

# High pressure carbon dioxide—a non-thermal food processing technique for inactivation of micro-organisms

MONIKA THAKUR, ANANIAH J. BLESSING AND KARUNA SINGH

Amity Institute of Food Technology, Amity University, Sector-125, NOIDA (U.P.) INDIA  
Email : [mthakur1@amity.edu](mailto:mthakur1@amity.edu); [monika.harsh05@gmail.com](mailto:monika.harsh05@gmail.com)

For more than 20 years now, high pressure carbon dioxide (HPCD) has been proposed and studied as an alternative non-thermal pasteurization technique for various foods. This method imparts several basic advantages, mainly because of the involvement of mild conditions. A majority of the observed advantages are particularly because it permits the processing of foods at much lower temperature than the ones used in thermal pasteurization. In spite of intensified research efforts for the last couple of years, the HPCD preservation technique has not yet been implemented on a large scale by the food industry until now. Many scientific studies mainly focusing the lethality of this technique on different microorganisms have been done over the years. Most of the research aimed towards optimization of the HPCD technique to produce a desired level of stabilization for specific foods but less effort has, however, been put into the analysis of the interaction mechanism between HPCD and the structure of food, its kinetics and the effect on microorganisms is yet to be observed.

**Key words :** High pressure carbon dioxide (HPCD), Non thermal pasteurization, Emerging technology, Dense phase carbon dioxide (DPCD)

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