April 24, 2012

The Final Rule incorporating the Globally Harmonized System for Classification and Labeling of Chemicals (GHS) into the OSHA Hazard Communication Standard (29 CFR 1910.1200) was published in the Federal Register on March 26, 2012 [an electronic copy is available in the Member's area of the NAPIM website].

In general and from an ink manufacturer's perspective, the major changes/impacts of the GHS incorporation into HazCom standard are:

- Chemical Hazard Classification
- Product Labeling
- Safety Data Sheet (formerly material safety data sheets)
- Trade Secrets
- Compliance Schedule

Chemical Hazard Classifications – Information for Ink Manufacturers

As with the existing rule there are two basic categories of hazards: health and physical. Following is the new health hazard categories:

GHS Health Hazard Categories	
A.1 - Acute Toxicity (table A.1.1)	A.6 Carcinogenicity
A.2 Skin Corrosion/Irritation	A.7 Reproductive Toxicity
A.3 Serious Eye Damage/Eye Irritation (tables A.3.1 Irreversible; A.3.2 Reversible)	A.8 Specific Target Organ Toxicity (single exposure)
A.4 Respiratory/Skin Sensitizer (tables A.4.1 and A.4.2)	A.9 Specific Target Organ Toxicity (multiple or prolonged exposure)
A.5 Mutagenicity	A.10 Aspiration Hazard (table A.10.1)
GHS Physical Hazard Categories	
B.1 Explosives	B.9 Pyrophoric Liquids
B.2 Flammable Gases	B.10 Pyrophoric Solids
B.3 Flammable Aerosols	B.11 Self Heating Chemicals
B.4 Oxidizing Gases	B.12 Water Reactive (emits flammable gas)
B.5 Gases Under Pressure	B.13 Oxidizing Liquids
B.6 Flammable Liquids	B.14 Oxidizing Solids
B.7 Flammable Solids	B.15 Organic Peroxides
B.8 Self-Reactive Chemicals	B.16 Corrosive to Metals

In general, ink manufacturers are not responsible for determining the hazard category of the components used in an ink formulation. Raw material suppliers must provide the necessary hazard classification for their chemical substances on their (M)SDS. **Accordingly, the first step for complying**

the new labeling and safety data sheet requirements is to survey your supplier base to get the appropriate (GHS-based) hazard classification information for each of your raw materials.

Ink manufacturers **will be** required to determine the hazard classification of their formulations (mixtures), (as well as develop the product labeling and SDS). It is important to note that the mixture classification procedures in the revised HazCom standard are substantially more complex than those in the former standard.

It will probably be necessary to use some type of automated SDS authoring system or expert support to develop the hazard classification for mixtures that contain hazardous chemicals. NAPIM can provide recommendations and guidance in this regard. **Please note that obtaining the proper raw material hazard classification information from your suppliers will minimize the effort and expense in developing the hazard classification, labeling and SDS of the mixture**.

Product Labeling and Safety Data Sheets

Product labels have been completely revised under the new HazCom standard. The new labeling requirements include: a product identifier, standard signal word; hazard statement; pictogram(s); precautionary statement and contact information. Product labeling is a function of the hazard classification noted above. Most of the usual hazardous chemical label suppliers can provide the GHS compliant labels.

Safety data sheets (SDS) are similarly revised under the new standard – specifying 16 required sections (i.e. Identification, Hazards Identification, Composition, First Aid, Fire Fighting, Accidental Release, Handling/Storage, Exposure controls/PPE, Physical/Chemical Properties, Stability/Reactivity, Toxicological, Ecological, Disposal, Transport, Regulatory, Other).

It is important to note that the revised standard, similar to the previous standard, does not require chemical hazard testing. Accordingly, a GHS/HazCom compliant safety data sheet for an ink formulation can be developed using the SDS information from the component materials and the relevant mixture/formula hazard classification.

Trade Secrets

The treatment of trade secret (proprietary business information) is essentially the same under the revised HazCom Standard except the OSHA has allowed for concentration (component percentage) information to be maintained as trade secret information. It is important to note that this is a divergence from the GHS standard. Accordingly, SDS prepared for non-U.S. customers may require concentration/percentage information for trade secret components.

Compliance Schedule

Effective Completion Date	Requirements	Responsibility
December 1, 2013	Train Employees and the new labels and SDS format	Employers
June 1, 2015	Compliance with all modified provisions of the Final Rule except:	Chemical manufacturers, importers, distributors, and employers
December 1, 2015	Distributor shall not ship containers labeled by the chemical manufacturer or importer unless it is a GHS label	
June 1, 2016	Update alternative workplace labeling and Hazard Communication program as necessary and provide additional employee training for newly indentified physical and health hazards	Employers
Transition period 5/25/12 to the effective completion dates noted above	May comply with 29CFR 1910.1200 (this final standard), or the current standard or both	Chemical manufacturers, importers, distributors, and employers