

The Carnivale of Risk
 Controlling Liability During Construction While Accounting
 For Recent Hazardous Materials Regulatory Changes
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1. Sign In Here

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Let's Check and See Who Is "Into The Game" At This Point:

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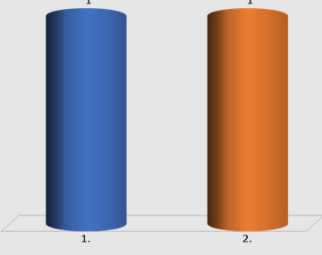
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If it is legal, it is safe.

1. True
2. False



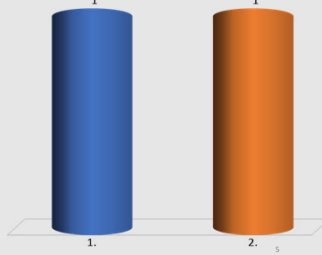
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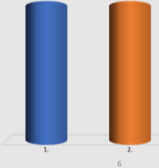
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As long as the Building Owner, Construction Manager, or General Contractor hire a contractor that is an expert at what they do (haz-mat or not), if something goes wrong it is contractor's liability that is at risk, not the Owner's, CM's, or GC's.

1. True
2. False



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A Trade Contractor That Get's The Owner In Trouble

- In 2013 Cal/OSHA citing unsafe work practices, imposed a fine of **\$234,850** against a large amusement park operator in connection with an accident in which a contract worker was injured while cleaning a roller coaster ride . . .
- The penalty was later reduced to \$82,025.


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Controlling Liability During Construction While Accounting For Recent Hazardous Materials Regulatory Changes

How ENSURING AND DOCUMENTING that people handle construction materials "SAFELY" – NOT JUST "LEGALLY" is the only way to PROTECT EVERYONE FROM POTENTIAL HAZ-MAT EXPOSURE and REDUCE YOUR LIABILITY AS MUCH AS POSSIBLE.



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This presentation concerns the health of workers handling hazardous materials both during construction activities and waste cleanup – and the associated liability. . .

- We are going to concentrate on safety – not just regulations.
- We will go over the fact that "following regulations" does not mean you are handling things "safely."
- We are going to talk about take-home hazardous materials (heavy metal and chemicals that follow you home are a danger to your family!)
- We are going to talk about long term health effects, not just the immediate health effects, of handling hazardous materials.
- And, if time allows, maybe a few other issues. . .

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Case Study – Our Favorite Plumber

- A plumber disturbs asbestos pipe wrap during a renovation project at a school.
- No regulatory violation took place.
- Nothing happens for forty years.
- Then, plumber develops mesothelioma, and sues the School District (and others) for allowing him to expose himself to the District's asbestos.
- Settled out of court – General Contractor and School District paid over half million each.

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When Haz-Mat work is conducted legally and safely, the risk is eliminated.

1. True
2. False


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Case Study – What A Waste!

- School District Has Asbestos Removed from numerous sites over the course of several decades.
- Hazardous asbestos waste disposed of properly using Hazardous Waste manifests. Different projects disposed of waste at different dumpsites, but all dumpsites were legally able to accept asbestos hazardous waste.
- EPA declares one of the waste sites a “Superfund Cleanup” site.
- School District receives bill to remove the asbestos waste they stored at the dumpsite – cost is in the 7 figures range.

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SOMETHING THAT MUST BE UNDERSTOOD BY ALL:
**Hazardous Materials Remediation Is Not Construction Work,
 It Is Haz-Mat Work!**

The Liability Is Completely Different and
 You Must Protect Yourself Differently

By ensuring workers conduct haz-mat work safely, you are halfway to protecting
 yourself from Haz-Mat Liability!
 (Though you can never get all the way there!)

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Case Studies - The Innocent(?) Bystanders

<ul style="list-style-type: none"> • Renovation of a high school auditorium. • Workers unknowingly installing asbestos containing drywall joint compound. • One student visits jobsite nearly everyday at lunch (perhaps dating one of the construction workers). • 35 years later student develops mesothelioma. • Student sues – District, drywall joint compound manufacturer and local hardware store where the drywallers purchased some (not all) of the drywall joint compound. • Everyone paid up! 	<ul style="list-style-type: none"> • Contractor constructs new building at existing High School. • Construction fencing and sight barriers in place. • Exterior of new building is transite panels. • 25 years after project – science teacher, taught class in adjacent building 20 feet away (never in the construction area) develops mesothelioma and sues general contractor and district. <p>Both General and District pay up in the high six figures!</p>
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**Let' start with the Most Basic Misconception
 of Haz-mat Regulations**

Most people believe that regulations are designed to protect people from hazards.

