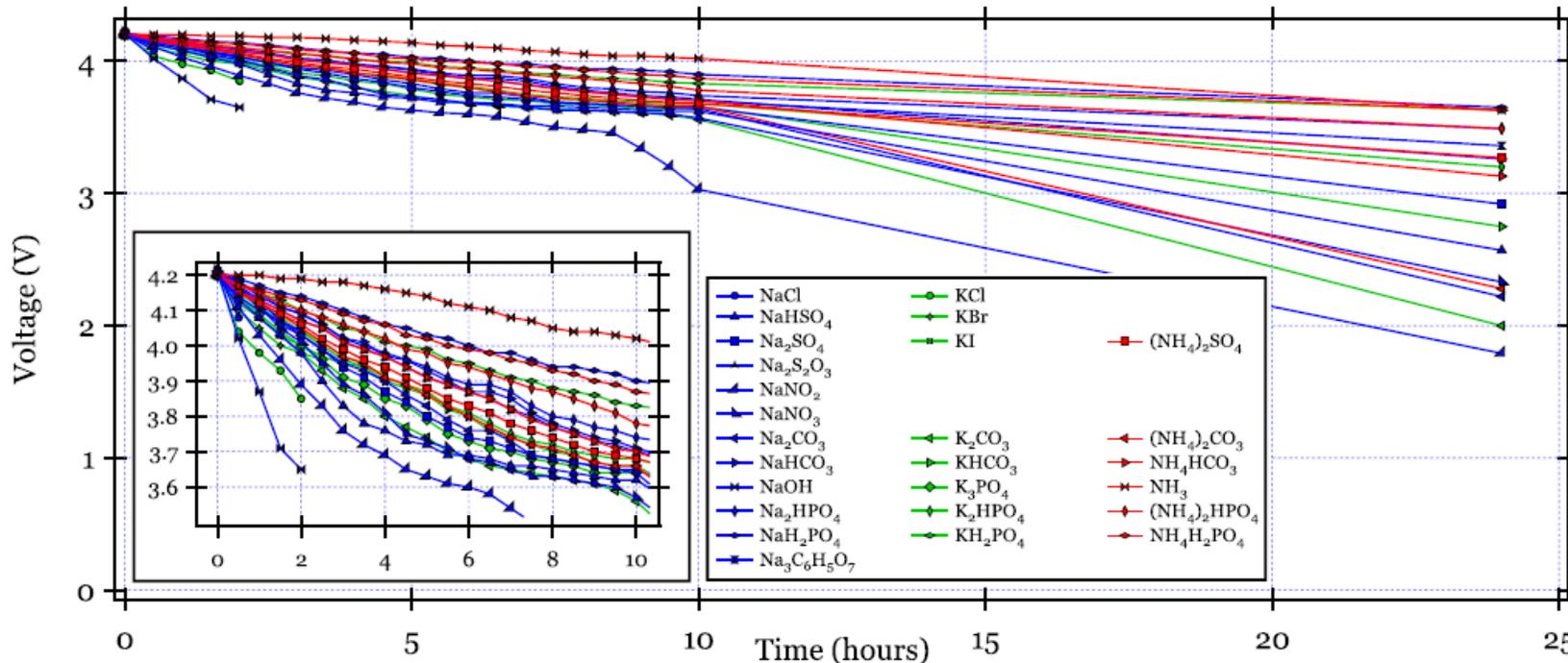


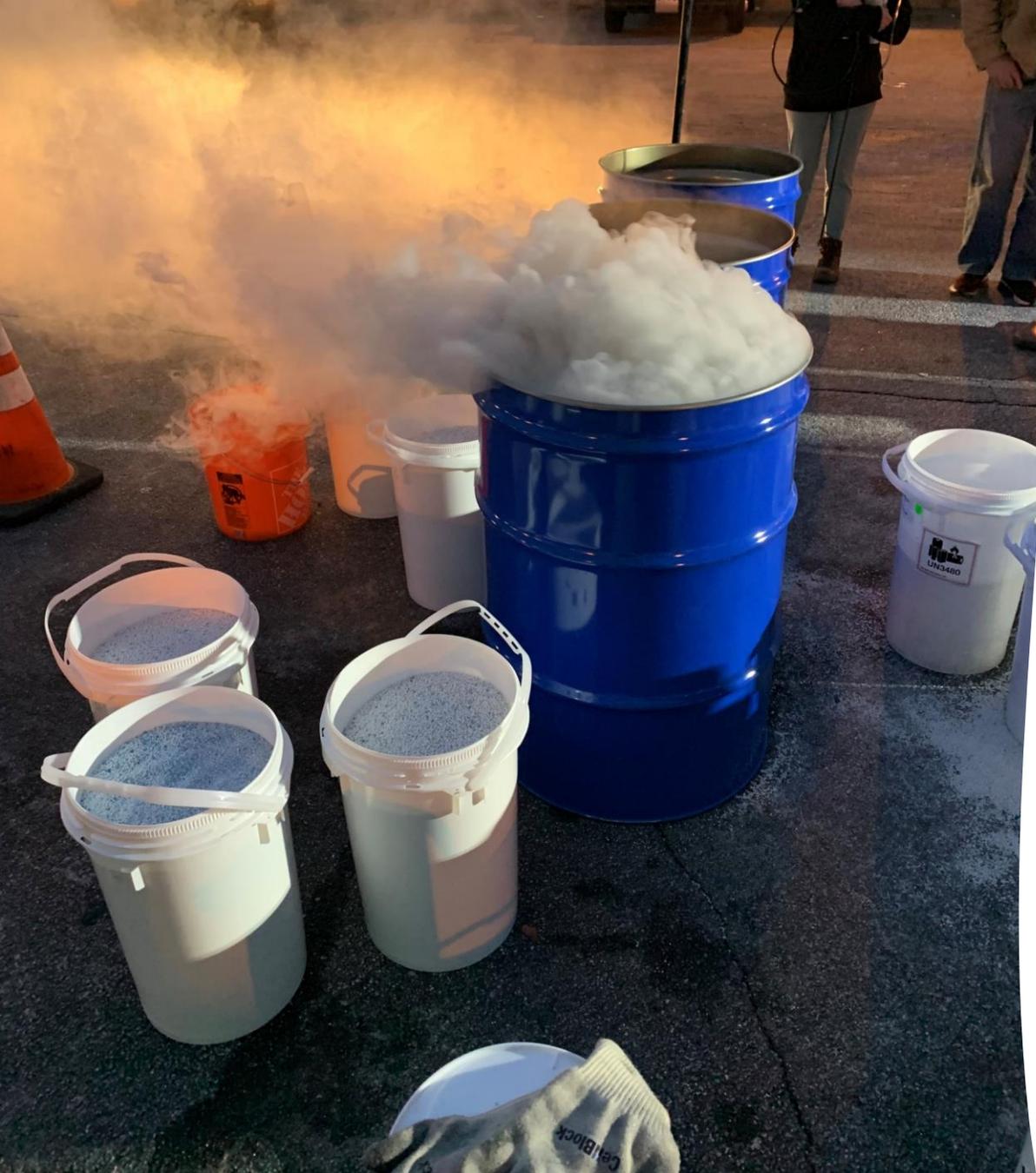
Aftermath

- ◆ Approximately 20 buckets were damaged during the second fire
- ◆ The bucket that caught fire had been packaged approximately 5 days ago and not been touched/moved for 4 days

De-energizing Batteries

- ◆ Recycling facilities regularly mentioned that prior to shredding they “soak” the batteries in salt water prior to shredding TO REDUCE EXPLOSIONS during the shredding process.





Battery De-energizing Test

- ◆ Salt water solution – Approximately 0.5% NaCl
- ◆ 1 lb NaCl per 25 gallons water
- ◆ Soak from 3 days to 3 months
- ◆ Potentially HF, Cl₂, HCl, other gases similar to plastic fires released during combustion
- ◆ 24 hour results indicated full discharge of test batteries



