



Assessment of ^{238}U , ^{232}Th , ^{226}Ra , ^{228}Ra and ^{210}Pb concentrations in Brazilian roll smoke, straw cigarette and mentholated cigarette

Objectives

Determination of the radionuclides ^{238}U , ^{226}Ra , ^{210}Pb , ^{232}Th and ^{228}Ra concentrations in Brazilian samples of roll smoke, straw and mentholated cigarettes, products that are widely consumed in rural areas of Brazil.

- **Samples**

34 products manufactured with national tobacco acquired in public stores

- **Methods**

^{238}U and ^{232}Th : determined by INAA.

^{226}Ra , ^{228}Ra and ^{210}Pb : determined by alpha and gross beta counting after radiochemical separation.

Results

No sample showed a measurable concentration of ^{238}U .

The table below shows the mean activity concentrations of the radionuclides for the samples.

Sample	^{232}Th (Bq/cigarette)	^{210}Pb (Bq/cigarette)	^{226}Ra (Bq/cigarette)	^{228}Ra (Bq/cigarette)
Roll Smoke	0.6 ± 0.3	22 ± 10	7.1 ± 3.5	27 ± 13
Staw Cigarettes	0.6 ± 0.1	10 ± 3	4.4 ± 1.7	26 ± 5
Mentholated Cigarettes	0.4 ± 0.1	8.0 ± 4.7	2.6 ± 0.4	35 ± 14

Conclusion

The preliminary results presented are similar to those found in the literature and confirm the presence of natural radionuclides from ^{238}U and ^{232}Th series in samples of tobacco products.