The United States Environmental Protection Agency ("EPA") in a July 17th letter to Saint-Gobain Ceramics & Plastics, Inc. ("SG") addressed whether a recycling process, which converts hexavalent chromium in the spent refractory brick into trivalent form, as described below, is defined as reuse or reclamation under the RCRA regulations.

SG in a March 30th letter EPA requested a regulatory determination under the Resource Conservation and Recovery Act ("RCRA") regulations for spent refractory bricks being used to make new refractory bricks for the manufacture of industrial wool glass melting furnaces.

SG is stated to be a manufacturer of commercial grade chromium refractory bricks used in the construction of industrial wool glass melting furnaces. The furnaces are stated to have a limited life cycle which requires that the bricks be replaced when a furnace is rebuilt. Further, a small part of the new bricks turn to hexavalent chromium (from trivalent) over time in the furnaces.

SG described for EPA the technology which would allow for bricks containing hexavalent chromium (when spent) to be used to make new trivalent chromium bricks. The process enables the bricks to be recycled rather than land disposed.

SG describes the process as having the furnaces:

... dismantled at a Saint-Gobain customer’s facility by an outside contractor with jackhammers and other demolition equipment. This process generates more manageable sized bricks ranging from fine powders to approximately ten inch square blocks. The rubble would then be loaded into bulk, flexible containers (i.e., bags or “super-sacks”), wrapped with shrink wrap, stowed in an ocean shipping container and exported to France, where the hexavalent chromium containing bricks would be used to make new chromium refractory bricks, where the chromium is in the trivalent form.

EPA states it understands that the company in France will take the incoming crushed spent hexavalent chromium bricks and treat them either chemically or via high temperature fusion to convert the hexavalent chromium into trivalent chromium. This is stated to essentially regenerate the chromium back into trivalent chromium which would then become a feedstock to produce new trivalent chromium refractory bricks.
EPA states that pursuant to 40 CFR 261.2(c)(4) the reclamation of particular types of secondary materials, such as spent materials, are subject to the RCRA regulations. It notes that when the refractory bricks are removed from the dismantled furnace, they constitute a “spent material” (i.e., they have outlived their usefulness and no longer can be used without being reclaimed).

The federal agency notes that spent materials that are reclaimed are generally “solid waste” and there is consequently an obligation as a generator to determine if the materials are a hazardous waste.

EPA also addresses whether the SG recycling activity could constitute “reuse.” It states that 40 CFR 261.2(e) does not apply when the material is being reclaimed.

Click here to download a copy of the letter.