

# Environmental Risk Overview



## Glazier / Window Contractor

Glass and window installation, repair and renovation involves materials and operations that carry environmental risk exposure. Typical adhesives, sealants and caulks contain hazardous materials that can create toxic fumes that impact the health of building occupants. Improperly sealed or installed windows can lead to mold growth, and existing lead-based paint, asbestos and mold can be inadvertently disturbed during work at the job site. The handling, use, transportation and disposal of chemicals and job site waste are also prevalent environmental exposures.

### Environmental Exposures May Include

- Typical adhesives, sealants, and caulking used for installations contain solvents and certain carcinogens. They may include spray polyurethane foam, which is laden with isocyanates, chlorinated flame retardants, polyurethane sealants, polychlorinated biphenyls (PCB's), solvent-based butyl caulks (toluene, xylene), silica and talc which can contain asbestos. Many of these volatilize off and are inhaled, causing building occupants to be exposed to agents that can cause short term effects including nausea, irritation to the eyes, nose and throat, loss of coordination, fatigue, dizziness, headaches, and allergic skin reactions, while long term effects include cancer, asthma and developmental and reproductive harm.
- Stained and artistic glass may contain lead and heavy metals that can cause lung cancer. Working with stained glass and lead lighting often involve contact with lead fumes and dust. Any amount of lead fumes or dust is a health hazard, and exposure should be avoided as much as possible. It is especially harmful to children and pregnant women. Overtime, old stained-glass windows with lead can oxidize, causing a white powdery coating that rubs off very easily. This powder can be inhaled. It also sticks to hands, clothes and tools.
- Accidental spills and leaks of adhesives, sealants, solvents and cleaners at the location of storage, during transportation and at the job site may cause additional third party exposures and clean-up. Some products are flammable and may result in a fire that spreads and releases other contained materials and produces hazardous vapors.
- Improper disposal of chemicals, adhesives solvents and cleaners can lead to environmental tort liability and clean-up costs. Waste removed from job sites may contain hazardous materials including lead based paint and PCBs, which require special disposal procedures. Hazardous waste that is not properly segregated may get mixed with non-hazardous waste and be improperly disposed.
- Lead-based paint can be found on the interior or exterior of a structure. This paint may be dislodged during the glass/window installation process resulting in lead particulates being released into the surrounding environment. Old windows with lead paint may create fugitive lead dust every time they're open and closed. Lead exposure can happen by inhalation or ingestion, and when absorbed into the body in high enough doses, it can be toxic. Short-term (acute) overexposure can cause acute encephalopathy, a condition affecting the brain that develops quickly into seizures, comas or death from respiratory arrest.
- Improper installation can result in moisture penetration, and lead to potential mold growth and subsequent health risks to building occupants. Ineffective exterior and internal seals, flashings, drainage systems, or improper framing leading to air leakage and subsequent condensation build-up can allow moisture conditions to develop.
- During installation, repair or renovation, existing asbestos or mold could be disturb. Asbestos could be found in wall cavities, insulation, ceiling and floor tiles, and around wiring, and it could cause an airborne release of inhalable fibers that could cause serious health hazards or fatal diseases such as asbestosis, lung cancer, mesothelioma and other cancers. Mold can be found where water intrusion has occurred, resulting in exposure to mold or mold spores. When mold-impacted areas are disturbed, small spores and fragments are readily released, and without proper containment and clean-up, these mold particles will disperse further and expose building occupants to health hazards. Improper disposal of these contaminants can lead to further environmental liability.
- Chronic poisoning and/or dermatologic conditions may result due to contact with glass splinters containing lead, arsenic and other toxic elements. Respiratory problems can result from rock wool, glass fibers and isocyanate foam.

