



2018

TSCA Section 8(a) Information Gathering Rule on Nanomaterials in Commerce

Background

On January 12, 2017, the US Environmental Protection Agency (EPA) published a final rule establishing one-time reporting and recordkeeping requirements for chemical substances when they are manufactured, imported, or processed at the nanoscale. 82 Fed. Reg. 3641 (Jan. 12, 2017).

Carbon Black and TSCA Section 8(a) Reporting

Based on a review of the Rule and the Working Guidance issued by the Agency, it is the determination of the International Carbon Black Association (ICBA) and Birla Carbon that carbon black is **not subject to reporting** under the Rule. This determination reflects the ICBA's understanding of EPA's definition of "reportable chemical substance," which includes substances intentionally manufactured or processed to exhibit "unique and novel properties." The EPA defines "unique and novel properties" as "...any size-dependent properties that vary from those associated with other forms or sizes of the same chemical substance not in the size range of 1-100 nm, and such properties are a reason that the chemical substance is manufactured or processed in that form or size." Carbon black is not manufactured to exhibit any size-dependent, unique and novel properties, as defined by the EPA.

In making this determination, the ICBA and Birla Carbon specifically considered the Working Guidance on EPA's Section 8(a) Information Gathering Rule on Nanomaterials in Commerce issued by EPA (<https://www.epa.gov/reviewing-new-chemicals-under-toxic-substances-control-act-tsca/working-guidance-epas-section-8a>) to assist industry with reporting. Carbon black was specifically mentioned in Question 2 of the Guidance:

"Question 2: What Properties are Considered Unique and Novel?"

Answer: "...A chemical substance such as carbon black which doesn't change its color because of its size would not exhibit a unique and novel property on the basis of color, because its nanoscale form is not a different color. Nanoscale carbon black when oxidized by nitric acid is used as a heavy metal sorbent, a property it does not have outside the nanoscale. This unique metal absorbing property of the oxidized form of nanoscale carbon black would meet the definition of a unique and novel property."

This guidance is not consistent with the properties of any surface-treated carbon blacks and the ICBA and Birla Carbon believe that the reference in the guidance is suggestive of a different product. In this context, surface treatment of carbon black is used to make carbon black intended for use as a pigment more compatible with polar vehicle systems into which they may be dispersed. This effect would be the same for nanoscale carbon black as for non-nanoscale carbon black. The oxidizing treatment of carbon black is not aimed to provide heavy metal adsorbing properties. The example provided in the guidance is suggestive of a different product and not carbon black.

Furthermore, adsorption of heavy metals would not be considered a "unique and novel" property of nanoscale carbon black (oxidized or non-oxidized). To the extent that carbon black exhibits this property, it scales continuously with increasing surface area, which the EPA Guidance identifies as not being "unique or novel." As the EPA Working Guidance states, "enhanced or continuously scaling properties are properties which do not intrinsically change on the nanoscale and instead scale proportionately with particle size; this can include increased reactivity, surface area, and thermal conductivity, among others. These are not considered unique and novel properties."

As such, the ICBA and Birla Carbon have determined that carbon black is not subject to one-time reporting under the Rule.

The information presented within this publication is based on Birla Carbon's analysis and the analysis of others. Birla Carbon disclaims all representations and warranties regarding performance or use, express or implied,



including implied warranties of merchantability and fitness for a particular purpose. The user is responsible for determining the suitability of any product for a specific purpose and the manner in which the product is used. Before handling, using, or processing any material, always read its Safety Data Sheet.

If you have any further questions, please do not hesitate to contact me directly.

Sincerely,

A handwritten signature in black ink that reads "Megan Morgan".

Megan Morgan
Manager, Product Stewardship
Megan.Morgan@adityabirla.com

Columbian Chemicals
Phone: +1 (770) 792-9663

Birla Carbon
Website: www.birlacarbon.com