

**Total Dissolved Inorganic Carbon and Total Alkalinity measurements made during  
MINERVE33/ANTARES03 cruise (on board Marion-Dufresne, 25/9-5/11/95)**

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Method

Total alkalinity (TA) and total dissolved inorganic carbon (DIC) were measured on board by C. Brunet and C. Grosbois (LBCM) using a technique based on the potentiometric method of Edmond [1970] with a closed cell described by Goyet *et al.* [1991]. The calculation of the equivalent point is estimated using a non-linear regression method [D.O.E., 1994]. During the MINERVE33/ANTARES03 cruise, we use the Certified Referenced Material (CRM, Batch#28), provided by Dr. A. Dickson (SIO, University of California). Based on CRM analyses and replicates analysis of both surface and deep samples, the precision of TA and DIC are estimated to be around 2  $\mu\text{mol/kg}$ , which is the precision achieved during most of WOCE/JGOFS cruises.

File description

The file, 0303ANT03ATCT.xls contains the results of total dissolved inorganic carbon and total alkalinity measurements made onboard during the cruise MINERVE33/ANTARES03. The columns of the file include, Station number, bottle number/reference, a priori depth (m), pressure (db), in-situ temperature (from CTD), salinity (from CTD), Total Alkalinity ( $\mu\text{mol/kg}$ ) and Total CO<sub>2</sub> ( $\mu\text{mol/kg}$ ). Unknown values are set to -9. At some stations surface samples were taken from the intake at 5m. In that case salinity has been taken from thermosalinograph or extrapolated from CTD measurements made at 10m. Informations on stations position, oxygen, nutrients, and other properties can be obtained in other files constructed for Antares03 cruise.

References:

D.O.E., *Handbook of methods for analysis of the various parameters of the carbon dioxide system in sea water*; version 2, A.G. Dickson and C. Goyet, eds. ORNL/CDIAC-74, 1994.  
Edmond J. M., High precision determination of titration of alkalinity and total CO<sub>2</sub> of sea-water by potentiometric titration, *Deep-Sea Research*, 17, 737-750, 1970.  
Goyet C., C. Beauverger, C. Brunet and A. Poisson, Distribution of carbon dioxide partial pressure in surface waters of the southwest Indian Ocean, *Tellus*, 43B, 1-11, 1991.

For more information or if you have questions concerning these data, please contact C. Brunet (brunet@ccr.jussieu.fr) or N. Metzl (metzl@ccr.jussieu.fr)