### Contractors Pollution Liability Can Provide Coverage For

- Contracting operations done "by or on behalf of" the insured
- Contracting operations performed at a job site
- Third-party claims for bodily injury and property damage
- Third-party claims for cleanup
- Defense of third-party claims
- First-party emergency response costs
- Mold, legionella, bacteria, and fungi
- Sudden and accidental coverage for owned/leased locations
- First and third-party transportation pollution liability
- Loading and unloading
- Non-owned disposal sites
- Lead and asbestos

# Claims Scenarios & Examples

- A window installer received a specification package from their general contractor (GC) client. During the glazier's review, shop drawing preparation and system mock-up, they identified an area of concern with the rain screen design and structural connections. Although they communicated to the GC that there was a risk of water intrusion at the joints if design changes were not made, the GC did not make the recommended changes. Six months after the project completion, there was a claim regarding water intrusion and suspected mold. The GC and various trades, including the glazier, were pulled in to the claim. The glazier didn't have documentation confirming that they had notified the GC of their concerns. The claim settled for \$800,000 with the bulk of the liability on the glazier.
- A homeowner sued a builder and window contractor over illness resulting from mold exposure. The claim investigator stated that the signs of leakage should have been apparent to the home inspector; cracked mortar on bricks, new caulk recently added on the wooden frames and the brick, cracked and repaired trim, and windows that didn't seal properly when closed. The investigator stated that windows had clearly been repaired throughout the home and the work was sub-par.
- Soundproof window systems were installed for more than 10,000 homeowners living around an airport. More than a dozen households complained about a smell. The window frames were made of poly vinyl chloride, a known carcinogen which could be off gassing toxic chemicals. Complaints from the scent included respiratory problems and nausea. The city investigated complaints and confirmed the smell, and they offered to replace all the windows if homeowners agreed to a settlement agreement waiving any claims for bodily injury arising from the acoustical windows installed. The homeowners did not agree to settle. City officials say the problem windows confirmed so far were provided by a company that had since shut down. Homeowners wanted tests on the air quality inside the homes to determine what, if anything, they had been exposed to and what their health risks are going forward. It is also suspected the bad smell could also have been coming from caulk, glues or sealants used to install the windows or products used to clean them.
- Two years after the completion of a new high school, it was determined that the window system used during construction was allowing water to infiltrate the building. Mold was discovered as a result of the faulty installation. The sub-contractor who installed the windows was no longer in business, causing remediation costs to be shared by the General Contractor and the manufacturer of the windows. As a result of the General Contractor not having pollution coverage for mold, they paid over \$900,000.
- A glass installation contractor was contracted to install the window systems on a new research laboratory for a university. The general contractor allowed for changes to the specified caulk used around the windows. The caulk was incompatible with the building facade materials. Although the glazier conducted and documented structural proof tests to ensure that the window, frames, caulk and substrate were water and air tight, the caulk degraded quickly. As a result, adhesion was lost, and water intrusion and mold growth was noted around the windows.
- A child who lived in an apartment building constructed in the 1970s was diagnosed with lead poisoning. The renovation of the building by a window replacement contractor allegedly caused unsafe conditions for the child. The child's parents filed a bodily injury claim against the contractor, and the contractor was held liable.
- EPA learned that caulk, containing potentially harmful PCBs was used in many buildings, including schools, in the 1950s through the 1970s. On September 25, 2009, the EPA announced new guidance for school administrators and building managers with important information about managing PCBs in caulk and tools to help minimize possible exposure. The current Federal EPA level of regulation on this caulk is for material that contains PCBs at 50 parts per million (ppm) or greater as a PCB bulk product waste. Disposal of this material is regulated under the Toxic Substance Control Act (TSCA); however, some states may have different regulations regarding its disposal and handling within their jurisdiction. It is important that the demolition contractor is clear on the presence of this PCB-containing caulk and his responsibilities under the Federal statute as well as any of the state regulations.

## Final Consideration

As a contractor you can be faced with the cost to defend yourself against allegations or legal action from pollution related events, regardless if you are at fault or not. Having the proper insurance coverage in place will help fund the expenses incurred to investigate or defend against a claim or suit and provide you with environmental claims handling expertise.

*This environmental risk overview has been developed by Environmental Risk Professionals on behalf of J. Loos & Associates. It is intended to provide the reader with a broad range of potential risks they may encounter and may not reflect all risks associated with their business. To verify available insurance coverage, please consult your insurance representative.*

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