

# Turkish Journal of Chemistry

Turkish Journal

of

Chemistry

Fragmentation of  $Xe^{129}$  in the Liquid-Gas Phase Transition Region

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 [Keywords](#)  
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**Abstract:** We analyzed the fragmentation of the  $Xe^{129}$  nucleus to determine the effects of surface and symmetry energies on the fragment distribution on the basis of the statistical multifragmentation model. Relative yields of fragments were classified with respect to the mass number of the fragments in the transition region. It was found that the symmetry energy of the hot fragments produced in the statistical freeze-out is very important for isotope distributions. However, its influence on the mean fragment mass distributions is negligible. On the other hand, it was demonstrated that surface energy significantly influences the fragment distribution while the symmetry energy contribution remains negligible.

**Key Words:** Nuclear multifragmentation, mass distribution, symmetry energy, surface energy, excitation energy

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Turk. J. Chem., **31**, (2007), 403-409.

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