



CERES

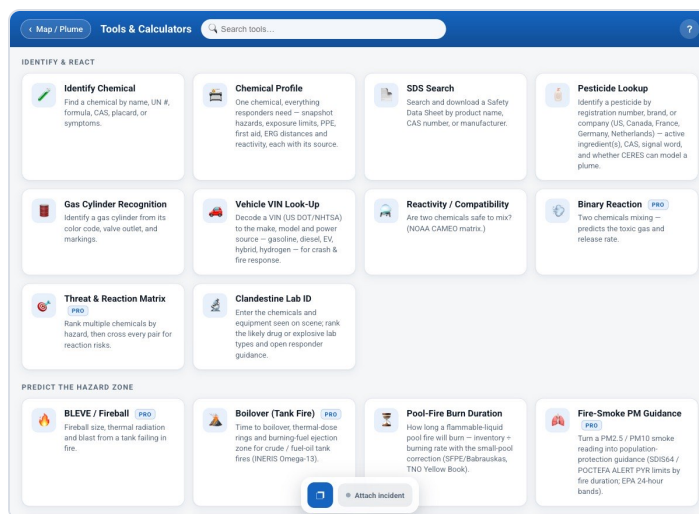
Chemical Emergency Response E-Service
Capability sheet

For everyone on the apparatus, in the command post or in the control room

80 tools, grouped by the question they answer.

The Tools workspace opens from the map or on its own, attaches to the incident so every result lands in the record, and runs on a phone at the scene. Most tools are free with any CERES account. Pro tools are marked. Each one names the standard or study behind its numbers. The Training module uses the same tools for its missions and lessons.

- Nine groups that follow the incident: identify, predict, mitigate, protect, treat, fight, command, plan, look up
- Search that forgives typos, windows you can park side by side, read-only share links for any result
- A how-to tour on every tool, most with a practice mode, help in five languages, your agency's equipment pinned where it matters



The workspace: groups follow the incident, Pro cards are marked, and the incident stays attached while you work.

Identify and react

What is it, what will it do, and what happens if it meets something else.

10 tools

Identify Chemical

Find a chemical by name, UN number, formula, CAS, placard or symptoms.

SDS Search

Search and download a Safety Data Sheet by product name, CAS number or manufacturer.

Gas Cylinder Recognition

Identify a cylinder from its color code, valve outlet and markings.

CGA

Reactivity and Compatibility

Are two chemicals safe to mix?

NOAA CAMEO reactivity matrix

Threat and Reaction Matrix

PRO Rank several chemicals by hazard, then cross every pair for reaction risks.

Chemical Profile

One chemical, everything responders need: hazards, exposure limits, PPE, first aid, ERG distances and reactivity, each with its source.

NIOSH, CAMEO, DOT, OSHA, EPA

Pesticide Lookup

Identify a pesticide by registration number, brand or company in the US, Canada, France, Germany and the Netherlands, with the active ingredients and whether CERES can model a plume.

Vehicle VIN Look-Up

Decode a VIN to make, model and power source: gasoline, diesel, EV, hybrid, hydrogen.

US DOT NHTSA

Binary Reaction

PRO Two chemicals mixing: the toxic gas produced and its release rate.

Clandestine Lab ID

Enter the chemicals and equipment seen on scene; rank the likely drug or explosive lab types and open responder guidance.

Predict the hazard zone

How far, how hot, how hard and how long, for fire, blast, vapor and radiation.

20 tools

BLEVE / Fireball

PRO Fireball size, thermal radiation and blast from a tank failing in fire, with time to failure and cooling-water guidance.

Pool-Fire Burn Duration

How long a flammable-liquid pool fire burns, from inventory and burning rate with the small-pool correction.

SFPE, Babrauskas, TNO Yellow Book

Products of Combustion

PRO What is in the smoke when a material burns: toxic products with quantities, AEGL-ranked hazards and a screening downwind reach.

EV Fire Thermal Model

Safe separation distances and heat flux from a burning electric vehicle, from its peak heat release rate.

UL FSRI

Pool-Fire Radiation / PPE

PRO Radiant heat from a pool fire; time to PPE failure and skin burns at each distance.

Vapor Cloud Explosion

PRO Overpressure rings at 8, 3.5 and 1 psi when a flammable cloud ignites in a congested area.

Baker-Strehlow-Tang

Ammunition Danger Areas

Fragment danger areas for ammunition or bulk explosives by all-up weight, and quantity-distance storage separations.

UN SaferGuard, IATG, Hopkinson-Cranz

Solution Evaporation

PRO Initial evaporation rate from an aqueous spill, ready to feed ALOHA.

Cryogen O₂ Displacement

Oxygen left in a confined space after a cryogenic or gas release: no-entry verdict, maximum safe quantity, time to hazard.

