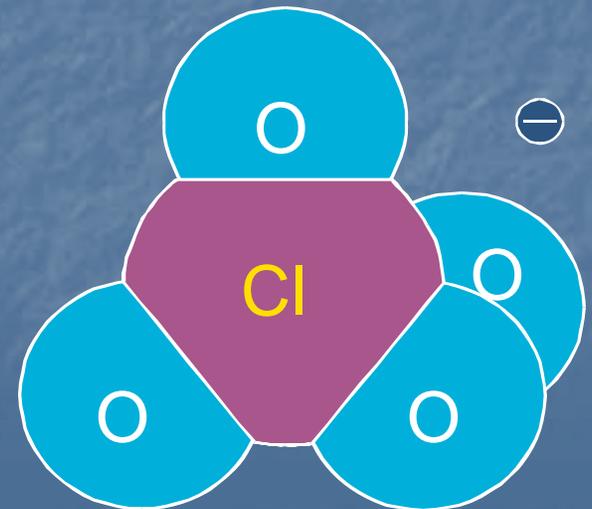


Perchlorate BMP Regulations



Perchlorate

- Is an anion formed primarily as an ammonium, potassium, or sodium salt
- Is an extremely strong oxidizer, yet is stable in the environment at typical contamination concentrations
- Is harmful at concentrations close to detection limits
- Is extremely soluble and mobile in the environment



The Problem

- 34 perchlorate contamination sites are currently overseen by SWRCB/DTSC impacting 563 drinking water wells
- Perchlorate has been detected in a variety of food items including milk and vegetables
- At dose levels in the low ppb, perchlorate may interfere with human thyroid function
- Infants and prenatales are especially susceptible

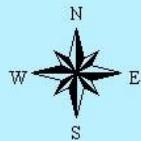
Public Supply Wells with at Least
One **Perchlorate** Action Level
Exceedance (≥ 4 PPB)

395 Total Wells

Active or Standby Status = 318 Wells (of appx. 5,000 wells
sampled and reported, a third of the State total)

