



Respiratory Hazards and Industrial Markers

Which industrial markers present a respiratory hazard?

Some permanent markers contain cresol, xylene, and/or n-propanol (propyl alcohol), which are all respiratory irritants at high levels of exposure.

What other hazards may industrial markers pose?

Those who use industrial markers frequently in unventilated areas should consider the other hazards of common industrial marker ingredients. Xylene and cresol can have the following health effects in addition to respiratory irritation.

- Xylene: High levels can cause headaches, loss of muscle coordination, and dizziness.
- Cresol: High levels can cause abdominal pain and vomiting, heart damage, anemia, liver and kidney damage, facial paralysis, coma, and death.

Low to moderate levels of toluene, another chemical found in industrial markers, can cause fatigue, confusion, weakness, memory loss, nausea, loss of appetite, and hearing and color-vision loss.

What markers contain these hazardous chemicals?

Brand Name	Chemical Content
Markal Dura-Ink	Cresol, Xylene, Toluene
Sharpie	N-propanol
Super Met-Al Paint Marker	Xylene

What can I use instead?

For marking on hard surfaces, **wax lumber crayons** or **china markers** may be a suitable substitute. They do not contain respiratory irritants.

Also consider whether the task really requires the use of a solvent-based marker. If you are writing on paper, a nonsolvent writing pen, water-based magic marker, or crayon may be more appropriate. For labeling containers, consider using computer-printed adhesive labels instead.

How do the alternative markers work?

Wax lumber crayons work well on many surfaces, including cold, damp, and porous surfaces. Most brands are suitable for glass, plastic, metal, wood, and rubber, and work on rough or smooth surfaces. Some brands can be used in a wide range of temperatures, from below zero to above 100° F, and are resistant to damage from moisture. However, unlike solvent-based markers, they can be scraped off and may not be permanent.

Where can I buy alternatives?

Most vendors specializing in industrial or building supplies, as well as some office supply vendors, carry lumber crayons and china markers.

For more information contact Cameron S. Lory, 212-361-2400 x232, lory@informinc.org
or Carol Westinghouse, 802-626-8643, westies@ecoisp.com

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