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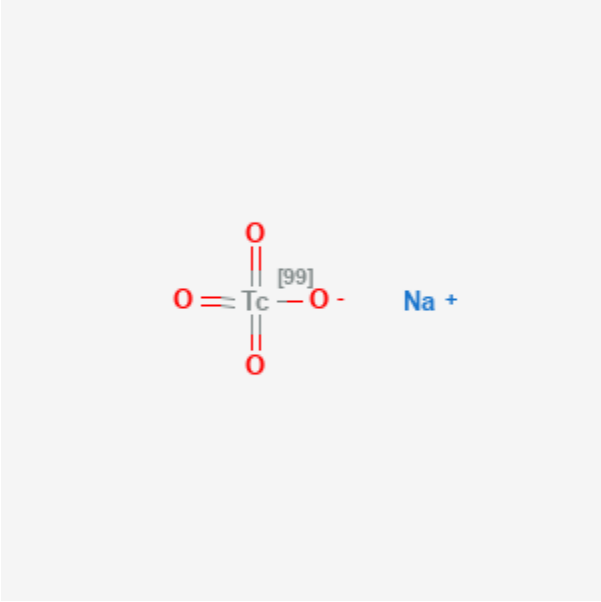
Sodium Pertechnetate Tc 99m

Revised: June 30, 2019.

CASRN: 23288-60-0



Drug Levels and Effects

Summary of Use during Lactation

Information in this record refers to the use of sodium pertechnetate Tc 99m as a diagnostic agent. The United States Nuclear Regulatory Commission states that breastfeeding should be interrupted temporarily after administration of sodium pertechnetate Tc 99m to a nursing mother. The duration of breastfeeding interruption depends on the dose administered (see table). 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.[1][2] The milk that is pumped by the mother during the time of breastfeeding interruption can either be discarded or stored refrigerated frozen and given to the infant after 10 physical half-lives, or about 60 hours, have elapsed. Mothers need not refrain from close contact with their infants after usual clinical doses.[3]

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 a safe level she may resume breastfeeding. A method for measuring milk radioactivity and determining the time when a mother can safely resume breastfeeding has been published.[4]

For nursing mothers who work with Tc 99m substances in their workplace, there is no need to take any precautions other than those appropriate for general radiation protection.[5]

Dose	Duration of Interruption
1100 MBq (30 mCi)	24 hours[6]
440 MBq (12 mCi)	12 hours[6][7]
185 MBq (5 mCi)	4 to 12 hours[4][7]

Drug Levels

Technetium 99m is a gamma emitter with a principal photon energy of 140.5 keV and a physical half-life of 6.024 hours.[6] With perchlorate blocking, the effective half-life of Tc 99m averages 5.2 hours and 0.82% of an administered dose appears in breastmilk. Without blocking, the effective half-life is 3.4 hours and 10% of an administered dose appears in breastmilk.[8]

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.

References

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Substance Identification

Substance Name

Sodium Pertechnetate Tc 99m

CAS Registry Number

23288-60-0

Drug Class

Breast Feeding

Lactation

Radiopharmaceuticals

Technetium Compounds

Diagnostic Agents