



Analysis of Fourteen Years of Natech Disasters in the United States

H. Sengul (1) , L. J. Steinberg (1) and A. M. Cruz (2)

(1) Tulane University, Department of Civil and Environmental Engineering, New Orleans, LA, USA.

(2) EADP, University of North Texas, Denton, TX, USA and Disaster Prevention Research Institute, Kyoto, Japan.

Technological disasters induced by natural disasters (natechs) pose high risks both to the public and the environment. This paper analyzes 9,300 natech incidents in the United States between 1990 and 2003, using data from two federal databases which record chemical releases, the Coast Guard's Incident Reporting Information System (IRIS) database and the Environmental Protection Agency's Emergency Response Notification System (ERNS) database. It examines the causes of the natechs, the natural disaster triggers, and the most common sources of releases. Hazardous substances and oil/petroleum products are reviewed separately, as these are governed by different laws in the United States and as the release characteristics are quite different in the two cases. Special attention is paid to the 10% of natechs which release over 90% of the contaminants released during natechs. Supporting evidence is given for the conclusions that natechs:

- are concentrated in particular regions and particular states
- are under-studied given the risk of their occurrence and their potential consequences, and
- can be reduced by additional attention to design and maintenance standards.