Even when the regulation claims to be designed to protect someone, **this is often a myth.**

By providing a false sense of security, this belief often makes exposures to hazardous materials worse than they should or could be.

Let's Take A Look At How This Issue Works

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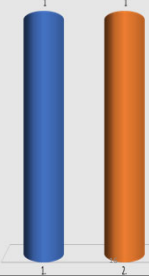
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Permissible Exposure Limits (PELs) are the maximum level of a contaminate that a worker can be exposed to without being required to wear a respirator.

So, obviously, PELs are based on levels of exposure that are OSHA believes are "safe" to be exposed to on a project, or at least as safe as reasonably possible.

1. True
2. False



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PEL for Asbestos and Lead

Asbestos:
There is no known "safe" level for asbestos, yet there is a permissible exposure level.
- cost of compliance and laboratory capabilities

Lead:
Current medical belief is that 0.5 ug/m³ is a level at which a worker could be exposed to, on average, for 40 hours a week and never become blood lead poisoned.

Current PEL for lead is 50 ug/m³ – that is 100 times the current level believed to be "safe."
- Regulation is way overdue to be revised (and is in the process of being revised)

Best way to reduce potential liability and improve safety for works is to require proper work practice and engineering controls, AND to require respirators regardless of exposure levels.

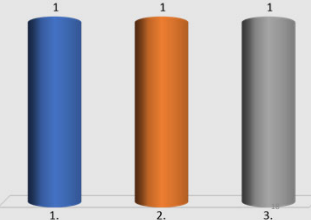
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Lead has been banned in the United States from paint, fuel, and copper pipe solder.

1. True
2. False
3. Partially



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Paint, Fuel, and Solder

Lead-based paint was banned from use in **residential and public buildings** in 1978, but **LBP** is allowed for use in almost any other application to this day.

Gasoline for cars has been required to be lead free since the mid 1980s. However, two airports in Santa Clara, California were the first airports in the world to **ban the sale**, but not the use, of **low-level leaded fuel**.
 This ban went into effect in 2022.

"Lead free solder" has been available in CA for more than fifteen years. About ten years ago, CA passed a bill that required manufacturers to remove all lead from solder sold as "lead free."

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Lead has been banned from all paints and coating applied to residential and public buildings.

1. True
2. False

1. 20

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Lead in Public and Residential Properties:

Lead-based paint was banned from use in residential and public buildings in 1978, but **lead was not banned from paint – even today.**

- 1 square foot of LBP sanded to dust can contaminate 92,000 square feet of floor space at EPA lead hazard levels

Paint with 600 ppm lead was allowed for public and residential buildings from 1978 to 2009.

- 1 square foot of 600 ppm paint sanded to dust can contaminate 92,000 square feet of floor space at EPA lead hazard levels

Paint with 90 ppm lead has been allowed for use in public and residential buildings from 2009 to this day.

- 1 square foot of 90 ppm paint sanded to dust can contaminate 92,000 square feet of floor space at EPA lead hazard levels

Children's toys and furniture currently allow up to 100 ppm in the paint.

Ceramic tiles and powder coated metal – were not included in the ban on LBP – so can have all the lead the manufacturer wants to put in them, regardless of the type of building in which they are installed.

Note: Lead-based paint is still legally sold to the public if it is considered an "art supply," rather than a house paint. In other words, you can still get LBP at your local art supply store!

