



## Thallous Chloride Tl 201

Revised: October 15, 2023.

CASRN: 55172-29-7



## Drug Levels and Effects

### Summary of Use during Lactation

Information in this record refers to the use of thallous chloride Tl 201 as a diagnostic agent. Most experts recommend a period of breastfeeding interruption after maternal thallous chloride Tl 201, although some disagreement exists on the exact duration, probably because of the long physical half-life of the radioisotope and variable elimination of the drug from the body. Some experts recommend an interruption period of 48 hours,[1] but most current guidelines recommend 4 days.[2-4] During the period of interruption, the breasts should be emptied regularly and completely. If the mother has expressed and saved milk prior to the examination, she can feed it to the infant during the period of nursing interruption.[5,6] The milk that is pumped by the mother during the time of breastfeeding interruption can either be discarded or stored frozen and given to the infant

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after 10 physical half-lives, or about 30 days, have elapsed. After doses greater than 150 MBq, consideration of temporarily limiting close contact between the mother and infant.[6]

Mothers concerned about the level of radioactivity in their milk could ask to have it tested at a nuclear medicine facility at their hospital. When the radioactivity is at background levels, she may safely resume breastfeeding. A method for measuring milk radioactivity and determining the time when a mother can safely resume breastfeeding has been published.[2]

## Drug Levels

Thallium Tl 201 decays by electron capture with principal photon energies of 69 to 80 and 167 keV and a physical half-life of 3.04 days.[4] The maximum effective half-life of thallos chloride Tl 201 is 43 hours.[6]

## Effects in Breastfed Infants

Relevant published information was not found as of the revision date.

## Effects on Lactation and Breastmilk

Relevant published information was not found as of the revision date.

## Alternate Drugs to Consider

Technetium Tc 99m Sestamibi, Technetium Tc 99m Tetrofosmin

## References

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2. Stabin MG, Breitz HB. Breast milk excretion of radiopharmaceuticals: Mechanisms, findings, and radiation dosimetry. *J Nucl Med* 2000;41:863-73. PubMed PMID: 10809203.
3. International Atomic Energy Agency. Radiation Protection and Safety in Medical Uses of Ionizing Radiation, IAEA Safety Standards Series No. SSG-46, IAEA, Vienna. 2018. Available at: <https://www.iaea.org/publications/11102/radiation-protection-and-safety-in-medical-uses-of-ionizing-radiation>
4. Dilsizian V, Metter D, Palestro C, Zanzonico P. Advisory Committee on Medical Uses of Isotopes (ACMUI) Sub-Committee on Nursing Mother Guidelines for the Medical Administration of Radioactive Material. Final report submitted: January 31, 2019. 2019. Available at: <https://www.nrc.gov/docs/ML1903/ML19038A498.pdf>
5. Mountford PJ, Coakley AJ. A review of the secretion of radioactivity in human breast milk: Data, quantitative analysis and recommendations. *Nucl Med Commun* 1989;10:15-27. PubMed PMID: 2645546.
6. ARSAC notes for guidance: Good clinical practice in nuclear medicine. Notes for guidance on the clinical administration of radiopharmaceuticals and use of sealed radioactive sources. 2020. Available at: <https://www.gov.uk/government/publications/arsac-notes-for-guidance>

## Substance Identification

### Substance Name

Thallos Chloride Tl 201

## **CAS Registry Number**

55172-29-7

## **Drug Class**

Breast Feeding

Lactation

Milk, Human

Radiopharmaceuticals

Thallium Radioisotopes

Diagnostic Agents