

SPRING 2023



Environmental Health & Safety From Experience

Lithium-Ion Battery Safety: What the Code Does...and Doesn't...Say

Equipment powered by lithium-ion batteries are becoming more and more prevalent within the plant setting. The advantages are clear: These batteries tend to be smaller, can be fast-charging, and hold up well to repeated charging and discharging cycles.

Of course, they are not without disadvantages. Chief among them are the fires and explosions they can cause. In addition to such physical hazards, the lithium cobalt and graphite present in these batteries can be hazardous to employee health, leading to burns, skin and eye irritation, and lung damage should the batteries be damaged.

So how, as an employer, do you protect your facility and your employees when using equipment powered by lithium-ion batteries? From a code perspective, the Occupational Safety & Health Administration's (OSHA's) Powered Industrial Truck Standard has a section related to "Changing and Charging Storage Batteries" (29 CFR 1910.178(g)), but it is related to sulfuric acid batteries...not lithium ion.

Without specific code guidance, in situations like these, consider following standard best practices such as:

- Follow the manufacturer's instructions for storage, use, charging, and maintenance.
- Include an automated on and off feature at charging stations to avoid overcharging.
- Install some type of fire protection (e.g., sprinkler or appropriate fire extinguisher). While not required by some building codes, this is often required by an insurer carrier.

Continued on next page. >

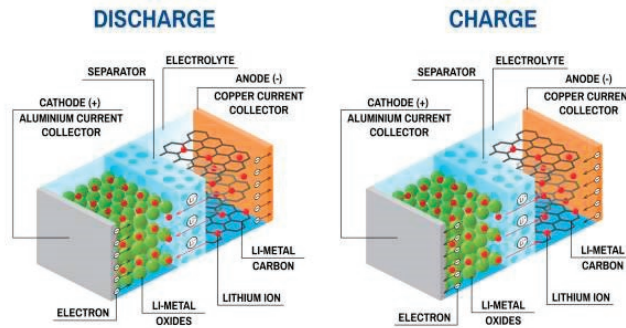
EXPERIENCE IN BRIEF

The amount of product being lost to the sewer directly affects the Biochemical Oxygen Demand (BOD) load. Higher BODs result in higher costs both in the production process and from the wastewater treatment plant. As a basic rule of thumb, 2,300 calories typically yields one pound of BOD.

1 Pound of BOD Equals:

1.0 gal. whole milk	1.0 lb. salad dressing
0.4 gal. ice cream mix	2.0 lbs. cheese
1.2 gal. sweetened soda	1.4 lbs. sugar
1.3 gal. orange juice	2.3 lbs. bread
0.7 lb. mayonnaise	2.4 lbs. ground beef

LITHIUM-ION BATTERY



Lithium-Ion Cell Discharging

Image Source: iStock

Need more information about managing lithium-ion batteries in your plant? Contact Hixson today!

RELATED CONTENT

[Accidents Happen: Is Your First-Aid Kit Up to the Challenge?](#)

[Notification Requirements Associated with "Reportable" Chemical Spills/Releases](#)

FREE WEBINAR SERIES!

Go to www.hixson-inc.com/insights/foodplant-of-the-future to register or access archives of Hixson's webinars.



CONTACT US

Direct any comments or questions to:

Joe Weisgerber, P.E., CPEA

Manager, Environmental Engineering/
Health & Safety

jweisgerber@hixson-inc.com

Phone: 513.241.1230

www.hixson-inc.com