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Radiological Accident in Salvador, Bahia

- Physical and Medical Aspects -

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Between 25 September and 9 November 1997, a radiological accident occurred, involving three workers of a Brazilian mineral processed industry, during the maintenance of an X-ray diffraction equipment

The accident reconstitution was done in four steps: interviews with involved persons; dosimetric evaluation with radiographic films, ionizing chamber and thermoluminescence dosimeters, cytogenetic dosimetry, and taking the X-ray diffraction equipment apart.

The results of investigation showed that the radiological accident happened during the calibration of the X-ray diffraction equipment and that the victims had their hands exposed to high level of radiation between 5.6 and 20 Gy. These radiation doses began an erythema process with progressive injuries

It was concluded that the causes of the radiological accidents were due to lack of maintenance of the main part of the equipment, where the X-ray is liberated and, the non observance of maintenance, calibration and radiation protection procedures

Some recommendation about radiation protection and safe use of the X-ray diffraction equipment are also shown in this paper.