

SPME-GC METHOD FOR THE DETERMINATION OF VOLATILE AMINES AS INDICES OF FRESHNESS IN FISH SAMPLES

L. BARBOSA-PEREIRA¹, P. OTERO-PAZOS¹,
A. RODRÍGUEZ-BERNALDO DE QUIRÓS^{1*}, R. SENDÓN¹,
X. VECINO², J.M. CRUZ², M.A. ROMERO-RODRÍGUEZ³,
N. ESTÉVEZ⁴, J. MAROTO⁴ and P. PASEIRO-LOSADA¹

¹Department of Analytical Chemistry, Nutrition and Food Science, Faculty of Pharmacy, University of Santiago de Compostela, Spain;

²Department of Chemical Engineering, E.T.S.E.I. University of Vigo, Spain;

³Department of Analytical Chemistry, Nutrition and Food Science, Faculty of Sciences, University of Santiago de Compostela, Spain;

⁴Centro Tecnológico del Mar, Spain.
*E-mail: ana.rodriguez.bernaldo@usc.es

ABSTRACT

Volatile amines including, methylamine, dimethylamine and trimethylamine have been widely used for measuring freshness of seafood. In the present work an SPME-GC-FID method to evaluate the volatile amine contents in fish samples stored under controlled conditions was developed. The optimum conditions for the extraction of amines were as follows: 50/30 μm DVB/Carboxen/PDMS fibre, extraction time and temperature of 15 min and 21°C. In addition, total volatile basic nitrogen (TVB-N) was determined by a titration method. Results showed good agreement between two determinations.

Key words: Freshness, fish quality parameters, SPME-GC, TVB-N, volatile amines.

INTRODUCTION

Fish quality has been commonly evaluated by sensory and chemical tests. Among chemical indices, volatile amines including, methylamine (MA), dimethylamine