Abandoned, Destroyed, or Inactive Status = 77 Wells

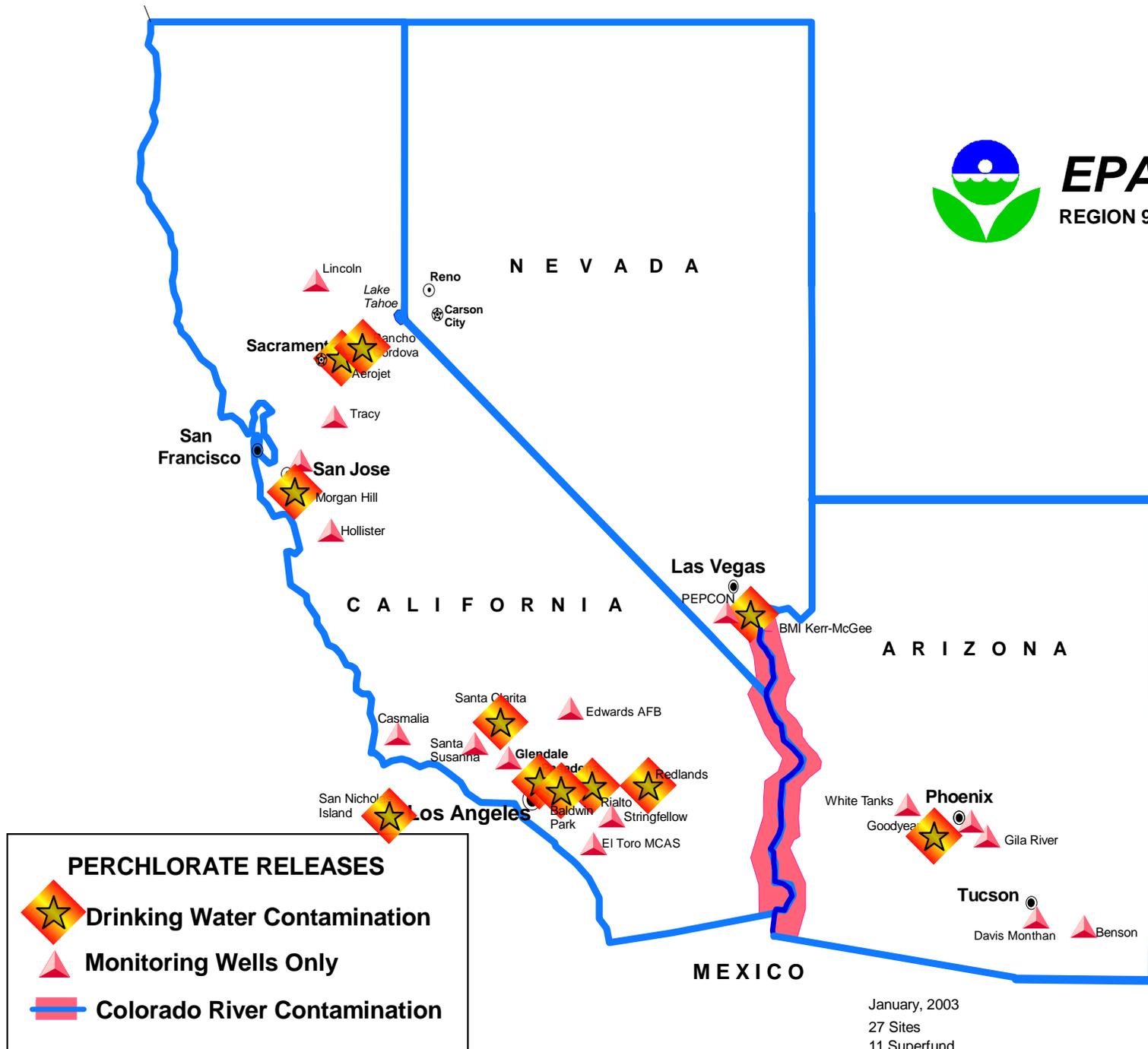
Source: DHS Database, October 2002



0 50 Miles



EPA
REGION 9



Sources

- Rocket/munitions manufacture
- Rocket/munitions maintenance
- Munitions firing range
- Fireworks/flare manufacture
- Disposal/discharge of wastes
- Industrial processes
- Chilean Nitrate fertilizers
- Naturally occurring
- Unknown sources



The Perchlorate Contamination Prevention Act, AB 826 (2003)

- Defines perchlorate materials as all perchlorate containing substances
- Requires DTSC to adopt regulation specifying best management practices for managing perchlorate materials, by December 31, 2005
- Additional reporting and notification requirements
- Adds “persons managing perchlorate materials” to the Unified Program [HSC 25404(c)(1)(A)(ii)]

New Authority

AB 826 obligates DTSC to regulate:

- perchlorate containing materials
- perchlorate containing hazardous materials
- perchlorate containing wastes
- perchlorate containing hazardous wastes

Examples of Perchlorate Materials

Hazardous Materials	Manufacturing feed stocks	Laboratory reagents
	Manufactured products	Explosives/blasting agents
	Fireworks	Solid rocket motors
	Safety flares	Initiators & gas generators
	Other pyrotechnics	Batteries
	Sanitizers/bleaching agents	Fertilizers/herbicides
Non-Hazardous Materials	Swimming pools	Evaporite minerals
	Consumer products	
Exempt Materials	Materials containing < 6 ppb perchlorate	Contaminated media under regulatory oversight
	Food	Water supplies including Colorado River
	Crops	Irrigation water

Examples of Perchlorate Waste

Hazardous Waste	Baghouse wastes	Confiscated fireworks
	Sweepings	Spent batteries
	Retrograde/off-spec	
Non-Hazardous Waste	Spent flares/spent fireworks	Wastewater
	Ion exchange media	Residuals/containers
Exempt Waste	Waste containing < 6 ppb perchlorate	Combustion residuals
	Food waste	Contaminated media under regulatory oversight
	Crop waste	

Current Regulation

- Perchlorate materials are typically regulated as a hazardous material in accordance with 49CFR – If they meet the definition of a HM
- There are no promulgated standards for perchlorate
- Because of their fire hazard, most ER protocols suggests dousing with water. Chemical suppliers recommend rinsing with water and disposing to the sanitary sewer.

