CERES

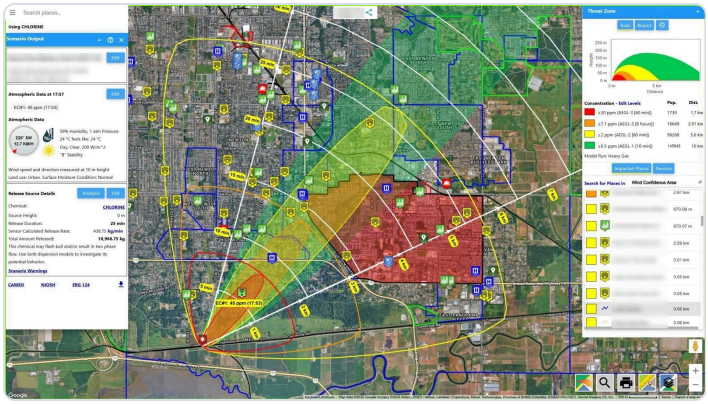
Chemical Emergency Response E-Service
Product sheet

For hazmat teams, fire departments and emergency management

You go toward it. We make sure you can see it.

A hazmat call is a chain of decisions made in minutes, on a placard, a wind sock and a phone that keeps ringing. CERES is built with the people who make those decisions, so that the zone, the crew and the neighborhood are in front of them while there is still time to act. It runs in any browser on the apparatus laptop, the tablet and the phone, with nothing to install.

- **The zone on the map before the first unit arrives, with the people inside it counted**
- **Every crew member on the board, every PAR answered, every minute logged without a clipboard**
- **The same picture on the truck, in the command post and at the plant gate, and a record the review can trust**



A chlorine scenario driven by one detector reading: four levels of concern with the people inside each, where the plume goes if the wind shifts, and the downwind time cone. This is what the incident commander sees in the first minutes.

Six moments of a call

Written from the responder's side. In each one, what CERES does comes second.

1 The call comes in

A leaking tank car, a placard read from a hundred meters, a wind you are guessing from the smoke. The first question is what it is and how far back people need to be, and the honest answer at this moment is usually a guess.

CERES Search by UN number, placard, name or the patient's symptoms. The ERG 2024 isolation and protective-action distances appear on the map, turned to the live wind, before the first apparatus stops. The Chemical Profile puts NIOSH, CAMEO and DOT data on one page, with the source on every line.

2 The first decision

Shelter in place or evacuate. A school downwind, a hospital, a care home. Someone will ask you to justify it later. Right now you have to make it.

CERES ALOHA and the Pro models draw up to four levels of concern with the census population inside each. Threat at a point gives the indoor and outdoor dose over the first hour for that school, so the call is a number, not a feeling. Wind-confidence lines show where the plume goes if the wind backs or veers.

3 Someone has to go in

The entry team suits up on your word. What the suit stops, how long the air lasts at this work rate, what the meter is really reading, how hot it is inside the suit: those are your responsibility before they are anyone else's.

CERES Suit breakthrough by chemical (ASTM F739), the respirator class and SCBA time (OSHA 1910.134), APR canister life, PID and LEL correction factors with the Dräger CatEx LEL tables and 604 detector tubes, heat stress and stay time. Incident Weather read as a size-up: approach sector, stability, the next wind shift, lightning and heat for the crews.

4 Everyone accounted for

Crews move, assignments change, the radio is busy and the tactical worksheet is a wet whiteboard. The one thing you cannot lose is where your people are.

CERES The Command Board puts crews on assignments by drag and drop, with one-tap PAR, air and work-cycle timers, MAYDAY and an automatic ICS 214 log, and keeps working without a connection. My Status from the phone, the team status board, a roster joined by QR code, and location shared only while responding.

5 The neighbors, the partners, the plant

Mutual aid arrives with its own map. The plant has readings you cannot see. Dispatch, the LEPC and the county want the same picture, now, and again by email.

CERES Call-down notification by email and SMS with the plume link, from templates, with a delivery log, and a public alert drafted from the zones as CAP 1.2. Share links that partners open without an account, and incident chat and video calls with them. A plant's detectors and met stations feed the same map, and a sensor-driven plume follows the readings as they report.

6 After, and between calls

The report is due, the review is coming, and the next call will not look like this one. The team that does well on it is the team that practiced.

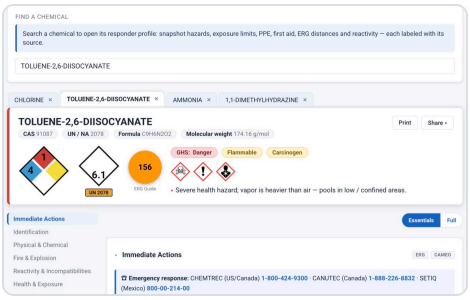
CERES PDF and Word reports with the map, zones and population; ten FEMA ICS forms, from the 201 briefing to the 214 activity log and the 233 action tracker; the incident record with tasks, log and costs. Story missions on a private exercise incident with the real tools, guided to learn and tested to qualify; Basics lessons on the tools and models, and incident-command lessons on taking command and accountability; a practice mode in most tool tours.