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Regulatory Lead in Dust Levels for now (1/21)	Floors (Interior spaces only)	Interior Window Sills	Interior Horizontal Surfaces other than Windows	Exterior Window Trough	Exterior Horizontal Surfaces
CDPH Hazard Level 40 ug/ft ² Clearance Level < 40 ug/ft ² (Will be reduced to match EPA levels by 1/1/22)	250 ug/ft ²	250 ug/ft ²	250 ug/ft ²	400 ug/ft ²	400 ug/ft ²
HUD (Standard) Hazard Level 40 ug/ft ² Clearance Level < 40 ug/ft ²	250 ug/ft ²	N/A	400 ug/ft ²	400 ug/ft ²	400 ug/ft ²
HUD (Specific to One Demonstration Grant Program and One Demonstration Loan Program) 10 ug/ft ² Hazard Level < 10 ug/ft ²	100 ug/ft ²	N/A	N/A	N/A	N/A
EPA Hazard Level 10 ug/ft ² Clearance Level < 10 ug/ft ²	100 ug/ft ²	N/A	< 100 ug/ft ²	< 400 ug/ft ²	< 400 ug/ft ²
EPA Hazard Level 10 ug/ft ² Clearance Level < 10 ug/ft ²	100 ug/ft ²	N/A	N/A	N/A	N/A

LEAD DUST HAZARDS

So – how does this chart work?

Let's say we are in a Pre-1978 HUD Residential Property in CA, that is part of the HUD Grant Demonstration Program

CDPH, HUD, HUD Demonstration Program, and Federal EPA Regulations/Requirements Apply (CDPH missed their deadline!)

We need to look at the lowest level for each of the rules that apply!

AND DON'T FORGET THE LOCAL HEALTH DEPARTMENTS!

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Why worry so much about lead in dust?

Aren't the hazard levels based on a 0–6-year-old child?
You don't see too many 0–6-year-old children on construction projects!

Cal/OSHA regulates lead exposure to workers at any detectable level.
Every worker on a project with lead in the dust or where lead containing paint is being disturbed is supposed to be lead trained at some level. Even when they are not the ones disturbing the lead.

It is illegal to create a lead hazard on a construction project in CA.
Not only is it illegal, clean up of a lead hazard is abatement, meaning CDPH rules, and potential CDPH Certification of the workers on the project, will be triggered.

Forget the regulations - what about exposure to the workers and their families?
Hand to mouth ingestion of leaded dust and take home leaded dust are hazards to both the worker and their family back home.

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One more issue with lead.
Lead Soil Samples Indicate if Lead In Soil Hazards Exist On A Construction Site.

- Of Course, that is why we sample the soil.
- No, the amount of lead in the soil tells us nothing about the potential exposure to those disturbing the soil.
- The amount of lead in the soil has little to no bearing on whether a lead hazard is created when the soil is tracked into a project site.

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A Quick Example (from an actual project)

Soil at 70 ppm lead (well below 400 ppm hazard level)

- Soil outside of an Elementary School has 70 ppm lead.
- Soil was thought to be a non-issue due to low levels of lead. Wipe samples collected inside the entry hallway during construction found to have more than 100 ug/sf.
- This was addressed by placing boot brushes and tacky mats at entry, and daily cleaning of entry hallway.

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A Quick Example (from an actual project)

Soil at 70 ppm lead (well below 400 ppm hazard level)

- During the course of the project, interior hallway concrete was removed in order to access buried plumbing and drainage pipes.
- This exposed the soil from under the concrete. (later found to contain the same 70 ppm lead as exterior soil).
- Entire site was found to contain lead hazards (250-300 ug/sf) after this concrete removal (not just on floors but other horizontal surfaces as well – windows sills, firebreaks between studs, casework, etc).
- This generated a local health department mandated cleanup with clearances (both after clean up and after all remediation work was completed).
- CDPH required the site to be posted for abatement activities, and CDPH certified workers to conduct lead cleanup. Federal EPA required RRP certification for the contractor conducting work at the site as well.

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Enough about lead (for now) – Let's Talk about Asbestos for a little bit . . .

Asbestos products have been banned in the United States.

1. True, asbestos was banned in the 1970s.
2. True, Asbestos was banned in the 1970s but was still in use until 1980, or so.
3. True, asbestos was banned in the 1980s
4. True, except for a couple of uses (brake pads, roofing materials and a couple others)
5. False, except for thermal system insulation and "friable" surfacing materials.
6. False, the asbestos came out in the 1970s but has never been enforced.

1. 2. 3. 4. 5. 6.

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Cal/OSHA (Fed too) has a Presumed Asbestos Containing Material (PCAM) rule. This rule says thermal system insulation (TSI) or "friable" surfacing (Surf) materials were installed after 1980, are not "presumed to contain asbestos."

That means TSI and Surf materials installed after 1980 do not have to be sampled for asbestos before they are disturbed.

