



DUKE UNIVERSITY SCHOOL OF MEDICINE

**Department of Community & Family Medicine
Division of Occupational & Environmental Medicine
Box 3834, Durham, NC 27710
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**Fax: 919-286-5647
Tel: 919-286-5744**

Ms. Marie Eke
Chemist
Multichem, Ltd.
Tyne Mills Industrial Estate
Hexam
Northumberland, NE46 1XL
ENGLAND

Dear Ms. Eke:

I enclose the evaluation of your ink(s) for use in writing instruments listed under Product # WB600SER and the following brand names:

WHITEBOARD INKS WB600.11 SERIES
WHITEBOARD INKS WB900 SERIES

This evaluation was conducted in conformance with the chronic health hazard labeling practice, ASTM D-4236 as adopted by into law as part of the Federal Hazardous Act administered by the Consumer Product Safety Commission (CPSC). The toxicological procedures I have used for the evaluation of your products have been reviewed by the California Department of Health Services (CDHS) and are on file with CPSC. CDHS has found that the exposure presumptions I use are conservative. My assessment presumes that an individual will absorb 25 cm of line, either through skin contact or ingestion, each day and that 2 cm of line can get into the eye.

If default values for chronic toxicity have been published by the California Office of Health Hazard Assessment (Proposition 65), these are incorporated into my risk assessment. We have completed market surveys to determine writing instrument use patterns. Information from these surveys is used to modify our exposure presumptions. Survey data has been shared with CPSC.

I assume that a 10 kg, 1 year old child will be using writing instruments containing these inks. I use the following safety factors or limits in determining whether or not a writing instrument

would require acute or chronic hazard labeling:

<u>Effect</u>	<u>Safety Factor</u>
Acute effects from ink absorption	10-100x
Eye irritation (Draize testing or equivalent)	less than mild
Skin irritation (Draize testing)	mild
Chronic health effects	100-1000x

For potential carcinogenic contaminants I use a quantitative risk assessment approach using 10^{-6} risk at the 95% upper bound of a multistage model as being acceptable.

I require bioaccessibility testing of inks or ingredients of concern for potential toxins. Synthetic intestinal or gastric juice is used for solubility testing. If no bioaccessibility test method has been developed, quantitative testing is used (such as for PCBs and hexachlorobenzene).

For markers, I assume that the ink laydown is 600 micrograms/cm, the maximum ink laydown for marking instruments using these types of inks. . I assume that ink is only available via the nib or tip with use and manipulation testing. Using these presumptions, I have found no hazardous component or contaminant level or effect of the products themselves that would require acute or chronic hazard labeling to conform with ASTM D4236, the Labeling for Hazardous Art Materials Act, or LHAMA regulations (16 CFR 14(B)(8)).

Further, assuming that the maximum marker reservoir size in which these inks are used is 12 mL, I find that these inks are classified as NOT being toxic, corrosive, skin/eye irritants, or a strong sensitizer as defined in 16 CFR 1500.3(b)(5) or 1500.3(b)(7) – (9) of the Federal Hazardous Substances Act nor do they contain components that would require special labeling under 16 CFR 1500.14. It requires no labeling under California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). My evaluation is in accord with the 1984 CPSC Policy Statement on Animal Testing. I am a board certified toxicologist as defined by 16 CFR 14(B)(8).

Sincerely,

Consulting Toxicologist
stopf001@mc.duke.edu

The following is a list of colors covered by this certification:

WB600.11-BLACK A
WB600.11-BLUE B
WB600.11-BROWN G
WB600.11-EMERALD J
WB600.11-GOLDEN ORANGE EF
WB600.11-GREEN D
WB600.11-LAVENDER H
WB600.11-LEMON GRASS Y
WB600.11-LIME GREEN YQ
WB600.11-MANDARIN ORANGE EK
WB600.11-ORANGE E
WB600.11-PURPLE T
WB600.11-RED C
WB600.11-ROSE PINK X
WB600.11-RUBY RED CS
WB600.11-SCARLET L
WB600.11-TURQUOISE R
WB600.11-VICTORIA BLUE P
WB600.11-VIOLET V
WB600.11-YELLOW F
WB900-BLACK A
WB900-BLUE B
WB900-BROWN G
WB900-EMERALD J
WB900-GOLDEN ORANGE EF
WB900-GREEN D
WB900-LAVENDER H
WB900-LEMON GRASS Y
WB900-LIME GREEN YQ
WB900-MANDARIN ORANGE EK
WB900-ORANGE E
WB900-PURPLE T
WB900-RED C
WB900-ROSE PINK X
WB900-RUBY RED CS
WB900-SCARLET L
WB900-TURQUOISE R
WB900-VICTORIA BLUE P
WB900-VIOLET V
WB900-YELLOW F