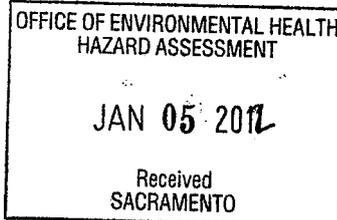




CPMA

COLOR PIGMENTS MANUFACTURERS ASSOCIATION, INC.



January 4, 2012

Ms. Cynthia Oshita
Office of Environmental Health Hazard Assessment
1001 I Street
P.O. Box 4010, MS-19B
Sacramento, California 95812-4010

**Re: Comments of the Color Pigments
Manufacturers Association, Inc. Regarding
the OEHHA Consultation on
C.I. Disperse Yellow 3**

Dear Ms. Cynthia Oshita:

I am writing on behalf of the Color Pigments Manufacturers Association, Inc. ("CPMA") regarding the Office of Environmental Health Hazard Assessment ("OEHHA") consultation and comment request for Colour Index ("C.I.") Disperse Yellow 3, which was recently considered for prioritization by the Carcinogen Identification Committee ("CIC") at its October 12, 2011 meeting (the "CIC Consultation"). C.I. Disperse Yellow 3 is a textile dye. C.I. Disperse Yellow 3 is not an insoluble pigment, and the substance should not be categorized by OEHHA as a "pigment dye".

CPMA does not represent the manufacture, sale or use of C.I. Disperse Yellow 3. The following comments will emphasize the differences between dyes and pigments. In light of these comments, CPMA requests that OEHHA correct the description of C.I. Disperse Yellow 3 by removing the term "pigment", which is not applicable to C.I. Disperse Yellow 3. CPMA also requests that OEHHA avoid further confusion by addressing dyes and pigments as separate, chemically different, products in the future.

The CPMA is an industry trade association representing color pigment companies in Canada, Mexico and the United States. CPMA represents small, medium and large color pigments manufacturers throughout Canada, Mexico, and the United States, accounting for the bulk of the production of color pigments in North America. Color pigment manufacturers located in other countries with sales in Canada, Mexico, and the United States, and suppliers of intermediates to the pigments industry are also members of the Association.

The dyes industry and the pigment industry have been confused in two recent regulatory actions by the OEHHA. In both cases, the confusion could lead to erroneous overreaching conclusions which could adversely impact commerce in the State of California. The first example of this confusion was discussed in our comments of September 12, 2011 to OEHHA, regarding the issues raised by the background document entitled "The Prioritization: Chemicals for CIC Consultation: DCB-Based Compounds Metabolized to DCB, July, 2011" (the "DCB Background Document"). In those comments, we

expressed our concern with a number of the issues raised in the DCB Background Document, including specifically that:

"OEHHA is confusing dyes, which may yield DCB or benzidine related substances, with pigments, which do not yield benzidine or benzidine related substances." CPMA Comments of September 12, 2011, p.2

The second example of this confusion between dyes and pigments can be found in recent publications and notices, where OEHHA describes C.I. Disperse Yellow 3 as a "monoazo pigment dye". This description appears to be derived from the International Agency for Research on Cancer ("IARC") Monograph for C.I. Disperse Yellow 3, IARC Monographs, Volume 48, (1990), p. 149 (the "IARC Monograph"). The IARC Monograph also indicates that C.I. Disperse Yellow 3 has been produced in significant quantities since the 1940s to color fabrics and plastics. (IARC Monograph, Section 5, Summary of Reported Evaluation.)

C.I. Disperse Yellow 3 is not a "pigment", nor is C.I. Disperse Yellow 3 used as an ingredient to produce any pigments. The primary reference to the toxicity of C.I. Disperse Yellow 3 cited by the IARC Monograph and OEHHA is a carcinogenicity study in rats generated by the National Institute of Health ("NIH"), National Toxicology Program ("NTP") in the United States. (NTP Technical Report on the Carcinogenesis Bioassay of C.I. Disperse Yellow 3 (CAS no. 2832-40-8) in F344/N Rats and B6C3F1/N Mice, Feed Study, May 1982, NIH Publication Number 82-1778 (the "NTP Report").)

The NTP Report does not refer to C.I. Disperse Yellow 3 as a "pigment dye". Instead, the NTP Report describes C.I. Disperse Yellow 3 as a textile dye. As stated below from the study abstract:

"A carcinogenesis bioassay of C.I. Disperse Yellow 3 (87.6% dye), a textile dye, was conducted by feeding diets..." NTP Report at p. 7

The description of C.I. Disperse Yellow 3 as a "pigment dye" in the IARC Monograph and OEHHA websites is an error. The NTP Report, which appears to be the primary reference for all of the assessments of C.I. Disperse Yellow 3, including the IARC Monograph, does not describe C.I. Disperse Yellow 3 as being a pigment or a pigment dye. The NTP Report refers only to C.I. Disperse Yellow 3 as a "textile dye". As discussed in more detail below, there are critical differences between dyes and pigments. It is important for OEHHA to distinguish between dyes and pigments with respect to its current analysis of C.I. Disperse Yellow 3 and most importantly in the future when it undertakes consideration of other substances, such as 3,3' dichlorobenzidine based compounds.

