

Addition to Chabazite: Stable Cation-Exchanger in Hyper Alkaline Concrete Pore Water

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ONDRAF/NIRAS partially funding this research, indicated that the Table of Contents (TOC) image, showing a storage facility containing a fallen drum which spills green liquid, does not reflect the disposal concept of the surface disposal of category A waste in Belgium. In this concept (1) only solid conditioned radioactive waste is disposed: there is no liquid radioactive waste in the drum since liquid waste is always treated (e.g., filtration, evaporation, incineration) and then conditioned, binding the waste to a solid matrix, (2) there are no “separate” drums in the disposal facility: the primary waste packages (mostly drums) are emplaced and grouted in concrete monoliths that are the standardized disposal packages, and (3) there is no free space in the disposal facility. After postconditioning, the monoliths are positioned and stacked within concrete modules.

To avoid seeding such confusion between the TOC image and the surface disposal of category A waste in Belgium, we opt to modify the original TOC image into the design presented below as Figure 1. More information on the description of the

(3) ONDRAF/NIRAS. *The Safety Case – A milestone for the safe surface disposal of the Belgian Category A waste at Dessel*; Brochure, January 2013. <http://www.niras-cat.be>.

(4) ONDRAF/NIRAS. *The cAt project in Dessel: Master Plan, A Long-term Solution for Belgian Category A Waste*; NIROND 2010-02 E, March 2010. <http://www.niras-cat.be>.

(5) De Preter, P.; Wacquier, W.; Cool, W. *The Belgian Program for Low and Intermediate Short Lived Waste Management from 1985 to License Application*, ICM2013-96251.

(6) Wacquier, W.; Bastiaens, W.; Cool, W.; Van Cotthem, A. *The Design Methodology and the Safety Concept of the Surface Disposal Facility for the Belgian Category A Waste at Dessel*, ICM2013-96217.

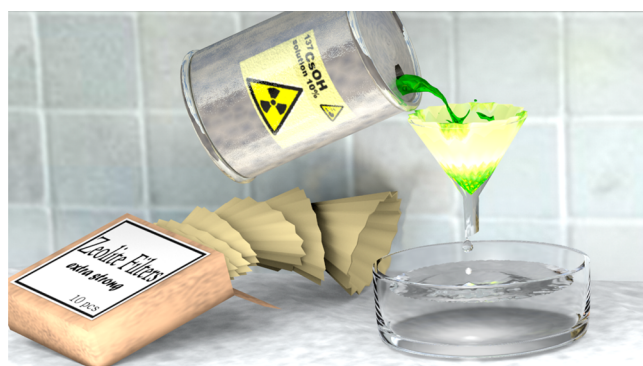


Figure 1. Modified TOC image.

complete disposal concept for category A radioactive waste in Belgium can be found in NIRAS authored publications^{2–6} and also on the Web site <http://www.niras-cat.be/>.

REFERENCES

(1) Van Tendeloo, L.; Wangermez, W.; Kurttepli, M.; de Blochouse, B.; Bals, S.; Van Tendeloo, G.; Martens, J. A.; Maes, A.; Kirschhock, C. E. A.; Breynaert, E. Chabazite: Stable cation exchanger in hyper alkaline concrete pore water. *Environ. Sci. Technol.* **2015**, 49 (4), 2358–2365.

(2) ONDRAF/NIRAS. *Summary of the Safety Report for the surface repository of category A waste in Dessel*; NIROND-TR 2012-17 E, December 2012, <http://www.niras-cat.be>.

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