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Subject: FDA approval QA-I, QA-P and FA-toners
April 20, 2010

The U.S. Food and Drug Administration (FDA) status of the FA, QA-I and QA-P toners when used on
(1) the non food-contact side of packaging materials that are intended to contact food under room temperature and less severe conditions and
(2) the food-contact side of packaging materials that will contact dry foods containing no surface fat or oil is positive for the following QA and FA-toners :

Toner color	FA toner	QA-I toner	QA-P toner	QA SPOT toner
Cyan	OK	OK	OK	
Magenta	Not OK	OK	Not OK	
Yellow	OK	OK	OK	
Black	OK	OK	OK	
White	OK			OK
Clear	OK			OK
Extra Magenta	OK			OK

The U.S. Food and Drug Administration (FDA) status of the QA and FA toners when used on the non food-contact side of packaging materials that are intended to contact food under room temperature and less severe conditions is positive for the following QA and FA toners :

Toner color	FA toner	QA-I toner	QA-P toner	QA SPOT
Cyan	OK	OK	OK	
Magenta	OK	OK	OK	
Yellow	OK	OK	OK	
Black	OK	OK	OK	
White	OK			OK
Clear	OK			OK
Extra Magenta	OK			OK
Red	OK			OK
Green	OK			OK
Blue	OK			OK
Orange	OK			OK

The opinion formulated regarding the suitable FDA status of the FA, QA-I and QA-P toner when used on the non food-contact side of packaging materials that are intended to contact food under room temperature and less severe conditions was based on the determination that, under room temperature and less severe conditions, packaging materials made from polyethylene terephthalate (PET) that is at least 1 mil (25 microns) thick, paper and paperboard that is technologically suitable for the intended use, or aluminum foil all would act as functional barriers to the migration of the toner components. This being the case, we can conclude that the potential level of migration of the toner

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components to food from the non food-contact side of such constructions would be less than 50 parts per billion (ppb).

Since polyolefin films generally are more permeable than these other materials, migration test data would be required in order for us make any conclusions on the FDA status of the toners when used on the non food-contact side of polyolefin films.

The study was done and the opinion was formulated by the company Keller and Heckman LLP (Washington Brussels), based on the detailed composition of the toner formulations. These consecutively opinions were formulated on (also taking into account the presence of small amounts of silicon oil in case of simplex fusing) :

- September 6, 1999
- December 9, 2004
- August 12, 2005
- March 16, 2006
- September 7, 2006
- June 17,2008
- April 2, 2009
- November 17, 2009

Several components of the toner formulation currently are cleared for the intended use under an applicable FDA food additive regulation, and we have determined that those components are suitably pure for their intended use. For the uncleared components of the formulation, Keller and Heckman has used standard FDA assumptions (i.e., that the maximum migration of toner components to dry food containing no surface fat or oil will be 50 ppb, and the appropriate consumption factor (CF) for colorants for polymers is 5%), and they have reviewed the available toxicity data on the substances, to conclude that the uncleared materials may be considered generally recognized as safe (GRAS).

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