

**O90****SYNTHESIS OF FLUORINATED BENZALDEHYDES AND BENZOYL FLUORIDES USING HALEX METHODOLOGY**

R. E. Banks, K. N. Mothersdale, A. E. Tipping, E. Tsiliopoulos  
Chemistry Department, University of Manchester Institute of Science and  
Technology, Manchester M60 1QD (U.K.)

B. J. Cozens, J. C. Tatlow and D. E. M. Wotton  
RTZ Chemicals (ISC Division), St. Andrew's Road, Avonmouth,  
Bristol BS11 9HP (U.K.)

Halex fluorination, using potassium fluoride in hot sulpholane, can be used to convert 2,4-dichlorobenzaldehyde and 2,6-dichlorobenzaldehyde to the corresponding difluorobenzaldehydes in good yields. Partial halogen exchange leads to the formation of 2-chloro-4-fluoro- and 4-chloro-2-fluoro-benzaldehyde in the case of the 2,4-dichloro starting material, and 2-chloro-6-fluorobenzaldehyde when 2,6-dichlorobenzaldehyde is the substrate. 3,4-Dichlorobenzaldehyde reacts with potassium fluoride in sulpholane to give 3-chloro-4-fluorobenzaldehyde in excellent yield.

2-Fluoro-, 4-fluoro- and 3-chloro-4-fluoro-benzoyl fluorides can be prepared in good yields via similar halex fluorination of the appropriate chlorobenzoyl chlorides.