

February 16, 2001

Source Term Data¹

Organization	Authors	Date	Specimen		Temperature	Ruthenium Release
ORNL	Parker et al.	1955 - 1965	Bare UO ₂ pellet	air	isothermal tests at 500, 600, 700, 800, 900, 1000, 1100, 1200 C for about 1.5 hours	from .1 to 100% depending on temperature
?	Williamson and Beetham	1990	Bare UO ₂ pellet	air	isothermal tests at 300, 400, 500, 600 C for up to 82 hours	maximum of .9%
ORNL	Lorenz and Osborne	1995	6" long section of fuel rod	air	2000 C for 1 hour	<2.8%
AECL	Barrand et al.	1999	1" long section of fuel rod	air	1500 C for 1 hour 1900 C for 2 hours	<.01% 90%
CODEX tests			unirradiated fuel rods	air		

¹This table lists some source term data for air environment. It is based on a review of NUREG/CR-6218 (written by D. Powers). It does not represent an exhaustive search for data.

Points:

Separate effects tests have been run with clad UO₂ and unclad UO₂.

Separate effects tests run with clad UO₂ release ruthenium after cladding has oxidized.

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