



ENVIRONMENTAL NEWS ALERT

APRIL 2016

WHO KNEW THE EPA HAZARDOUS WASTE CORROSIVITY CHARACTERISTIC NOTICE HAD A SALACIOUS BACK STORY?

On April 11, 2016, the U.S. Environmental Protection Agency (“EPA” or “Agency”) published notice in the *Federal Register* that it is tentatively denying a Petition which “requests that the Agency make two changes to the current corrosivity characteristic regulation under the Resource Conservation and Recovery Act (RCRA): (1) revise the regulatory value for defining waste as corrosive from the current value of pH 12.5, to pH 11.5; and (2) expand the scope of the RCRA corrosivity definition to include nonaqueous wastes in addition to the aqueous wastes currently regulated.” 81 Fed. Reg. 21295. The unusual back-story and potential sweeping changes posed by this Petition make the issue one-part salaciously interesting and two-parts worrisome for potentially affected stakeholders. The EPA is seeking comments on its tentative denial of the Petition, which must be received by June 10, 2016.

I. Background of Petition to Revise the Corrosivity Characteristic

Only more surreal than the fact that this Petition was brought by an EPA employee, Dr. Cate Jenkins, are the allegations of fraud, government cover-up, and employee reprisal by the Agency which allegedly contributed to 9/11 first-responders’ injuries. The longtime EPA employee claims that first-responders were ill-prepared for the dust from the collapse of the World Trade Center (WTC) because the EPA “knowingly falsified the pH level known to cause irreversible corrosive damage to human tissues (chemical burns) for alkaline (caustic) corrosive materials” when it

promulgated the corrosivity characteristic in 1980.

Under Subtitle C of RCRA, the EPA has developed regulations to identify solid wastes that must then be classified as hazardous waste. Corrosivity is one of four characteristics of wastes that may cause them to be classified as RCRA hazardous. The Agency defines which wastes are hazardous because of their corrosive properties at 40 C.F.R. § 261.22.

The term “corrosivity” describes the strong chemical reaction of a substance (a chemical or waste) when it comes into contact with an object or another material, such that the surface of the object or material is irreversibly damaged by chemical conversion to another material, leaving the surface with areas that appear eaten or worn away. That is, the corrosive substance chemically reacts with the material such that the surface of the contacted material is dissolved or chemically changed to another material at the contact site. Chemical reaction and damage at the contact site may continue as long as some amount of the unreacted corrosive substance remains in contact with the material. In situations in which corrosive substances are being handled by people, key risks of corrosive damage are injury to human tissue, and the potential to damage metal storage containers (primarily steel) that may hold chemicals or wastes.

Highly acidic and alkaline (basic) substances comprise a large part of the universe of corrosive chemicals. The strength of acids and alkalies is measured by the

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concentration of hydrogen ions, usually in a water solution of the acid or alkali. The hydrogen ion concentration is expressed as “pH”, which is a logarithmic scale with values generally ranging from zero to 14. On the pH scale, pH 7 is the midpoint, and represents a neutral solution. That is, it is neither acidic nor basic. Solutions having pH values of less than 7 are acidic, while solutions with pH greater than 7 are basic. As pH values move toward the extremes of the scale (*i.e.*, 0 and 14), the solution becomes increasingly acidic or alkaline. Under the current corrosivity characteristic regulations, aqueous wastes having pH 2 or lower, or 12.5 or higher, are regulated as hazardous waste. Liquid wastes that corrode steel above a certain rate are also classified as corrosive under RCRA.

Dr. Jenkins claims that corrosive properties of inhaled dust from the WTC collapse, and other particulates from building demolitions and cement kiln dusts, pose significant corrosive effect dangers to human health and therefore if the RCRA pH levels were set to 11.5, then injuries like those suffered by WTC first-responders could have been avoided. Dr. Jenkins brought her concerns to the EPA and eventually to members of Congress and the FBI. When her initial concerns gained no traction, represented by Public Employees for Environmental Responsibility (PEER), Dr. Jenkins filed a Rulemaking Petition with the EPA in 2011, seeking to change the “erroneously-set pH 12.5 to the international standard of pH 11.5 for alkaline hazardous waste, and to remove the limitation to aqueous wastes.” The EPA did not immediately respond to the Petition, causing PEER and Dr. Jenkins to file a Petition for Writ of Mandamus with the D.C. Circuit Court of Appeals in September of 2014. In March of 2015, the EPA agreed to respond to Dr. Jenkins and PEER’s Petition on or before March 31, 2016. With a background story as odd and contentious as this, one would assume there are real concerns and at least some truth to the allegations in Dr. Jenkins’ Petition. The EPA doesn’t think so.