Air Monitoring

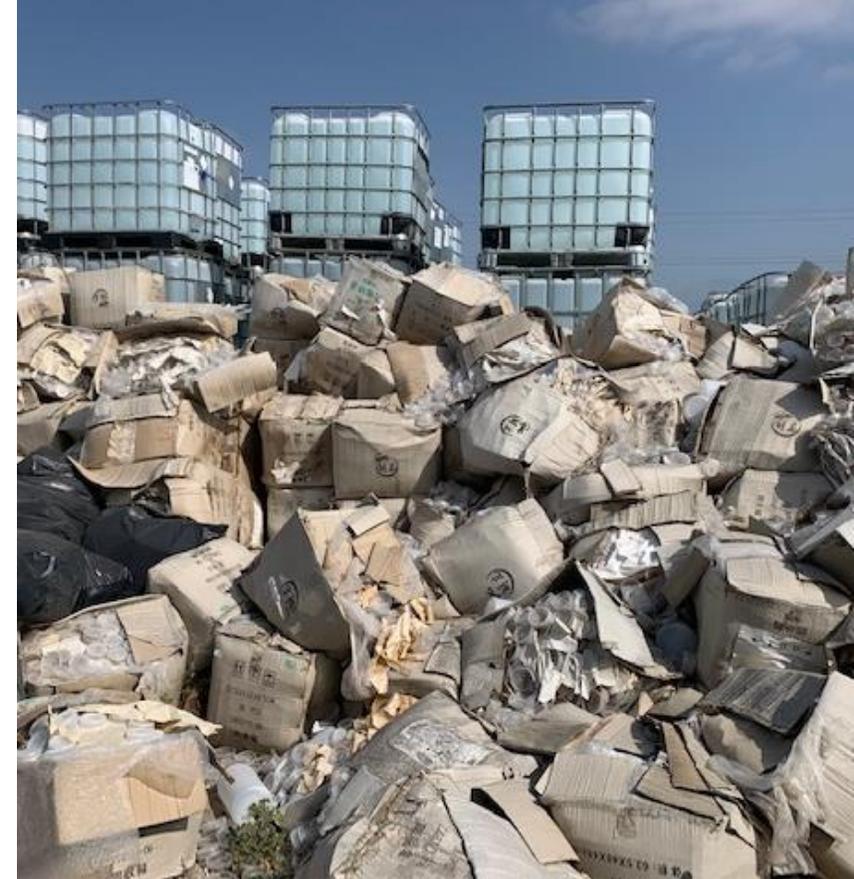
- ◆ Due to the proximity of the surrounding community, EPA maintained air monitoring until all batteries were in drums and awaiting shipment

Location 7 - Southwest of Staging Area at Suites 114 & 116 Loading Dock Stairwell							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE 3	VOC	No	2875	0	0 - 0 ppb	0 ppb	1000 ppb
	CO	No	2875	0	0 - 0 ppm	0 ppm	27 ppm
	H ₂ S	No	2875	0	0 - 0 ppm	0 ppm	0.33 ppm
	SO ₂	No	2875	0	0 - 0 ppm	0 ppm	0.2 ppm
	Cl ₂	No	2875	720	0 - 0.3 ppm	0 ppm	0.5 ppm
	γ	No	2875	2875	1 - 6 μrem/h	4.9 μrem/h	9 μrem/h

Location 8 - Eastern Side of Northern Roll-Off Battery Box							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
SPM Flex 4	HCl	No	1490	0	0 - 0 ppm	0 ppm	1.8 ppm
SPM Flex 5	HF	No	867	0	0 - 0 ppm	0 ppm	1 ppm

A few recent trends in fire/hazmat - SoCal

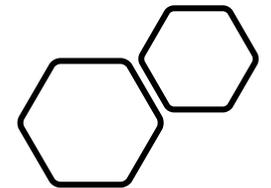
- These examples are special materials that are common, dangerous and difficult to dispose.
- Lots of improper storage and abandonment of sanitizer – as liquid, gel and wipes. Sometimes in totes and sometimes in consumer packaging. Large amounts of sanitizer and precursors are imported.
- Compressed gas cylinders: certain districts contain large numbers of cylinders. Often these are sold or abandoned.
- Butane: Cannabis oil production has resulted in large amounts of butane storage. Imported butane is stored improperly all over SoCal to support production facilities. As an oil EPA authority is limited.



Abandoned Sanitizer

Ontario, City of LA, Gardena

- COVID businesses go bust leaving large quantities of sanitizer (ethanol) in fire-prone conditions
- A large fire in Gardena (Fall 2020) resulted in new concerns
- LA and neighboring cities chasing sanitizer storage and disposal
- Off-spec sanitizer is a RCRA waste (ignitable), ships as flam liquid or solid (waste wipes)



