

# STRUCTURAL CUES FOR CHEMICAL HAZARDS

## FORMULAE

## NAMES

## STRUCTURES

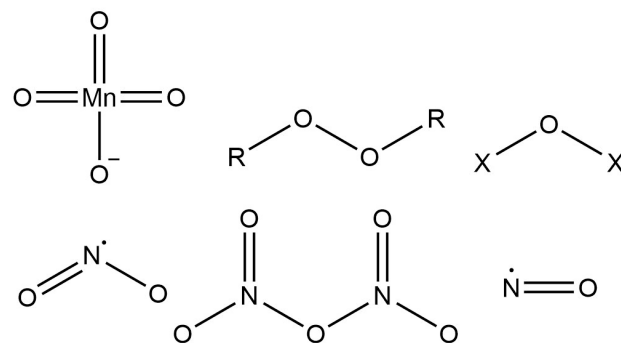
### EXPLOSIVITY

RCOOH	peroxy acid/peracid	
ROOR	peroxide	
R-N=N-R	azo	
N <sub>3</sub> *	azide	
BrO <sub>3</sub> /ClO <sub>3</sub> /IO <sub>3</sub> *	bromate/chlorate/iodate	
R-N=O	nitroso	
NO <sub>2</sub> *	nitrite	
ClO <sub>4</sub> *	perchlorate	
ClO <sub>2</sub> *	chlorite	
C <sub>2</sub> H <sub>2</sub>	acetylene	
CH <sub>2</sub> =CH-CH=CH <sub>2</sub>	butadiene	
C <sub>6</sub> H <sub>14</sub> O	isopropyl ether	
C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	vinylidene chloride	

X = halogen (F, Cl, Br, I)  
R = rest of molecule

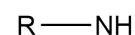
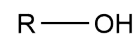
### IGNITION POTENTIAL

ROOR	peroxide
MnO <sub>4</sub> *	permanganate
XaOb	halogen oxides
NaOb	nitrogen oxides



### TOXICITY

- |                                   |   |
|-----------------------------------|---|
| 1. $0 < x < 5$ NH or OH groups    | Must consider overall structure with names containing amine, amide, hydroxy, carboxy, <-- alcohol |
| 2. MW < 500 g/mol                 |   |
| 3. Sum of # of N and O atoms < 10 |   |



Asterisk denotes charged species that may not appear that way in a formula.  
Lone dots indicate free radicals which indicate high hazard potential.

**THIS IS INTENDED AS GUIDANCE AND IS NOT AN EXHAUSTIVE LIST. SIMPLIFIED FOR CLARITY.**