

**Title** Effect of high pressure processing on the quality of squid (*Todarodes pacificus*) during refrigerated storage

**Author** Jingyu Gou, Hyeon-Yong Lee and Juhee Ahn

**Citation** Food Chemistry, Volume 119, Issue 2, 15 March 2010, Pages 471-476

**Keywords** Trimethylamine-*N*-oxide demethylase; Dimethylamine; Trimethylamine; High pressure processing; Squid

#### **Abstract**

The influence of high pressure processing (HPP) on the inhibition of trimethylamine-*N*-oxide demethylase (TMAOase) activity and off-odour production in squid treated at 300 MPa for 20 min was investigated during 12 days of refrigerated storage. TMAOase activity of raw squid (21.5 nkat/g) was significantly decreased to approximately 5 nkat/g after 20 min of HPP. The production of dimethylamine (DMA) in HPP-treated squid for 20 min was significantly decreased to 0.31  $\mu\text{mol/g}$  after 12 days of storage. The decrease in DMA was correlated with the decrease in TMAOase activity. At 300 MPa, the number of total aerobic bacteria in squid was reduced by 1.26 log units after 20 min of HPP. The HPP-treated samples effectively reduced the amount of trimethylamine (TMA). Therefore, the HPP could be used as a promising alternative technology to retard the quality deterioration of squid by inhibiting TMAOase activity and microbial growth.