II. Summary of EPA’s Notice of Tentative Denial of Petition to Revise the RCRA Corrosivity Hazardous Characteristic

For those waiting for EPA to directly respond to allegations of fraud or government cover-up, this Notification will not satisfy you. However, if you want a detailed history of EPA’s RCRA corrosivity standard and other U.S. government or international corrosivity standards, then this Notice will hit the spot. The Notice responds to two requests for changes to the 40 C.F.R. § 261.22(a) definition of corrosive hazardous waste: 1) reduction of the pH regulatory value for alkaline corrosive hazardous wastes from the current standard of pH 12.5 to pH 11.5; and 2) expansion of the scope of the RCRA hazardous waste corrosivity definition to include nonaqueous wastes, as well as currently regulated aqueous wastes.

The EPA first addresses the allegation that, in 1980 when the RCRA corrosivity standard was set at pH 12.5, the Agency knew then that the acceptable standard to prevent corrosive effects to human tissue was widely accepted to be pH 11.5. While the Notice does not directly address the Petition’s allegations of fraud, the Notice does not hold back in pointing out “the classification of materials as corrosive and use of pH 11.5 in this process is far more complicated than portrayed by the Petition.” 81 Fed. Reg. 21300

Dr. Jenkins’ Petition cites several corrosivity standards from other governmental agencies and international organizations to support her claim that pH 11.5 is the value “widely used as a threshold for identifying corrosive materials”, that the EPA knowingly ignored while setting the corrosivity standards in 1980. Locally, these organizations include the Occupational Safety and Health Administration , the Department of Transportation , and the Consumer Product Safety Commission . Further, international organizations include the United Nations Guidance on the Transport of Dangerous Goods, the Globally Harmonized System, the International Labor Organization, and the Basel Convention on the Transboundary Movement of Hazardous Waste (Basel, or the Basel Convention). In the Notice, EPA

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spends considerable time discussing the differences in the regulatory goals of the different agencies and the wide-variety of testing methods agencies or organizations used to set their respective standards. The EPA spent more time dispensing with the comparison to the Basel Convention's standard because "[u]nlike many of the other regulatory frameworks that the petitioners cite, the

Basel Convention classification system, like RCRA, applies specifically to hazardous waste management." 81 Fed. Reg. 21301. Yet still, the EPA discussed the very different goals and persons to be regulated under RCRA versus the Basel Convention, noting that, "the Basel Convention and its hazardous waste classification system take into account the limited capabilities of the developing countries to manage hazardous waste and other waste... tak[ing] a precautionary approach, broadly characterizing materials as hazardous out of an abundance of caution." "The U.S., on the other hand, has substantial capacity for proper management of both hazardous and non-hazardous wastes, and therefore current RCRA regulations do not incorporate the level of precaution that the Basel Convention does in classifying waste as hazardous under RCRA." *Id.* Furthermore, the Basel Convention's pH 11.5 value is only a rebuttable presumption of corrosivity while the RCRA corrosivity definition is a hard value, and there is no opportunity in the RCRA regulations, like there is under the Basel Convention, to show that a waste is non-corrosive despite its exceedance of the regulatory criteria. The EPA concluded stating, "while other regulatory frameworks may use pH 11.5 as part of their corrosivity determinations, the use of pH 11.5 in these frameworks is fundamentally different from the use of pH in the RCRA corrosivity characteristic regulation, and such use, therefore, should not set a precedent for RCRA regulation." *Id.*

Second, the EPA Notice contended with the allegation that "injury to 9/11 first responders, other workers, and potentially members of the public, was caused by corrosive properties of airborne cement dust present in the air as a result of the buildings' collapse"...[therefore] "regulation of

these airborne dusts as RCRA hazardous wastes would have prompted wide-spread respirator use and prevented first responder lung injury, and can prevent such injury to demolition workers and the general public present at future building demolitions." 81 Fed. Reg. 21302. However, for "dusts" to come under the regulatory framework of RCRA, the Agency would need to change the corrosivity definition such that "nonaqueous" wastes are included. In other words, RCRA would need to regulate all wastes with a pH above 12.5, not just those determined to be liquids as opposed to solids. The Petition argued that the term "aqueous" is ambiguous, making the determination of "aqueous" versus "nonaqueous" wastes confusing under EPA's existing guidance, and therefore such a change would also be easier for the Agency to implement if the Agency eliminated the distinction by regulating both when corrosive hazardous. This latter point is the only one in which the EPA agreed with the Petitioners; stating that "while petitioners are correct in noting that the inclusion of nonaqueous wastes within the scope of the corrosivity characteristic would address this issue, the Agency currently lacks data demonstrating that regulation of nonaqueous wastes as corrosive is warranted under RCRA." *Id.*

