

## CAMEO®

**P**lacing accurate, timely information in the hands of decision makers is vital to a safe, effective response to a chemical incident.

Designed to assist first responders and emergency planners get to key information quickly, the CAMEO (Computer-Aided Management of Emergency Operations) software suite has four core programs: CAMEOfm, CAMEO Chemicals, ALOHA®, and MARPLOT®.

### How the CAMEO Software Suite Works

All programs work interactively to display critical information in an easy-to-understand manner. You can use the suite to:

- Manage data for emergency planning and response (including facilities, chemical inventories, contact information, and response resources).
- Access chemical property and response information.
- Find out how chemicals could react if they mixed.
- Estimate threat zones for hazardous chemical releases, including toxic gas clouds, fires, and explosions.
- Map threat zones and other locations of interest.

**CAMEO Chemicals**

Home  
Help

Search Chemicals  
New Search  
Modify Search  
Search Results

MyChemicals  
chemicals: 0  
View MyChemicals  
Predict Reactivity

**CHLORINE**

Chemical Identifiers

CAS Number 7782-50-5 UN/NA Number 1017 DOT Hazard Label Poison Gas Oxidizer Corrosive USCG CHRIS Code CLX

NIOSH Pocket Guide Chlorine International Chem Safety Card CHLORINE

NFPA 704

Diamond	Hazard	Value	Description
0	Health	4	Can be lethal.

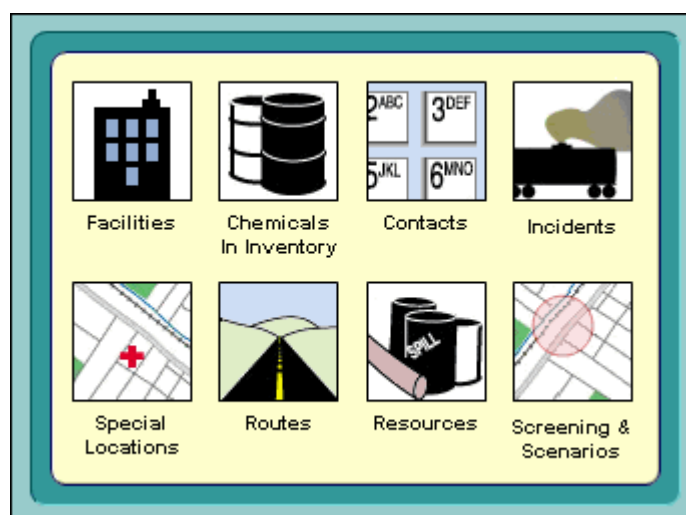
The chemical datasheet for chlorine includes response recommendations and physical properties.

The CAMEO suite is developed jointly by the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Environmental Protection Agency (EPA).

### CAMEO Data Management Modules



Keep track of information related to emergency response and planning using CAMEOfm's eight data management modules.



The Home screen provides easy access to the CAMEOfm data management modules and other programs in the suite.

For example, you can store information about the chemical facilities in your community, including contact information and chemical inventories. Once you've entered your data into CAMEOfm, you can use the other suite programs to:

- Link the records about facilities and other locations to symbols on a MARPLOT map. This will allow you to quickly get to your data from CAMEOfm or MARPLOT.
- Find out more about the chemicals in inventory by looking in CAMEO Chemicals to get response recommendations and physical properties, or use ALOHA to predict the threat zones (if the inventory chemicals were released).

The CAMEOfm modules are especially useful for data management tasks required under the Emergency Planning and Community Right-to-Know Act (EPCRA).



## CAMEO Chemicals and Response Information



CAMEO Chemicals has an extensive chemical database with critical response information for thousands of chemicals.

- **Chemical datasheets** provide physical properties, health hazards, information about air and water hazards, and recommendations for firefighting, first aid, and spill response.
- **UN/NA datasheets** provide response information from the Emergency Response Guidebook (ERG) and shipping information from the Hazmat Table (49 CFR 172.101). ERG Response Guide PDFs are available in English, Spanish, and French.

You can also add chemicals to the MyChemicals collection to see what hazards might occur if the chemicals in the collection were mixed together.

CAMEO Chemicals is available as a website, mobile website, desktop program, and a mobile app for smart phones and tablets. The full database of chemical information is available in all CAMEO Chemicals formats, but only the desktop format can share information with the other programs in the CAMEO software suite.

**Note:** The website formats are available from <https://cameochemicals.noaa.gov>, and you can download the mobile app for iOS devices on the App Store and for Android on Google Play.

## ALOHA and Threat Zone Plots



ALOHA can predict the area that could be affected by a toxic cloud, as well as potential threats from chemical fires or explosions.

Graphical outputs include threat zone plots, threats at specific locations, and source strength graphs.

A threat zone is an area where a hazard (such as toxicity, flammability, thermal radiation, or damaging overpressure) has exceeded a user-specified Level of Concern.

Threat zones are displayed on a grid in ALOHA, and they can also be plotted on maps in MARPLOT, Esri's ArcMap (using MARPLOT to generate shapefiles for export), and Google Maps or Google Earth (using ALOHA's KML export feature).

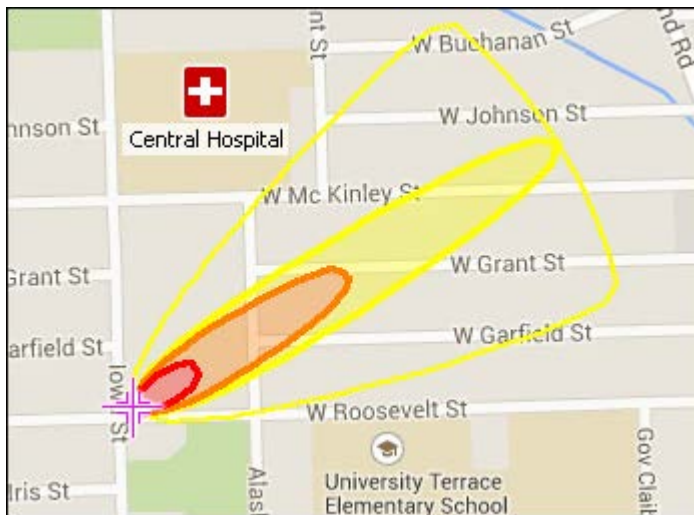
## MARPLOT and GIS-Compatible Output



With MARPLOT's easy-to-use GIS interface, you can add your own objects to maps, as well as view and edit data associated with those objects.

When you display ALOHA threat zones in MARPLOT, you can get population estimates for the potentially impacted area. You can also check within the threat zone for facilities storing hazardous materials and locations of special concern (such as hospitals and schools).

Important data about these locations (such as emergency contacts, hours of operation, and chemical inventories) can be displayed in CAMEOfm to help you make decisions about the degree of hazard posed by the incident.



A sample MARPLOT map with a tricolored ALOHA threat zone estimate displayed near a symbol object representing a hospital.

## Getting CAMEO

To download any program in the suite free of charge, go to <https://www.epa.gov/cameo>.

CAMEO suite desktop programs run on both Windows and Mac computers.

## CAMEO Contact Information

For additional information:  
<https://response.restoration.noaa.gov/comesuite>  
[orr.cameo@noaa.gov](mailto:orr.cameo@noaa.gov)

*NOAA's Office of Response & Restoration—Protecting our Coastal Environment*

For further information about NOAA's Office of Response and Restoration,  
please call (301) 713-2989 or visit our website at  
<https://response.restoration.noaa.gov>

