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**RECYCLING: REDUCE, REUSE & RECYCLE** November 06-08, 2017 | Las Vegas, USA**Waste classification of chemicals released from chemical accidents**Ha-Yeong Kim<sup>1</sup>, Byeong-Kyu Lee<sup>1</sup>, Sang Yong Jang<sup>2</sup> and Yongsun Im<sup>3</sup><sup>1</sup>University of Ulsan, Korea<sup>2</sup>Encore Networks Co. Ltd., Korea<sup>3</sup>Joint Inter Agency Chemical Emergency Prepared Center, Ulsan, Korea

A significant amount of chemicals are released from various chemical accidents including leaking, explosion, handlings and transports. The released chemical substances or wastes obtained from primary treatments can include hazardous or toxic chemicals which bring difficulty in finding proper disposal. It is because there are no specific guidelines to deal with them. Thus most of the chemicals or wastes obtained from chemical accident treatments have been disposed of as hazardous or designated wastes which require a lot of costs. This study presents a proposed classification procedure or method for chemicals or chemical wastes produced from primary treatments after chemical accidents or releases. This study tries to propose a quantified method to classify chemical wastes by assigning some scores based on NFPA rating, pH rating and waste generation amount. This study rated chemical substances according to the US-based National Fire Protection Association (NFPA) rating systems which are based on the degree of health risk (blue diamond), Flammability (red diamond), reactivity (yellow diamond), on a scale of 0 to 4 and unusual water reactivity (W) or oxidative capability (oxy) of chemical substances. The pH rating systems of interest acidic or basic chemical substances or wastes were referred by Korean regulations of the designated waste classification and their H<sup>+</sup> or OH<sup>-</sup> strength. The chemical substance or waste quantities to be disposed of or treated per day were also considered for the classification by referring Korean regulations of the small amount standard for hazardous chemical substances which should be reported to local or governmental environmental agency. Then chemical substances or wastes are classified as designated or general wastes relying on the integrated scores or score points obtained based on the proposed classification method or procedure.

**Biography**

Ha-Yeong Kim received BE degree in Civil and Environmental Engineering from University of Ulsan in 2016. From 2016, she joined the Air Environment and Energy Research Lab in Environmental Engineering from University of Ulsan as Master's student. Her research area focuses on photocatalytic, water splitting, CO<sub>2</sub> conversion and toxic chemical release to environment. She is the Team Leader of project development of judgment and treatment standards for polluted wastes and selection of intensive management target substances.

kimhy126@naver.com

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