

**Final Examination
Toxics Law & Policy
Professor Rechtschaffen
Spring 2007**

INSTRUCTIONS

1. You have 7 days from the date you pick up the exam to turn it in to my assistant Pat Paulson, either in person in the Faculty Center or by email at ppaulson@ggu.edu. The last day for turning in the exam is May 10 2007, at 5 PM.
2. There is a word limit for this exam of **1,600 words for Question 1**, and **1,250 words for Question 2**. Be sure to keep your answers in accordance with these limits.
3. Please type and double space your answers.
4. Please use your examination number; do not write your name on the exam.
5. You must answer the exam entirely on your own, without consulting any other students (or anyone else). You are *not required to or expected to consult with any outside sources* or materials beyond what has been assigned for class.
6. Good luck, and have a wonderful summer!

Question I

EPA recently has been investigating the chemical PFOA (perfluorooctanoic acid) and its various salt forms. PFOA is a synthetic chemical which does not occur naturally in the environment. PFOA is used to manufacture another group of chemicals called fluoropolymers, which are extremely useful in a wide range of products because they are fire resistant, and because they repel water, oil, grease, and stains. As a result, they are used extensively in the aerospace, automotive, construction, chemicals processing, electronics, semiconductor, and textile industries. According to an industry trade organization, these chemicals are vital to public health and safety due to their use in fire-resistant clothing and other materials, and because they help to make safer, less polluting, and more fuel-efficient products, including aircraft and automobiles. In addition, these chemicals are key components in several widely used commercial products, such as non-stick cookware (including Teflon and similar products), and waterproof yet breathable and light-weight fabrics such as Gore-Tex.

PFOA is not itself an ingredient in those consumer products. It is used to make them, however, and some environmental and health groups claim that these products break down under certain circumstances into PFOA and similar chemicals, resulting in common human exposure. Because these chemicals are *designed* to be extraordinarily stable, they are extremely persistent in the environment, meaning that they break down very slowly, and can remain in our bodies, and the bodies of other animals, for long periods of time.

EPA has completed a preliminary assessment of the risks associated with PFOA. According to the available data, there is some evidence of potential health concerns from exposure to PFOA, although the evidence is mixed, and there is considerable scientific uncertainty about the potential risks. Several epidemiological studies on the effects of PFOA in humans have been conducted on workers. An association with PFOA exposure and prostate cancer was reported in one study; however, this result was not observed in an update to the study. There is some mixed evidence that PFOA exposure results in elevated levels of some human hormones. An extensive array of animal toxicity studies has been conducted in rodents and monkeys. These studies have shown that PFOA exposure can result in a variety of potent toxic effects in animals, including several types of adverse developmental effects.

There also is evidence of human exposure to PFOA, although here again there is considerable scientific uncertainty. PFOA has been found in workers at plants where PFOA is produced, at levels in parts per million range. It also has been found in the blood of members of the general public, although at much lower levels (parts per billion as opposed to parts per million), and some studies indicate that it is found in the blood of up to 95 percent of the American public. It is not known whether these exposures to the public result from PFOA in the air, water, on dusts, in foods, or through some combination of these sources. There currently is very limited data about the presence of PFOA in air, soil, and water. Neither EPA or any other agency has determined what a “safe” level of PFOA exposure is.

EPA has indicated its concern about PFOA's potential impacts, and is engaged in a broader, ongoing study of the substance. To date, EPA has taken no regulatory action with respect to PFOA.

Question A (400 word limit)

Assume that you represent environmental groups seeking protection from exposure to PFOA, and that you want EPA to take action regulating PFOA under Section 6 of TSCA. Please prepare a brief memo arguing to EPA why it should take action under Section 6 and what action it should take.

Question B (400 word limit)

Assume that you represent a trade association of PFOA manufactures seeking to stop or delay any action by EPA regulating PFOA under Section 6 of TSCA. Please prepare a brief memo arguing to EPA why it should not take action under Section 6.

Question C (800 word limit)

From your own perspective, please discuss the pros and cons of regulating PFOA under: (1) an approach such as the "REACH" policy adopted by the European Union; and (2) an information disclosure based approach.

Question II
(1,250 word limit)

From 1965 to 1980, Winthrop operated an agricultural chemical storage and distribution facility, purchasing pesticides and selling them to local farmers. During this period, Chemco was the main supplier of pesticides to Winthrop. The evidence indicates that Chemco selected and paid the trucking company that transported the pesticides to Winthrop; that the transfer of pesticides from the transporter to Chemco was very sloppy, resulting in spills onto the ground in and around the facility virtually every time the pesticides were unloaded; that Chemco encouraged Winthrop to purchase pesticides from it in bulk, which required that Winthrop buy large steel storage tanks that eventually corroded, causing leakage of the pesticides onto the ground; and that Chemco was aware that leakage was likely during the transfer and storage processes, and reimbursed Winthrop for losses that occurred due to leakages during these processes. Chemco argues that it was selling a useful product to Winthrop; that it didn't own the pesticides at the time they were disposed of; and that it did not control the transfer process or how the pesticides were later stored by Winthrop.

From 1966 to 1973, Winthrop was a wholly-owned subsidiary of National Agriculture. Pursuant to National's corporate policies, Winthrop's facility was required to stay strictly within budgetary limits set by National, including expenditures on environmental compliance costs. Winthrop's environmental managers also were required to attend quarterly training sessions run by National on how to manage their wastes, and to file monthly reports with National of their pesticide purchases and leaks/spills. National also recommended that Winthrop follow National's model environmental management procedures at its facility. National divested itself of Winthrop in 1973.

From 1975 to 1980, Winthrop also operated a waste disposal business on the same site as its agricultural storage and distribution facility. During this time, two companies, Plater Company and Metals Company, sent wastes containing heavy metals to the site, that were disposed of in shallow pits. The metals leaked out of the pits into the soil on site, but were relatively immobile in soil and did not migrate to the groundwater underneath or adjacent to the soil.

In 1985, Winthrop sold the entire property to Blackhawk, Inc., informing it of the presence of hazardous substances on the site. Blackhawk held the property as an investment, hoping that the surrounding area would eventually develop. Blackhawk undertook no activities on site, including no measures to contain or clean up the contamination on the site. Blackhawk sold the property in 1993. EPA contends that during the period of Blackhawk's ownership pesticide wastes moved through the soil and groundwater at the site.

In 1998, EPA investigated the site. It found pesticides wastes of the type sold by Winthrop and supplied by Chemco, listed as hazardous substances under CERCLA, in the soil and groundwater on site, in some cases as far as one mile away from the storage

and distribution facility. EPA also found that the soil on the property was contaminated with heavy metals of the type sent to the site by Plater Company. and Metals Company, metals listed as hazardous substances under CERCLA. EPA chose a remedy for the site that involved removal of the contaminated soil, and extraction of the contaminated groundwater followed by treatment and reinjection of the groundwater into the aquifer underlying the site. EPA spent \$300,000 removing the contaminated soil, and \$3 million cleaning up the groundwater.

EPA now has filed a cost recovery suit under CERCLA against the parties seeking to recover its costs. Please evaluate whether EPA will be able to recover its costs against Winthrop, Chemco, National, Plater, Metals, and Blackhawk. On what basis, if any, might any of the parties successfully defend against all or part of EPA's claims?

END OF EXAM