EIGA, OSHA

Nuclear Detonation

PRO Blast, thermal, radiation and flash zones from yield and height of burst.

Glasstone-Dolan

Boilover (Tank Fire)

PRO Time to boilover, thermal-dose rings and the burning-fuel ejection zone for crude and fuel-oil tank fires.

INERIS Omega-13

Fire-Smoke PM Guidance

PRO Turn a PM2.5 or PM10 reading into population-protection guidance by fire duration.

SDIS 64, POCTEFA ALERT PYR, EPA bands

BESS Battery Fire

PRO Radiant heat-flux rings from a lithium-ion energy-storage fire, scaled from the stored energy.

Gas Leak and Jet Fire

PRO Release rate from a pressurized vessel and the jet-fire reach if ignited.

IED / BLEVE Standoff

Bomb standoff cards, LPG fireball and ERG propane BLEVE distances.

DHS-ATF, NGIC, ERG

Fireworks Explosion Mix

Total TNT equivalent and blast standoff for a mixed fireworks load by UN hazard division.

Li-Ion Battery Gas Vent

PRO Toxic and flammable gas in a room, vehicle or container when a lithium-ion battery vents: HF and CO against AEGL and IDLH, percent LFL, and what the meters miss; outdoor ERG-style distances.

Liquid Spill Evaporation

PRO Quick evaporation rate and time to dry for a spilled liquid without weather data.

Illinois EPA screening

Spill to Water

PARTLY PRO Flammable vapor in storm drains, river dilution and travel time, whether it floats, sinks, dissolves or evaporates, and intake closure against benchmarks.

SEBC, EPA

Dirty Bomb / RDD

PRO Blast zone and the downwind dose and contamination plume.

HotSpot method

Size up and mitigate the spill

How much is out, what container it came from, and what it takes to make it safe.

8 tools

Tank Volume

Capacity by shape and dimensions, and the liquid volume from a level, including a horizontal tank on its side.

Transport Containers

Rail car, cargo tank, ISO tank and barge presets with standard capacity and geometry to pre-fill a tank scenario.

DOT-111, MC-331, T11 and more

Neutralization

Neutralizing-agent mass for an acid or base spill by chemical equivalents, with exotherm, gas and HF safety notes.

Decon Runoff and Containment

How much contaminated water decon makes, whether the berm or pool holds it, plus drums, totes and absorbent.

Spill Volume

Spilled volume and mass from the puddle footprint and average depth; hands off to neutralization, absorbent and evaporation.

Dilution Calculator

Water to render a spill safe by chemical or by pH: water required, total volume to contain, feasibility.

Absorption

How much sorbent to bring for a liquid spill, by sorbent type, with the bag count.

Ventilation Calculator

Time to clear an indoor space to a safe level, and the air changes required.

Protect the entry team

The suit, the respirator, the meter and the clock.

5 tools

CPC Breakthrough

Chemical-suit and glove breakthrough times by chemical.

ASTM F739

APR Canister and Life

Will a canister or cartridge protect against a chemical, and for how many minutes.

Heat Stress and Stay Time

Work and rest cycle, fluids and monitoring cadence in protective clothing, from temperature, humidity and work rate.

Respiratory Protection

The legal respirator class, and SCBA air time at your work rate.

OSHA 1910.134

Detector Correction

PID and LEL correction factors and the true concentration from a meter reading, by chemical and detector.

Casualties and medical

From the first symptom to the antidote, and from a mass-casualty sort to a radiation dose.

12 tools

Toxidrome

The likely toxic syndrome and antidote from the patient's signs.

Bio/CW Agents

Reference cards for biological, toxin and chemical-warfare agents: incubation, signs, treatment, decon and isolation.

SALT Triage

Sort, assess, lifesaving interventions: the US all-hazards method.

Decontamination Advisor

Is wet decon worth it? Volatility and urgency check, then disrobe and wet or dry decon steps.

CHEMM, PRISM, IOR

Antidote Dosing

Weight-based mg and mL dosing for hazmat and CBRN antidotes; fixed-dose products return their regimen.

CHEMM, REMM, FDA

START / JumpSTART Triage

Mass-casualty triage by respiration, perfusion and mental status, adult and pediatric.

Burn Triage

Burned surface area, the fluid-resuscitation starting rate and burn-center referral criteria.

Rule of Nines, Lund-Browder, ABA, Parkland

Radiation Calculator

Unit conversion, gamma dose rate, stay time and fallout decay.

Radiation Dose from Vomiting

The dose a casualty received from the time to onset of vomiting.

AFRRI BAT, Demidenko

Radiation Countermeasures

Reference doses for potassium iodide, Prussian blue, DTPA and the myeloid cytokines.

FDA, REMM

ARS Management

Whole-body dose to the expected acute radiation syndrome, treatment bundle and destination.