The Agency did not agree with the Petition's assertion that the corrosivity of the WTC dust was the actual cause of the first responder's injuries. The Agency reviewed current medical studies detailing WTC injuries and studies which analyzed samples of the WTC dust. The EPA found that, most but not all, WTC dust samples had a pH level of 11 or lower and so would not be classified as corrosive hazardous under RCRA even with the Petition's proposed regulatory changes. The Agency also found that it is not possible to establish a causal connection between WTC dust and the resultant injuries to those exposed, to the exclusion of other co-occurring exposures. These co-occurring exposures include glass fiber, silica, cellulose, metals, wood fiber and fiberglass, a number of minerals (calcite, gypsum, quartz) and a wide range of organic polyaromatic hydrocarbons and dioxin. Furthermore, while the EPA found that WTC-exposed populations experienced adverse health effects

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related to exposures, the EPA did not find that the WTC injuries were of the nature and severity that the corrosivity regulation was intended to prevent. The 1980 RCRA background document supporting the original corrosivity regulation notes that “[s]trong base or alkalis . . . exert chemical action by dissolving skin proteins, combining with cutaneous fats, and severely damaging keratin.” Typical injury endpoints used in guidance for defining a material as corrosive describe “. . . visible necrosis through the epidermis and into the dermis . . .”. “Corrosive reactions are typified by ulcers, bleeding, bloody scabs” (Globally Harmonized System for the Classification and Labeling of Chemicals, 3.2.1). 81 Fed. Reg. 21303.

The EPA concluded, “it is not possible to establish a causal connection between the potential corrosive properties of the dust and the resultant injuries to those exposed. The injuries documented at the WTC in connection with potentially harmful dust are not consistent with injuries caused by corrosive material. And finally, nothing submitted by petitioners demonstrates that injury to human health or the environment was related to improper treatment, storage, transport, or disposal of solid waste (*i.e.*, the Petition does not demonstrate how RCRA would or could address the potential exposures alleged to be hazardous).” *Id.*

III. Implications for Industry

Persons that may be interested in this tentative denial of the Petition include any facility that manufactures, uses, or generates as waste, any materials (either aqueous or nonaqueous) with a pH 11.5 or greater. An industrial coalition estimated that if EPA agreed to amend the alkaline threshold to a pH of 11.5 or greater, approximately 1.5 million tons of additional material would require regulation as hazardous waste. Further, if Portland cement debris is included, approximately 335 tons of this material could require disposal as hazardous waste. According to the National Waste & Recycling Association, the total commercial hazardous waste landfill capacity in the United States is 89 million tons, which would be exceeded

immediately if the pH alkaline threshold is reduced to 11.5.

IV. Path Forward

The Agency is soliciting public comment and data and other information on the issues raised by the Petition until June 10, 2016. These include information on possible health impacts of the current corrosivity regulation (if any), as well as health benefits (if any) that may be anticipated were the Agency to grant the Petition’s requested regulatory changes. The Agency is also requesting public comment on any other issues raised by its tentative decision to deny the Petition, as well as additional information on the types and amounts of waste that may be newly regulated, and the potential cost of such management, were the Agency to grant the proposed regulatory changes.

[Gallagher & Kennedy](#) is a full-service law firm with offices in Phoenix, Arizona and Santa Fe, New Mexico. The firm’s national environmental practice is comprised of 17 dedicated environmental attorneys, several of whom have science and engineering degrees. Many of our environmental attorneys have an AV Peer Review Rating in Martindale-Hubbell and are listed in Chambers USA: America’s Leading Lawyers for Business, Marquis Who’s Who, Who’s Who in American Law, The Best Lawyers in America, and Southwest Super Lawyers. Our clients include national and state trade associations and international and United States mining, mineral processing, and manufacturing companies. We advocate on behalf of our clients at the national, state and local level.

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