

# Chemical Reactivity Worksheet

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Version 2.0.2

Developed by:

**Office of Emergency Management**  
U.S. Environmental Protection Agency



**Emergency Response Division**  
National Oceanic and  
Atmospheric Administration



In collaboration with:

**Center for Chemical Process Safety**



# CRW: Background

- Software tool for predicting chemical compatibility and hazards using binary combination of reactive groups
- Database of > 5000 common industrial chemicals
- Usable for incident prevention and incident response

# New features

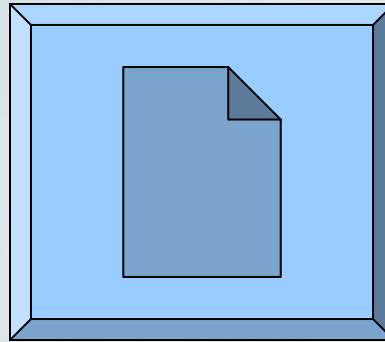
- Standalone FileMaker runtime with new user interface
- Majority of reactivity predictions are now documented with literature citations
- Prediction of some possible gaseous products of reactions
- Includes water as a new reactive group
- Ability to create custom databases of chemicals
- Revised hazard statements



# Capabilities and Limitations

- CRW does:
  - Predict binary reactions based on reactive groups
  - Make conservative predictions
  - Predict specific gases for some reactions
  - Provide compound-specific info in its database
- CRW does not:
  - Predict trinary or catalytic reactions
  - Predict reaction thermodynamics and kinetics
  - Predict reactions specific to individual compounds (though some info may be available in the database)

# CRW2 Demo



# Why use CRW?

- Versatile tool for reactivity prediction and information on common industrial chemicals.
- Extensively used over the last 10 years, and much of the compatibility table has been documented.
- Freely available to download:
  - <http://response.restoration.noaa.gov/>
  - Located under “Software and Data Sets”

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