1. True, if they are not "presumed to contain asbestos" it is because they won't have asbestos in them.
2. False, even if not "presumed," these materials are still "assumed" to contain asbestos.
3. Cal/OSHA does not require these materials to be sampled, but Federal EPA still does.

1. 2. 3.

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Like Lead – Asbestos Was Never Fully Banned

Only a few of products were ever banned from having asbestos in them:
 Thermal System Insulation (pipe insulation, duct wrap, etc.)
 Friable Surfacing Materials (cottage cheese ceiling, fireproofing, etc.)
 Drywall, drywall texturing, and joint compound*.
 Rolled asbestos-containing products
 And a few other products.

And then, along came the Asbestos SNUR!

* Note: Drywall joint compound with 2% asbestos is still in use today, despite being banned in the 1970's!

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Let's Talk About Asbestos – and something contractors, do it yourselves, and others get wrong everyday (even on TV)!

In most of the Nation, asbestos is not considered a "hazardous waste," even when friable and more than 1% asbestos. However, it is considered a regulated waste, requiring special packaging and waste tracking.

OSHA also has packaging rules for asbestos waste, regardless of friability, as long as there is 1% or more asbestos in any layer of a material.

OSHA does not allow composite analysis of the individual layers of a material.

Many contractor, consultants, construction managers, building owners, owners believe that if asbestos exists only in the joint compound of drywall (as opposed to the texture coat or wallboard itself), it is legally handled as construction and demolition debris – and place it directly into C&D dumpsters with no special handling or packaging. This happens everyday – but is not legal!

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Drywall with asbestos in the joint compound only, cannot be legally placed into a C&D dumpster!

Not only is this practice illegal, this practice allows exposure to everyone handling the asbestos containing materials, including those at the dumpsite that have never been notified that they are handling asbestos.

Asbestos exposure take decades to cause disease, but it does not necessarily require long term, or high level, exposure for asbestos diseases to develop.

The latency period (time between exposure and first symptom) for asbestosis, lung cancer and mesothelioma are all approximately 10 to 40 years.

It could be decades before workers on your jobsite file wrongful exposure lawsuits. Remember "Our Favorite Plumber?"

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Okay – enough already, I thought we were going to talk about New Regulations

There are new or revised regulations (in the past few years) addressing:

- PCBs (SF Bay Area and Federally)
- Beryllium
- Valley Fever Fungus
- Wildfire Smoke Exposure
- The Asbestos SNUR
- Mold
- and, of course, COVID

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Okay – enough already, I thought we were going to talk about New Regulations

NEW LEAD RULES RECENTLY IMPLEMENTED AND ON THEIR WAY!

AB 35 , effective as of February of 2020 made blood lead levels above 20 micrograms of lead in a deciliter of blood (20 ug/dl) an issue for every contractor in the construction world and every maintenance worker in any type of facility to be concerned with:

Requires all workers exposed to lead on their job (that is EVERYBODY!)

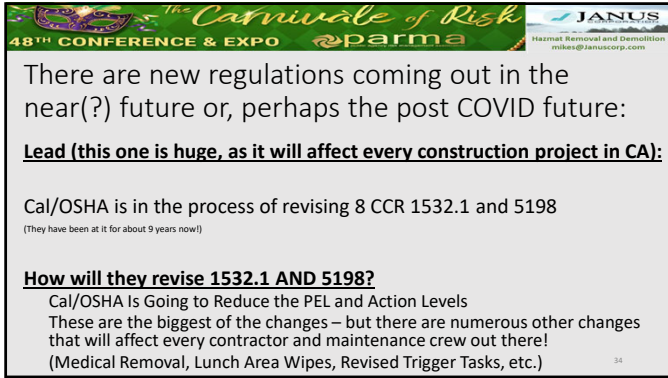
Doctor reports all BLL test results to CDPH,

CDPH reports all adult BLL results above 20 to Cal/OSHA,

Cal/OSHA now required to open an investigation of the project or employer.

