

ETH Zürich

Water sorption phenomenon on solid particles emitted during a fire: identification of the influencing physico-chemical parameters

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LABORATOIRE

DES PROCÉDÉS

RÉACTIONS

ET GÉNIE

Context and objectives of the study





Experimental approach

	Kerozen (oil lamp)	57	n.d.	49	C (95) <i>,</i> O(5)	-
******	Kerozen (aircarft engine at cruise power)	30 - 50	n.d.	54	C(95), O(5)	-
	Propane (burner)	30	n.d.	46	n.d.	-



Propane, burner (OC/TC=4%) [4]



[1] Ouf F.-X., Ferry D., Mocho V.-M., Pontreau S., Wang Z., Ferry D. and Yon J. Aerosol Sci. Tech., 48:9, 939-947, 2014

[2] Ribeyre, Q., Grévillot, G., Charvet, A., Vallières, C., & Thomas, D. (2014). Chem. Eng. Sci., 113, 1–10

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(%)

(%)

[3] Wolf, W., Spiess, W.E.L., Jung, G. (1984), The Water-Vapour Sorption Isotherms of Microcrystalline Cellulose (MCC) and of Purified Potato Starch. Results of a Collaborative Study [4] Popovicheva, O.B., Persiantseva, N.M., Tishkova, V., Shonija, N.K., and Zubareva, N.A. (2008) Quantification of water uptake by soot particles. Environ. Res. Lett.

21. ETH Conference on Combustion Generated Nanoparticles