BMPs Requirements

- **Labeling**
- **Packaging**
- **Containment**
- **One-time Notification**
- **Special Requirements**
- **Spill Response**
- **Disposal/Discharge Requirements**
- **Pollution Prevention**

Applicability

§ 67384.2

- All perchlorate materials except
 - When managed as hazardous waste
 - Media under regulatory oversight
 - Perchlorate material < 6 ppb perchlorate
 - Food, crops, irrigation water
 - Combustion residuals

Definitions

§ 67384.3

- Needed to clarify and to
 - Redefine terms to exclude HW (spill, storage, end user)
 - Include new definition of business and add public agencies (HSC 25501.4)
 - Include pyrotechnic terms (combustion residuals, net explosive weight, dangerous fireworks, stars)

Labeling Requirements

§ 67384.4

- “Perchlorate Material -Special handling may apply”
- www.dtsc.ca.gov/hazardouswaste/perchlorate
- Includes some exemptions and alternatives

Packaging Requirements

§ 67384.5

- Modeled after current hazardous materials or hazardous waste requirements.
 - Durable, and
 - Water-resistant
- Products constructed to meet packaging requirements do not need containment

Containment Requirements

§ 67384.6

- Products that are not packaged in accordance with packaging requirement need to be contained in a weather-resistant structures
 - Adequately water-resistant to prevent seepage
 - Do not have drains that release to the environment and
 - Adequate strength to support the loads

One-Time Notification

§67384.7

- Due to DTSC by September 1, 2007
- Name and contact information
- List of Perchlorate Material
- Has Business Plan been updated?
- Management Checklist
(none, less or greater than 500 pounds)

Special BMPs

§ 67384.8

- Road flares should be
 - Allowed to burn completely,
 - Be limited in number & duration
 - Personnel should receive training
- Marine safety flares
- Fireworks
 - Within 24 hours, the pyrotechnics operator shall collect stars and un-ignited pyrotechnic material found during the required inspection.

Spill Response

§ 67384.9

- For spills of non-hazardous perchlorate materials to the environment, a handler of perchlorate materials:
 - Stop and contain a spill of perchlorate material
 - Determine whether the resulting spill is hazardous waste
 - Collect any material resulting from the spill
 - Prevent or minimize releases to storm drains

Disposal/Discharge

§ 67384.10

- Solid non-hazardous perchlorate disposed of in either a hazardous waste landfill; or a composite-lined portion of a non-hazardous waste landfill
- Non-hazardous liquid perchlorate-containing wastewater, the discharger notify the overseeing regulatory agency and include perchlorate in the monitoring program
- The POTWs receiving wastewater from a business that have identified perchlorate-containing discharges need to notify the appropriate RWQCB of perchlorate waste and include perchlorate in the monitoring and reporting plan.

Pollution Prevention

§ 67384.11

- On or before January 1, 2008 and every 5 years, a business that uses fertilizers, road safety flares, explosives, or blasting agents, in an amount greater than 500 pounds in any month
 - Review the use of these products to determine if an alternative is available; and
 - Review and implement pollution prevention measures to prevent releases of perchlorate.

Pollution Prevention

§ 67384.11

- On or before January 1, 2008, a business that uses 4,000 lbs. of fireworks or 8,000 lbs. of solid rocket motors in any year needs to submit to DTSC
 - Perchlorate analytical results of existing storm water monitoring
 - Existing environmental monitoring of perchlorate in the soil and/or water.

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Perchlorate Questions?