REMM, Waselenko

Scarce-Resource Radiation Triage

Triage category and cytokine recommendation after a detonation when resources are overwhelmed.

REMM

Fireground operations

Water, foam and pressure.

4 tools

Foam Application

Foam supply: flow, concentrate and water.

NFPA 11

Drafting / Suction Lift

Maximum safe suction lift from static water by altitude, water temperature and cavitation.

Hose Friction Loss

Friction loss and the required pump discharge pressure for a hose lay.

NFPA, IFSTA

Fire Flow and Water Supply

How much water the fire needs, what hydrants and tanker shuttles deliver, and whether it is enough.

NFA, Iowa, ISO, NFPA 1142

Incident management

The command post, the people and the paperwork.

13 tools

Incident Weather

PRO Weather read as a hazmat size-up: where a release goes and the sector it can reach, stability class and ERG day or night, the changes in the operational period, heat, cold, lightning and rain, plus a briefing to paste or export.

Incident Notification

Notify the call-down list and partner agencies by email and SMS with location, summary, POC, chemical and plume links and photos, from templates, with a delivery log for every recipient.

Team / Site Status Board

TEAM Live roster with per-status counts, teams, officer overrides, PAR roll calls and responder-emergency alarms; wallboard mode.

Incident Manager

Run an incident: header, tasks, live activity log, and the ICS 202, 203, 204, 208 and 214 forms filled from the record, to Word or PDF.

FEMA ICS 202, 203, 204, 208, 214

Cost Review

What a reviewer would question on an incident's costs, and the published rule behind each item.

Rehab Tracker

Check crews in, capture vitals and the medical screening, time the rest cycle, log fluids, release or transport.

NFPA 1584

Coordinate Converter

Any position notation in, all of them out: decimal degrees, DMS, UTM, MGRS, Plus Code, geohash or a map link. Works offline.

My Status

TEAM Set your response status in one tap; your location is shared only while you respond; every change is logged to the ICS 214.

Multi-Site Readiness

TEAM Status counts for every site you can see; emergencies and open PARs are flagged on each site.

Incident Log

The live log alone, filtered by responder, ICS role, time and tag.

Command Board

Digital command and accountability board: drag crews onto assignments, one-tap PAR, air and work-cycle timers, MAYDAY, automatic ICS 214 log, ICS 201 and 211 exports. Works offline.

Incident Sketch and Mark-Up

Sketch the scene on grid paper, an aircraft outline, the DOT/MC cargo-tank and rail tank-car outlines, a photo or the live map; stamp NIMS symbols; print it or post it to the board.

Open Action Tracker

The command-post whiteboard for tasks below objectives: POC, priority, deadlines, live sharing, printed as an ICS 233.

FEMA ICS 233

Planning and compliance

The inventory, the worst case and the relief valve.

3 tools

Tier II Summary Reports

PRO Roll up the EPCRA Tier II inventory across the site: totals, extremely hazardous substances and CSV export.

PRV Sizing

PRO Size a relief valve for fire engulfment.
NFPA 58, API 521

Worst-Case Auto-Analysis

PRO Batch-model the worst-case release for every Tier II or RMP facility chemical: distances, population, stacked footprints, influencing facilities.

Training

Learn the tools between calls, and prove it.

1 module

Training

Four story missions played with the real tools on a private exercise incident, so nobody is paged: guided mode teaches with hints and tours, tested mode records a qualification with an expiry. Eleven Basics lessons cover the workspace, chemicals, levels of concern, weather and running models, and three incident-command lessons cover taking command, the roster and the record, and accountability. The chief's Team tab holds the matrix, curricula and assignments.
HSEEP-style ratings, after-action review

Reference and administration

The phone book, the links, the equipment and the simulators for drills.

5 tools

Contacts and Resources

The team's response phone book: dispatch, hospitals, CHEMTREC and key people, kept current by your administrators.

Agency Equipment

Mark the fans, gas meters, PPE and cartridges your agency carries; they are pinned and highlighted across the tools.

Sensor and Device Simulator

Create and drive simulated detectors from manufacturer presets, a custom build or a clone of a live device, for drills and commissioning. For site administrators; integration simulators for Modbus, PI Web API, Blackline Live and Safety Suite are available to application administrators.

Useful Links

CERES references and manuals, plus the links your administrators add.

Rate Schedules

The published equipment rates your incident bills are priced from; load the FEMA schedule and publish newer editions.

Free, Pro and Team. Tools without a mark are included with every CERES account, including the free version. **PRO** tools come with any of the three paid products; the modeling tools among them also need the scenario-runner role. **TEAM** tools also come with any paid product and are open to every member of the site, whatever their role. Locked cards show a padlock, never an error.

Open the free tools at ceres.vlahi.com. To unlock the Pro tools for your team, write to sales@vlahi.com or call +1 832-356-6669.

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