

W. TOMC
DEC 27 1972

S. T. Howell
Strongsville, Ohio

December 22, 1972 Mr. W. D. Kinsell
UCB

LEAD REMOVAL
Last few formulas

cc: Mr. E. B. Buchner
Dr. H. J. Kiefer, UCB
Mr. R. J. Haviland, #1
~~Mr. W. M. Tomc~~
Mr. J. E. Southwick

You have asked us to remove all the lead from our formulas by January 1973, one year in advance of legal national requirements. We have been able to achieve this in most formulas, at a cost increase for some and a hiding loss for others, but there are a few for which we need additional testing time.

These are the oil house paints - certain formulas in the Endurance, Craftsman and Ultra-Hide lines. Last year these 6 paints accounted for 845,000 gallons of production. Lead drier promotes thru dry and a more flexible film in these products, and the best replacement for lead, a mixture of cobalt and zirconium, gives very slow drying films when used at a safe level, and brittle films when at a level that gives equivalent dry to lead. Several series of exposure panels produced since 1956 have shown this embrittlement with lead replaced with cobalt at levels sufficient to give adequate dry. We still have hopes of being able to work out a satisfactory lead-free drier system because our vehicles today should be inherently more flexible than they were then, and we are using lesser quantities of zinc oxide, a pigment that contributes to embrittlement as a by-product of its other valuable contributions.

We can see no quick answer in our analyses of competitor's action. S-W has adopted a low level of .01% cobalt on vehicle soldis, and their paints are very poor in drying. They are approximately 2 hours slower than Endurance under lab conditions, and much slower at a temperature of 50°F and 70% R. H. The S-W paint dries to a tender skin which remains wet underneath for hours after a lead-containing formula has dried thru satisfactorily.

It has been this ability of lead driers to provide satisfactory dry under adverse conditions of cold and high humidity that has made them so necessary. We can produce formulas suitable for Chicago at .03% cobalt which will give us acceptable dry at 70° and dry only 3 hours slower than our

GLD012142

December 22, 1972

lead-containing formulas at 50° and 70% R. H. This is less than the level that some drier manufacturers have recommended, and while these paints might be somewhat more brittle than our lead-containing formulas, they should not be a total disaster.

We would like to defer going lead-free on a National basis for these particular paints until at least next June, after additional testing whether higher levels of cobalt drier will not cause premature cracking and flaking with today's vehicles, and would be able to produce paints with adequate dry.

With the decision by the House Committee to change the lead limitation from .06% to .5% we are hopeful that this will clear both House and Senate and permit us to stay at .5% lead, which will give us positive dry under cold damp conditions and the best durability regarding cracking and embrittlement. We propose to issue lead-free formulas for Chicago, but those for the rest of the country still containing lead until we can resolve our problem. May we have your approval for this action?

STB:red

S. T. Howell

GLD012143