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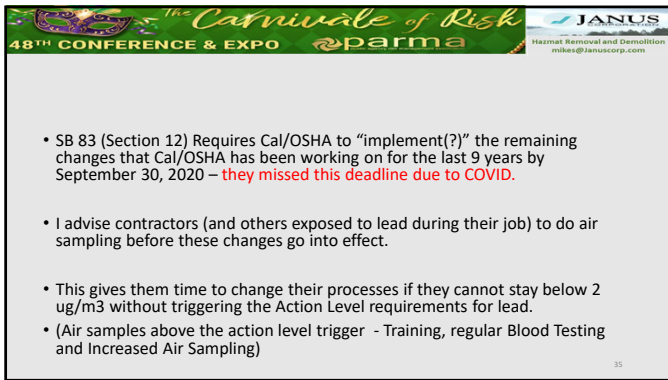
There are new regulations coming out in the near(?) future or, perhaps the post COVID future:

Lead (this one is huge, as it will affect every construction project in CA):

Cal/OSHA is in the process of revising 8 CCR 1532.1 and 5198
(They have been at it for about 9 years now!)

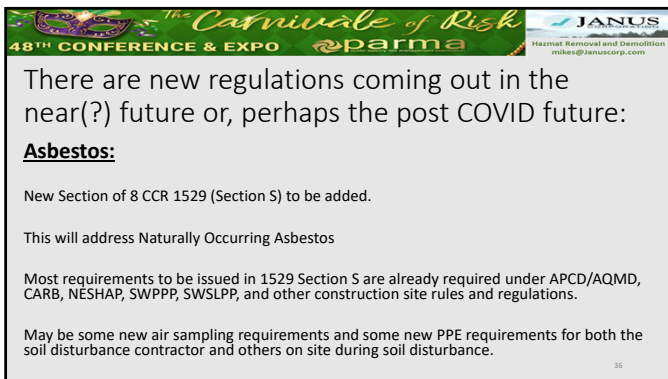
How will they revise 1532.1 AND 5198?
 Cal/OSHA Is Going to Reduce the PEL and Action Levels
 These are the biggest of the changes – but there are numerous other changes that will affect every contractor and maintenance crew out there!
 (Medical Removal, Lunch Area Wipes, Revised Trigger Tasks, etc.)

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- SB 83 (Section 12) Requires Cal/OSHA to "implement(?)" the remaining changes that Cal/OSHA has been working on for the last 9 years by September 30, 2020 – they missed this deadline due to COVID.
- I advise contractors (and others exposed to lead during their job) to do air sampling before these changes go into effect.
- This gives them time to change their processes if they cannot stay below 2 ug/m3 without triggering the Action Level requirements for lead.
- (Air samples above the action level trigger - Training, regular Blood Testing and Increased Air Sampling)

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There are new regulations coming out in the near(?) future or, perhaps the post COVID future:

Asbestos:

New Section of 8 CCR 1529 (Section S) to be added.

This will address Naturally Occurring Asbestos

Most requirements to be issued in 1529 Section S are already required under APCD/AQMD, CARB, NESHAP, SWPPP, SWSLPP, and other construction site rules and regulations.

May be some new air sampling requirements and some new PPE requirements for both the soil disturbance contractor and others on site during soil disturbance.

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Silica:

Cal/OSHA copied the Federal OSHA silica rule verbatim.

Fed/OSHA started a review of their silica rule a while before COVID showed up.

When Fed/OSHA finishes and issues the revisions to their Silica Rule, Cal/OSHA will be required to follow suit or enact our own rule.

(Think silica safety plans, air sampling requirements, revised work practices and engineering controls, and more!)

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So –how do you address regulations that “might” come up on your next project?

If you know the coming changes, and when they are to become effective, you can require them to be met on your current project now, before they are in effect. **This can help reduce liability, if the new regulations are designed to improve worker health and safety (Think State-of-the-Art).**

If you believe changes might become effective during your current project, but do not want to pay for the increase in cost for compliance unless/until you must, you can have contractors include an additive price for compliance with the new rule if, and when, it goes into effect. **(Still requires knowledge of the changes to be made).**

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How to you know how the new regulations will affect your next project?

Find a contractor or consultant that:

- **knows the requirements in the new or revised regulation.**
 - Best is someone working with the regulators on the changes or talking to them about the changes as they are made.
- **has the same tolerance to risk as you.**
 - Best, in my opinion, is someone that thinks about safety as much as about regulatory compliance – as they will have to change the least when the new rules are issued.
- **who is not afraid to talk to the regulatory agencies.**
 - Talking to regulatory agencies about their meaning of their regulations can avoid a lot of issues

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