

SLIDE 1 – Indoor and Outdoor Environmental Hazards (Cover Page)

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**Areas of Concern – Air**

**Air** – Air quality, both indoor and outdoor, has been a matter of concern since the 1960's. With today's construction methods creating airtight, energy-efficient structures, attention to sources of indoor air pollution is more important than ever.

*Off-gassing from synthetic materials and lack of ventilation can lead to such consequences as Sick Building Syndrome (SBS) and Building-Related Illness (BRI) as well as other health problems.*

Among the significant threats are:

**Asbestos** - a powdery mineral once commonly used as a fireproof insulating material around pipes, in floor tiles and linoleum, in siding and roofing, in wallboard, joint compound, and many other applications.

*When airborne, it is a health hazard. Its use today is highly restricted, and removal can be expensive and dangerous. Inspection by a certified asbestos inspector is the best way to determine whether a building needs treatment.*

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**Carbon monoxide** – a colorless, odorless, poisonous gas that may result from faulty heating equipment. Home and commercial detection devices are available.

**Formaldehyde** – a chemical used in building materials and in other items such as fabrics and carpeting. As it ages, formaldehyde gives off a colorless, pungent gas.

*Its use in urea-formaldehyde foam insulation (UFFI) was banned 1982 (ban later reduced to a warning) but the material is still present in many structures. Other substances known in general as volatile organic compounds (VOCs) and used in construction materials such as adhesives emit toxic fumes.*

*Professional testing can identify levels and, in some cases, sources of formaldehyde gas and other VOCs.*

**Lead** – a heavy metal once widely used in paints and plumbing materials. It has been banned in paint since 1976 and in new plumbing since 1988.

*It continues to be a health threat, particularly to children, as it occurs in airborne paint particles, paint chips, and soil and groundwater polluted by various external sources of emission. Inspection should be performed by licensed lead inspectors.*

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**Mold** – a fungus that grows in the presence of moisture and oxygen on virtually any kind of organic surface.

*It often destroys the material it grows on and emits toxic irritants into the air. Tightly sealed structures with inadequate ventilation are most susceptible. Roof leaks, improper venting of appliances, runoff from gutters and downspouts, and flood damage are common contributors. In recent years, mold- and mildew-related lawsuits and claims have become substantial.*

**Radon** – a colorless, odorless, radioactive gas that occurs naturally in the soil throughout the United States.

*It enters buildings through foundation and floor cracks, wall seams, sump pits, and windows, among other ways. At accumulations above certain levels, it is suspected of contributing to cancer. Excessive radon can be removed by special ventilation systems. Professional and home inspections are available.*

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##### **Areas of Concern – Soil and Water**

Soil, groundwater, and drinking water supplies are vulnerable to pollution from leaking landfills; improper waste disposal; agricultural runoff; industrial dumping in waterways; highway and rail spills; industrial emissions; internal combustion emissions; and underground tanks leaking fuels and chemicals, to mention but a few sources.

Some of the problems subject to controls are:

**Dioxins** – a family of compounds produced as a byproduct of manufacturing and incinerating materials that contain chlorine.

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**Lead and Mercury**

**PCB** – Polychlorinated Biphenyl, a substance formerly widely used as an electrical insulation

**MTBE** – Methyl Tertiary Butyl Ether, a gasoline additive

**Underground Storage Tanks (USTs)** – regulated since 1984

**Wetlands** – considered part of the natural water filtering system and special habitats, subject to restrictions on development and use.

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**Other Ambient and Natural Conditions**

Other regulated and controlled environmental conditions include:

**Electromagnetic Fields (EMTs)** - created by powerlines

**noise** - created by airports, air, rail and highway traffic

**earthquake and flood hazards** - that affect hazard insurance, lending practices, and construction requirements for buildings in designated flood and earthquake zones.

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**Environmental Concerns**

	Indoors	Outdoors
Air	asbestos, BRI, carbon monoxide, formaldehyde, lead-based paint, mold, radon, SBS, VOCs	airborne lead, carbon dioxide, mercury, sulfur, dioxins
Soil		dioxins, lead, PCBs, waste, hazardous materials
Water	dioxins, lead plumbing, lead-paint, mercury, MTBE, PCBs	dioxins, lead, mercury, MTBE, PCBs, USTs, waste, hazardous materials
Ambience		EMFs, noise
Structure		flood, earthquake

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### **Structural Damage**

Most evidence of structural damage should be discovered in the home inspection process. Potentials for future structural damage can be caused by everything from sinkholes (a growing problem in Florida) to wood destroying organisms such as termites, ants, and decay.

Heat and moisture in Florida can foster wood destroying fungi that may lead to wood decay and structural damage down the road. Additionally, wood destroying insects like termites and carpenter ants can cause major damage.

Many lenders now require a Wood Destroying Organism (WDO) inspection prior to closing the loan inspections