COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

Peroxide Formers

FAQ Sheet

Peroxide-forming chemicals are substances that can develop shock-sensitive and explosive compounds when exposed to air, light, or over time. Common examples include diethyl ether, tetrahydrofuran (THF), dioxane, styrene, and acrylonitrile. These chemicals require careful monitoring due to the risk of peroxide accumulation.

NEW YORK CITY FIRE CODE REQUIRES THIS CHEMICAL BE TESTED FOR EXPLOSIVE PEROXIDES.

TEST WHEN FIRST OPENED, AND SIX MONTHS AFTER OPENING.
CHEMICAL **MUST BE DISPOSED** WHEN THE FIRST OF THREE OPTIONS OCCUR:

A. TEST FAILS (>10mg/L H2O2), OR -
B. MANUFACTURER EXPIRATION DATE
C. ONE YEAR AFTER OPENING

DATE RECEIVED: _____

DATE OPENED: _____

DATE TESTED: _____

DATE EXPIRED: _____

https://research.columbia.edu/content/managing-peroxide-forming-chemicals

Columbia University Peroxide Former Label

FDNY Regulation

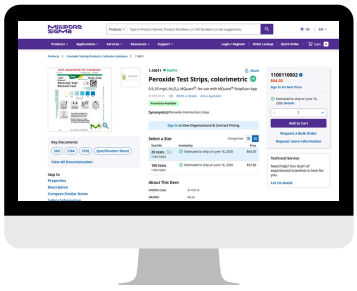
The New York City Fire Department (FDNY) enforces requirements aligned with National Fire Protection Association (NFPA) standards. These regulations emphasize stricter control, tracking, testing, and disposal timelines for peroxide forming chemicals to reduce explosion risks in laboratories. All peroxide-forming chemicals must be labeled with the date of receipt, date opened, expiry date, and the day it was tested. Contact EH&S for labels, like the one on the right.

For the MS and MV campuses, peroxide-forming chemicals ordered through the appropriate purchasing channels will arrive pre-labeled. For all other campuses, please contact EH&S to obtain labels.

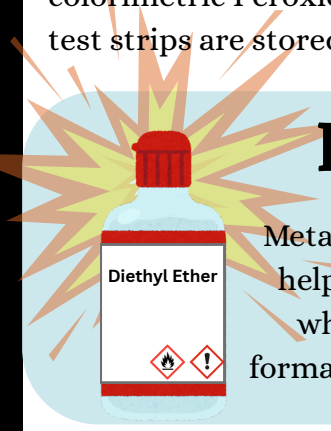
What are the Key Requirements?

Chemicals that are capable of peroxide formation must be tested for peroxide accumulation six months after opening. If testing confirms that no peroxides are present, the chemical may continue to be used or stored, and the test date should be documented on the container label.

Laboratories who use or store peroxide forming chemicals must keep peroxide test strips in stock. An example of this product are the Supelco MQuant colorimetric Peroxide Test Strips sold by Sigma Aldrich. Be mindful of how the test strips are stored as some products require cold storage.



Sigma Aldrich Product Page



Fun FAQ!

Metal cans and amber bottles help reduce light exposure, which can slow peroxide formation in certain chemicals.

When Must Chemicals be Discarded?

Dispose of the chemical when the following occurs:

- Peroxide test fails (>10 mg/L H_2O_2)
- Manufacturer expiration date is reached
- Upon discoloration, crystal formation, or residue accumulation

Where can I find the full list of Applicable Chemicals?

This FAQ sheet includes only a subset of commonly encountered chemicals. For the complete list, please scan the QR code below.

Have more questions? Reach out to EH&S at Labsafety@columbia.edu or give us a call

CUIMC: (212) 305 - 6780

Manhattanville/Morningside: (212) 854 - 8749

@Columbiaehs

QR Code: Managing Peroxide Forming Chemicals.