Dyes are Not Pigments

For at least a century, since the establishment of the United States pigments industry, the dyes industry and the pigments industry have been separate and have had separate trade and technical organizations. This is because the two industries involve different products, chemistry, raw materials, markets, expertise, personnel, and problems.

The CPMA represents manufacturers of color pigments in Canada, Mexico, and the U.S., and the U.S. Operating Committee of the Ecological and Toxicological Association of Dyestuff Manufacturing Industry ("ETAD North America") represents dye manufacturers. Because of the confusion that sometimes exists between the two industries, both organizations separately prepared definitions of pigments and dyes, and submitted their official definitions to government agencies.

The CPMA has defined pigments as colored, black, white, or fluorescent particulate organic or inorganic solids which usually are insoluble in, and essentially physically and chemically unaffected by, the vehicle or substrate in which they are incorporated. Pigments alter appearance by selective absorption or by scattering of light. Pigments are usually dispersed in vehicles or substrates for application, as for instance in the manufacture of inks, paints, plastics, or other polymeric materials. Pigments retain a crystal or particulate structure throughout the coloration process.

Although color pigments represent a relatively small segment of the chemical industry, they are widely used and can be found in most products that are colored. Pigments are used in coating compositions of all kinds, including stains and paints, printing inks, plastics, rubber, synthetic textile fibers, colored paper, cosmetics, contact lenses, detergents and soaps, wax compositions, modeling clay, chalks, crayons, artists' colors, concrete and masonry products, ceramics, and other applications. Today's pigments industry is distinct from the dyestuff industry, which manufactures a separate class of chemicals.

Pigments are categorized according to their generic name and chemical constitution in the Colour Index ("C.I.") published by the Society of Dyers and Colourists, Bradford, England, and the American Association of Textile Chemists and Colorists.¹

¹ The Colour Index is a reference database jointly maintained by the Society of Dyers and Colourists ("SDC") and the American Association of Textile Chemists and Colorists. It was first printed in 1925 but is now published exclusively on the web. The index serves as a common reference database of manufactured colour products and is used by manufacturers and consumers, such as artists and decorators. The SDC is located at P.O. Box 244, Perkin House, 82 Grattan Road, Bradford, West Yorkshire, England BD1 2JB.

Pigments are available in a number of commercial forms, including dry colors (usually powders), presscakes (water-wet pastes or granules), flushed colors (thick, oily pastes), fluidized dispersions or slurries (pourable pastes), color paste concentrates (pastes), resin-bonds or predispersions (powders), plastic color concentrates or master batches (granules), and surface treated powders or pastes.

The quality of a pigment is essentially determined by its value in use. Pigment properties include tinctorial strength, lightfastness, hiding power, shade, dispersibility, and chroma. Other properties include gloss, durability, transparency, resistance to chemical attack, chemical purity, bleed resistance, crystal stability, solvent resistance, rheology (fluidity), flocculation resistance, electrical properties, adhesiveness, abrasiveness, baking stability, migration resistance, and numerous properties required for specialized applications.

In the development of color pigments, the chemical synthesis of the pigment is only the beginning. The real challenge comes in controlling particle size, shape, and surface and in conditioning the pigment to achieve optimal texture, dispersibility, rheology, and other required properties. Much creative effort has gone into the modification of pigments to improve both their chemical and physical properties. Color pigments are customarily marketed on the basis of performance, rather than chemical analysis. Thus, the choices of colorants for individual products have been optimized by extensive testing and experience.

ETAD North America has defined dyes as "intensely colored or fluorescent organic substances only, which impart color to a substrate by selective absorption of light. Dyes are...soluble and/or go through an application process which, at least temporarily, destroys any crystal structure of the color substances. Dyes are retained in the substrate by absorption, solution, and mechanical retention, or by ionic or covalent chemical bonds."

Dye products may have varying degrees of solubility with some dyes being highly soluble and others only slightly soluble, such as solvent dyes and many disperse dyes. Slightly soluble dyes are not pigments and should not be categorized as pigment dyes.

There are some pigments which are manufactured using dyes as colored intermediate ingredients. The pigments produced in these processes are not dyes and should not be described as "pigment dyes". Furthermore, with reference to the issues currently being addressed, C. I. Disperse Yellow 3 is not an intermediate ingredient used to make any commercial pigments.

Conclusion

Pigments are not dyes. C.I. Disperse Yellow 3 is not a "monoazo pigment dye". C.I. Disperse Yellow 3 is a textile dye. The manufacture, use and toxicological properties of dyes are different from the characteristics of pigments. The NTP Report relied on by OEHHA for C.I. Disperse Yellow 3 which analyzes the carcinogenicity of C.I. Disperse

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Yellow 3 in rats and mice does not refer to C.I. Disperse Yellow 3 as a "pigment dye". CPMA requests that OEHHA correct the description of C.I. Disperse Yellow 3. CPMA also requests that OEHHA avoid this confusion by addressing dyes and pigments as separate chemically different products in the future.

Sincerely,

A handwritten signature in black ink, appearing to read "JLR", written in a cursive style.

J. Lawrence Robinson
President