CPSC

California Product Stewardship Council SM

Lithium Batteries: A Powerful Risk at Your Facility and Beyond

September 20, 2018

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Lithium Batteries are the Most Popular Rechargeable Battery Today

Integrated into wide range of products: cellphones, power tools, children's toys, and many household devices

- They come in many shapes and sizes and some are unique to products
- Sales are increasing with new innovations i.e. wearable tech

Consumer Product Explosions Related to Lithium-Ion Batteries

E-scooter fires soar 300% in 2017

TODAY Online, February 8, 2018

Train car carrying Lithium batteries explodes near downtown Houston

Houston Chronicle April 26, 2017

There have been over 244 fires at MRFs this year

Waste360, December 22, 2016

Why is this an issue?

- Dangerous for workers
- Costly to the system
- Causing us to change our collection program

Pictured at left: Explosion caused by three propane cylinders, not much of a different situation for batteries

South Bayside Waste Management Authority (Bay Area, CA)

- Two fires at MRF caused by lithium batteries
- Insurance premiums increased causing rates to increase
- At risk of losing insurance coverage and having to self-insure!

http://www.rethinkwaste.org/

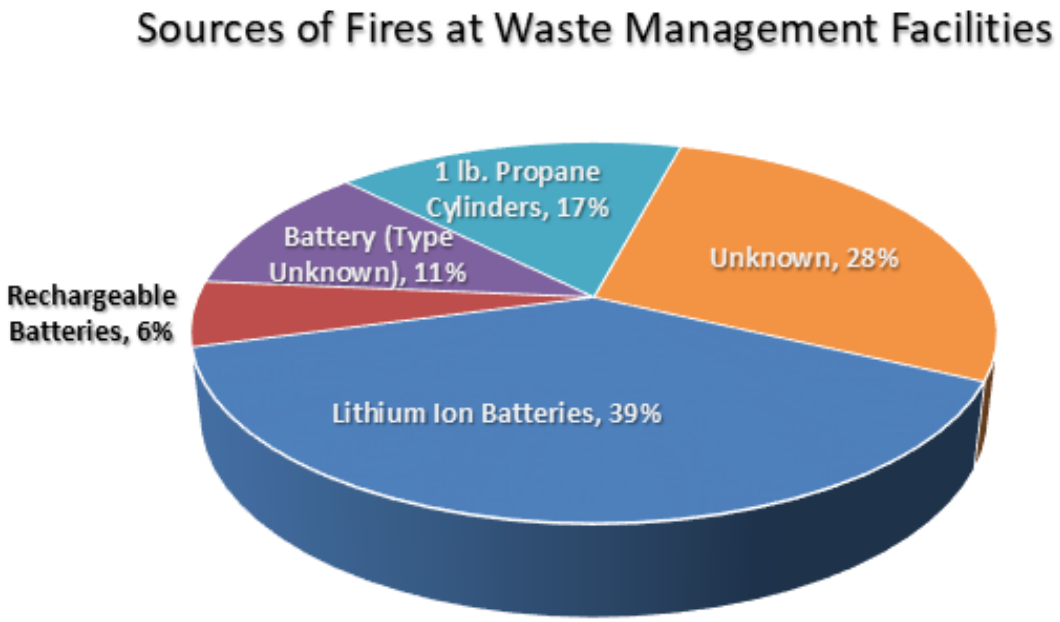
MRF fire footage:
https://www.youtube.com/watch?v=EkK4GdKjp-U

Hilary running over a battery video:
https://www.youtube.com/watch?v=9x7Gpygk9TM

CPSC Fire Incident Survey

A survey was conducted in March 2018 to find out more about waste facility fires:

- 22 respondents from CA waste facilities, with 21 responding yes or no to facility fires.
- **86% of the 21 reported having a fire at their facility** in the last two years.
- When asked to identify the source of the reported fires, **56% of the reported fires** were due to batteries.
- Lithium ion batteries are the largest source of reported fires.



CPSC Fire Incident Survey

Specific Survey Results:

- Survey went out to a 600+ member CPSC listserv.
- 22 individual organizations (facility operators) responded to the survey.
- Facilities were located in 17 counties:
  - Del Norte County
  - Siskiyou County
  - Humboldt County
  - Tehama County
  - Butte County
  - Sacramento County (2)
  - San Joaquin County
  - Marin County *(No fires)*
  - City/County of San Francisco
  - San Mateo County (3)
    (One reported no fires)
  - Santa Clara County (2)
  - Santa Cruz County
  - Monterey County
  - Fresno County
  - Santa Barbara County (No fires)
  - Mojave Desert (San Bernardino Co.)
  - Los Angeles County

	# of reported incidents	% of reported incidents
Lithium Ion Batteries	7	39%
Rechargeable Batteries	1	6%
Alkaline Batteries	0	0%
Battery (Type Unknown)	2	11%
1 lb. Propane Cylinders	3	17%
Unknown	5	28%
All Batteries (sum of above)	*10*	*56%*
Total	**18**	**100%**

CPSC Fire Incident Survey

Specific Survey Results (Cont'd):

	Have you seen an increase in logged battery-related fire responses in recent years?		Have other fire prevention expenses increased at your facility or with hauling (training, equipment, operational changes, material restrictions, public outreach/education)		Do you capture and record the quantity of batteries sorted out of your facilities inbound material stream (e.g., batteries sorted from glass, waste characterizations, or shipping records)?	
Yes	4	36%	9	50%	9	45%
No	2	18%	9	50%	11	55%
Unsure	5	45%				
Total	**11**		**18**		**20**	

Options to Solve Problem of Fires from Lithium Batteries

1. Do nothing: Increase taxes and garbage rates and hope you can self-insure if fires continue or someone else does something.

2. Work with CPSC/NSAC on voluntary programs with Call2Recycle, battery industry, retailers, product manufacturers (if willing).

3. <u>Support local/state/national legislation to make producers pay for end of life costs</u>.

This is a health and safety issue and falls under the Alameda Supreme Court case so local EPR ordinances are an option.

Local Government Options

1. Require pure Extended Producer Responsibility (EPR model).
2. Require retail take-back.
3. Design your own collection program with producer-reimbursement.
4. Visible fee ordinance to pay for collection (Stewardship model).
5. Send the industry the bill for fires.

Questions?

Connect with CPSC!

We are stronger together.

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