Specifications

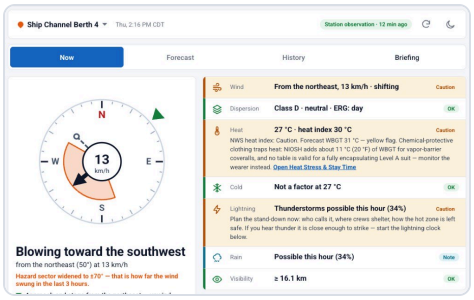
Dispersion models	ALOHA 5.4 algorithms (US EPA and NOAA): Gaussian and heavy-gas dispersion; direct, puddle, tank and gas-pipe sources; RAILCAR 4 source term for pressurized-liquid tank cars (DHS Jack Rabbit tests). PRO liquid flow and pipe, stack and jet, elevated heavy gas, binary reaction, water-reactive spills, smoke and deposition, petroleum and crude products. Releases inside a building, with the outdoor plume their exhaust makes. Every run charts the ground along the plume, from USGS and national lidar heights, and warns when the ground is too uneven for a flat-ground model; heavy-gas clouds have a side view along the centreline. SCICHEM puff dispersion, for wind shifts, calm air, particulates and soot deposition, with complex terrain, is an optional module for HAZMAT Team; Live Facility includes SCICHEM, with complex terrain as an option.
Radiological	PRO Nuclear detonation (Glasstone-Dolan) with WSEG-10 fallout; dirty bomb (HotSpot method); radiation, biodosimetry, ARS and countermeasure calculators.
Chemical library	1,300+ chemicals, solutions and mixtures including LPG, gasoline and crude assays; custom mixtures with key-component modeling; properties labeled with their source.
Weather	Live conditions and forecasts from The Weather Company, nearest station first, with data-quality flags; your own met station; manual entry from the scene; automatic stability class and ERG day or night.
Personnel	My Status from the phone; team status board with teams and officer overrides; PAR roll calls; a roster joined by QR code, with a phone-only Status & Tasks role; location shared only while responding; responder emergency alarm; Command Board accountability; incident chat with @mentions and push; Personnel Manager, every responder's own exposure record, started automatically at the On Scene check-in; Preliminary Exposure Reduction (NFPA 1851), logged by each member from the phone.
Training	Six story missions on a private exercise incident with the real tools: guided to learn, tested to qualify, with expiry; fifteen Basics lessons on the workspace, chemicals, levels of concern, weather, running models, PPE, decon, radiation and blast standoff; three incident-command lessons on taking command, the roster and the record, and accountability; the chief's Team tab with the matrix, curricula and assignments.

Fire and explosion	Pool fire, jet fire, BLEVE fireball and flash fire. PRO pool-fire radiation with smoke obscuration, vapor-cloud explosion (Baker-Strehlow-Tang), solid blast (Kingery-Bulmash), gas-cylinder burst, liquid-pipe jet fire, boilover (INERIS Omega-13), BESS battery fire with HF plume; flares, EV fires, and fire smoke and gases on the map; heat levels shown as a surface temperature.
Guidance built in	ERG 2024 tables for hazmat, IED, BLEVE, chemical-warfare agents and pipelines; NIOSH Pocket Guide; CAMEO Chemicals reactivity; CHEMM and REMM; FEMA ICS 201, 202, 203, 204, 205, 207, 208, 211, 214 and 233; NFPA 1584; DHS-ATF and NGIC standoff cards; UN SaferGuard explosives distances.
Tools and calculators	95 in nine groups that follow the incident, from identification to reference, among them vehicle rescue sheets from a VIN, the decon method for a chemical with the label's mixing card, timers and a decon-line planner, and Infectious Disease, free on every plan. Search tolerates typos; a read-only share link for any result; a how-to tour on every tool, most with a practice mode; help in 11 languages.
Maps	Google Maps or OpenStreetMap; satellite imagery, live traffic, Street View; KML/KMZ, WMS overlays and your own imagery; drawing and measurement; live feeds for weather radar, NWS alerts, air quality, wildfires, earthquakes, flood gauges, tsunami, power outages, boom sites and hydrants; rivers with their flow direction and a downstream trace, railroads, roads and neighborhoods from OpenStreetMap, and NPMS pipelines; an elevation profile in the ruler; AIS vessels on request.
Communication	CERES Chat and Video on the incident; CERES Docs and Sheets written together; Public Alert as CAP 1.2; call-down by email, SMS and voice; incidents opened from dispatch emails and texts; incidents linked with a partner agency's CERES.
Incident record	Header, tasks, live activity log with responder, ICS role, time and tags; costs checked against published rate schedules, with a cost review; ICS 202, 203, 204, 205, 208 and 214 to Word or PDF; photos sealed with their time and position; responder exposure records; scenario history for every run.