Hand Sanitizer Fire

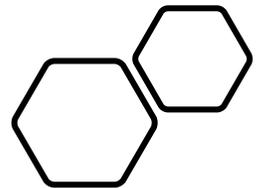


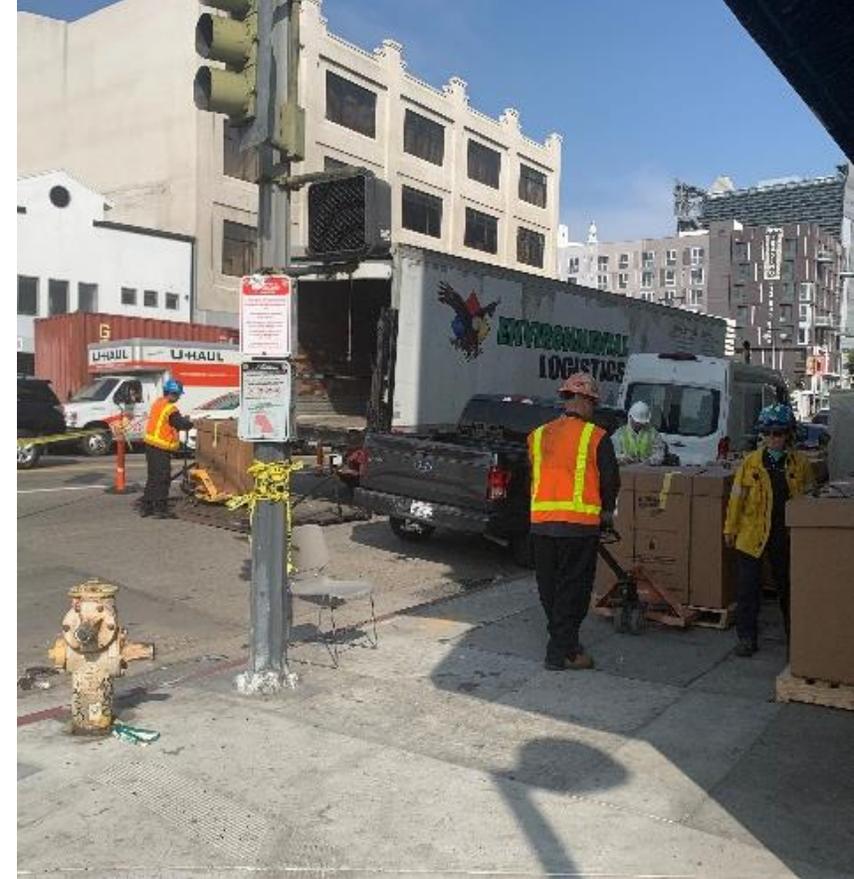
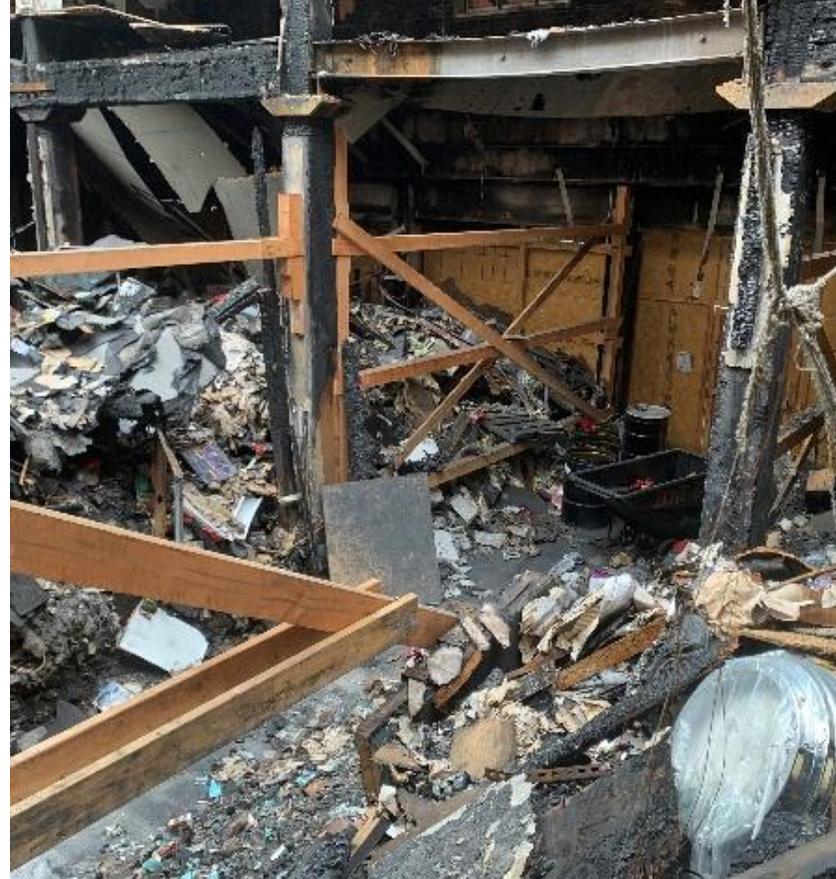


Third Street Cylinders

Montclair, CA

- A fire and explosion at a scrap yard reveals thousands of cylinders
- Several contain chlorine and ammonia
- County Fire/Hazmat performs emergency mitigation of leaking Cl cylinder

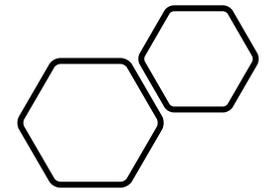




Third Street Smoke Shop Distributors

Los Angeles, CA

- Cannabis oil businesses are distributing storing large quantities of butane in cans (potentially 1000s of locations)
- Multiple fires around LA have resulted in unstable waste
- EPA authority doesn't cover butane as a waste (other wastes need to be present – in this case Lithium batteries)



Downtown LA Butane Fire

