

## Case Study:

# Chemical Identification with ADVISE™

Graduate Medical School  
Boston, MA

## Situation

A graduate medical school in Boston, MA had experienced flooding as a result of a torrential storm. In a research facility on campus, the weight of this floodwater imploded the blow out panels surrounding the underground main accumulation area (MAA) in the basement. At this moment, 3.5 feet of water rushed into the room, displacing bottles on shelves and flowing into partially-filled drums. Triumvirate Environmental, already the school's onsite environmental health and safety provider, was called in to identify the unknown chemicals and rectify the damage.

## Action

Four Triumvirate employees entered the scene with the need to alleviate two concerns, the first being that water-reactive chemicals could have potentially been dislodged and therefore posed an explosion risk. An inventory of chemicals was needed to determine if any such chemicals were present in the MAA. As a second concern, Triumvirate needed to determine that the levels of discharge were under the Massachusetts Water Resources Authority's (MWRA) discharge limit. Triumvirate needed to ascertain that water that discharged down into the floor drain was not contaminated with any of these water-reactive chemicals and did not violate the discharge limit.

Because the school utilized Triumvirate's proprietary web-based software application, ADVISE™, each chemical in the MAA – whether an individual bottle on a shelf or a 55-gallon drum – was accounted for in a database. Triumvirate was able to pull an inventory report listing each of these chemicals and containers, and could then alleviate both of the above concerns. None of the water-reactive chemicals had come into contact with the water, and none of the MWRA-regulated chemicals had discharged over the limit.

## Result

Using ADVISE, Triumvirate determined the identity of the unknown chemicals in the MAA. This process – between pulling the electronic report and physically entering the MAA to match bottles to inventoried chemicals– took a matter of hours, when analytical lab testing would have been costly and results would have taken at least two days. In addition to this, if chemical identities remained unknown, it would have been necessary to pump out the water and contain it until analytical test results returned. ADVISE allowed Triumvirate to determine that there was a drum containing mercury in the MAA, as well as to distinguish which drum in the MAA contained the mercury. This, in turn, allowed for Triumvirate to verify MWRA compliance; the mercury drum had not broken or discharged into the floor drain. Ultimately, ADVISE armed Triumvirate with enough information to make determinations that saved the client time, effort, and thousands of dollars.



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01/09/2013 11:45 AM Advise System, Triumvirate Environmental

Current Inventory Report

Filter Parameters:

Report period: 01/01/2013 to 01/09/2013

Date	Quantity	Container	Chemical Name	Code
12/03/2012	1 (1 Gallons-Solid)	Container: 616	CHROMIUM CHLORIDE-2%, DEBRIS ; GLOVES, WIPES,	D007
12/03/2012	1 (1 Liters-Liquid)	Container: 631	ETHYLENEDIAMINETETRAACETIC ACID, SODIUM SULFIDE, WATER,	D002
01/02/2013	2 (4 Liters-Liquid)	Container: 615	AMMONIA-1%, SILVER NITRATE, WATER, ZINC ACETATE,	D011
01/02/2013	1 (8 Ounces-Solid)	Container: 617	CHROMIUM CHLORIDE-2%, DEBRIS GLOVES, HYDROCHLORIC ACID, WIPES,	D007
01/02/2013	1 (4 Liters-Liquid)	Container: 656	CHROMIUM CHLORIDE-2%, HYDROCHLORIC ACID, WATER, ZINC CHLORIDE,	D002, D007
01/02/2013	1 (4 Liters-Liquid)	Container: 666	BARIUM CHLORIDE-5%, HYDROCHLORIC ACID, WATER,	D002, D005
01/02/2013	1 (4 Liters-Liquid)	Container: 61	AMMONIUM OXALATE, OXALIC ACID, WATER,	MA99
01/02/2013	1 (1 Liters-Liquid)	Container: LP	ETHANOL, ISOPROPANOL,	D001
01/02/2013	1 (1 Liters-Liquid)	Container: LP	ETHANOL, ISOPROPANOL,	D001
01/03/2013	1 (1 Liters-Liquid)	Container: 630	ETHYLENEDIAMINETETRAACETIC ACID, SODIUM SULFIDE, WATER,	D002
01/03/2013	1 (5 Gallons-Liquid)	Container: etbr	ETHIDIUM BROMIDE GELS,	MA99
01/03/2013	1 (5 Gallons-Liquid)	Container: etbr	ETHIDIUM BROMIDE GELS,	MA99
01/03/2013	2 (1 Gallons-Liquid)	Container: 61	ETHYLENEDIAMINETETRAACETIC ACID, GLOVES, SODIUM SULFIDE,	MA99
01/03/2013	1 (1 Gallons-Liquid)	Container: pc	CHLOROFORM, PHENOL, TIPS,	D022
01/03/2013	1 (1 Liters-Liquid)	Container: pc	PARAFORMALDEHYDE,	MA99
01/03/2013	1 (1 Liters-Liquid)	Container: pc	CHLOROFORM, ISOMYLALCOHOL, PHENOL, TIPS,	D022

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