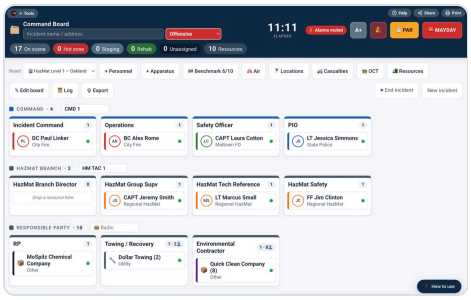
Reports, exports, imports	PDF and Word reports with map imagery, zones, impacted places, infiltration analysis and population; KML/KMZ, Shapefile, CAP; weather briefing; public share links. Imports: Tier II, RMP, Seveso and E2 inventories, KML/KMZ drawings, predefined scenarios for pre-plans and drills.
Delivery and security	Cloud service at ceres.vlahi.com, updated continuously, or a private deployment; email and phone support for licensed teams. Email and password with optional two-factor authentication, or Microsoft, Google or Apple accounts; protection against password guessing; roles from responder to site administrator; share links limited to what you publish.
Runs on	Any modern browser on Windows, macOS, Linux, iOS and Android, nothing to install; iOS and Android apps with background location for responder tracking; the Command Board and the coordinate converter work offline. 11 languages including the help: English, French, Spanish, German, Chinese, Romanian, Dutch, Italian, Portuguese, Malay and Hebrew (Hebrew by link); every language but English on paid plans; metric or US units per user.



Moment one: the Chemical Profile with NFPA, DOT, ERG guide, GHS and immediate actions, each line with its source.



Moment three: the weather read as a size-up, with the approach sector, the next wind shift, lightning and heat.



Moment four: crews on assignments, one-tap PAR, air and work-cycle timers, MAYDAY, and the ICS 214 writing itself.

Products

Four products and a free version, licensed per site. CERES First Responder is the communications product, for fire departments, and Vulnerability and Risk the hazard-modeling product, for planners; HAZMAT Team includes both, and Live Facility includes everything in HAZMAT Team. For a quote, write to sales@vlahi.com. Most hazmat teams start with HAZMAT Team.

CERES Free

One responder, no cost

The ALOHA direct, puddle, tank and gas-pipe sources, the ERG, the map and past scenarios, plus the Command Board, the incident record, Training, Identify Chemical, the Chemical Profile and the free tools.

Vulnerability and Risk

Planners and EHS

Everything in CERES Free, plus the Pro models (fire, blast, boilover, battery, radiological, nuclear) and Pro calculators, the EPZ Directive 071 tool, vulnerability zones, threat at a point, population impact and head counting, your own predefined scenarios, Tier II, RMP, E2 and Seveso data, advanced reports, team location tracking, Incident Weather and CERES Docs and Sheets.

HAZMAT Team

Responders, police, military, CBRNE

Everything in CERES First Responder and in Vulnerability and Risk, for the whole team on one shared site, plus detectors and met stations, live weather and traffic, sensor-driven plumes and locate source, odor complaints, live camera video, a Command Board that works offline, and full history. Optional: SCICHEM puff dispersion with wind shifts, calm air, longer releases and complex terrain.

Live Facility

Plants, terminals, industrial parks

Everything in HAZMAT Team for your plant, with SCICHEM puff dispersion included: wind shifts, calm air, runs of up to eight hours, particulates, soot clouds and deposition, and continuous monitoring of your detectors and weather. Option: SCICHEM complex terrain*.

* Hills and valleys around the plant, at additional cost.

To the people who go toward it

CERES is built with fire departments, hazmat teams and plant fire brigades across the Americas, Europe, Asia and Australia, and shaped by what they asked for on scene. The measure of it was never the feature list. It is whether the zone was right, whether the crew came out, and whether the report told the truth. That part is your work, and it is the hardest work there is. Ours is to make sure nothing in the software stands between you and it.

Thank you for going toward it. Vlahi Systems

Try CERES free at **ceres.vlahi.com**. For a walkthrough or a trial license, write to **sales@vlahi.com** or call **+1 832-356-6669**.

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Model results are decision-support estimates and are no substitute for measurements, training and judgment on scene. Screenshots show demonstration scenarios; real addresses, dates and names in them are blurred. ALOHA and CAMEO are developed by the US EPA and NOAA. The ERG is published by US DOT PHMSA, Transport Canada and Mexico's SICT. CERES is a trademark of Vlahi Systems LLC. Other names belong to their owners. Revised October 2026. © 2017–2026 Vlahi Systems LLC.