

## PROCRIT® (epoetin alfa) PROCRIT - Syringe Stability

### SUMMARY

- Janssen cannot recommend any practices, procedures, or storage conditions that deviate from product labeling and are not approved by the regulator agencies. Data are available for situations outside recommended storage requirements.<sup>1, 2</sup>
- Store at 36°F to 46°F (2°C to 8°C). Do not freeze.<sup>3</sup>
- Do not shake. Do not use PROCRIT that has been shaken or frozen.<sup>3</sup>
- Store PROCRIT vials in the original carton until use to protect from light.<sup>3</sup>
- Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration. Do not use any vials exhibiting particulate matter or discoloration.<sup>3</sup>
- PROCRIT from multiple-dose vials contains benzyl alcohol and is contraindicated in:<sup>3</sup> Neonates, infants, pregnant women, and lactating women.
- Do not dilute. Do not mix with other drug solutions except for admixing as described below:<sup>3</sup>
  - Preservative-free PROCRIT from single-dose vials may be admixed in a syringe with bacteriostatic 0.9% sodium chloride injection, USP, with benzyl alcohol 0.9% (bacteriostatic saline) in a 1:1 ratio using aseptic technique at the time of administration.
  - Do not mix PROCRIT with bacteriostatic saline when administering to pregnant women, lactating women, neonates, and infants.
- Discard unused portions of PROCRIT in preservative-free vials. Do not re-enter preservative-free vials.<sup>3</sup>
- Store unused portions of PROCRIT in multiple-dose vials at 36°F to 46°F (2°C to 8°C). Discard 21 days after initial entry.<sup>3</sup>

### PRODUCT LABELING

Please refer to the following as stated in the HOW SUPPLIED/STORAGE AND HANDLING, CONTRAINDICATIONS and PREPARATION AND ADMINISTRATION sections of the PROCRIT Prescribing Information.<sup>3</sup>

### CLINICAL DATA

#### SYRINGE STABILITY

Storage of PROCRIT in syringes is not included in the FDA-approved PROCRIT Prescribing Information and is a procedure that the manufacturer cannot endorse. Sterility is not guaranteed after PROCRIT has been withdrawn from a vial and stored in a syringe or any other type of container. Sterility will depend upon the conditions under which the syringe was prepared.<sup>1</sup>

#### **Single-dose Vials: 40,000 U/mL**

- A compatibility and stability study was conducted by Amgen, the manufacturer of PROCRIT/EPOGEN using undiluted 40,000-U/mL formulation of PROCRIT, drawn into Becton-Dickinson (B-D) MedSaver disposable plastic 1-cc tuberculin syringes with 25G needles filled using aseptic technique. The filled syringes were held at either 4°C or 27°C to 30°C and protected from light for 3 weeks. Results of the study showed that PROCRIT remained stable at either storage condition.<sup>1</sup> These studies examined the stability of PROCRIT and not sterility; sterility significantly depends on the environment in which the syringe was prepared and use of aseptic technique. PROCRIT sterility is not guaranteed

after it has been withdrawn from a vial and stored in a syringe or any other type of container. Syringes should always be filled under aseptic conditions and all efforts must be made to protect filled syringes from contamination.

### **Multiple-dose Vials: 10,000 U/mL in a 2 mL Vial**

- In studies conducted by Amgen, the manufacturer of PROCRIT/EPOGEN, under controlled conditions, no significant degradation or loss of activity was observed in undiluted PROCRIT (multidose 10,000 U/mL) in B-D disposable, plastic, 1-cc tuberculin syringes filled using aseptic technique in a laminar flow hood for 24 hours at 36°F to 46°F (2°C to 8°C). These studies examined the stability of PROCRIT and not sterility; sterility significantly depends on the environment in which the syringe was prepared and use of aseptic technique. PROCRIT sterility is not guaranteed after it has been withdrawn from a vial and stored in a syringe or any other type of container. Syringes should always be filled under aseptic conditions and all efforts must be made to protect filled syringes from contamination.<sup>1</sup>
- In addition, **Naughton et al (2003)**<sup>2</sup> studied the integrity and biological activity of multiple-dose, preserved formulation of epoetin alfa stored in syringes at 2°C to 8°C for 3 or 6 weeks and concluded the integrity and biological activity remained intact.
- Please note, multiple-dose PROCRIT formulations contain 1% benzyl alcohol, which has been demonstrated to minimize proliferation of certain microorganisms. The presence of a preservative should not be considered a substitute for good clinical practices. Syringes should always be filled under aseptic conditions and all efforts made to protect filled syringes from contamination. The presence of dead microorganisms or metabolic by-products of living microorganisms may cause adverse reactions in sensitive persons. These data were collected in strictly controlled environments. It is not possible to predict and design studies that reflect every combination or duration of temperatures that a customer's product may encounter. Therefore, caution is recommended in assessing the effects of specific excursions on a product.<sup>1</sup>
- The manufacturer recommends the storage of PROCRIT only in accordance with the FDA-approved prescribing information. The manufacturer provides PROCRIT to wholesalers, which then distribute product to pharmacies and/or clinics for provision to patients. It is not possible for the manufacturer to control how the product is stored or transported at each distribution point. Multiple temperature excursions beyond recommended limits may occur along this distribution chain. Therefore, one may not be able to apply additional stability data at each point of distribution. Additionally, the manufacturer's studies may have been conducted using single occurrences of temperature exposures in controlled settings that are not similar to excursion situations reported by the end users.<sup>1</sup>

## **LITERATURE SEARCH**

A literature search of MEDLINE®, Embase®, BIOSIS Previews®, and Derwent Drug File databases (and/or other resources, including internal/external databases) was conducted on 17 August 2023.

## **REFERENCES**

1. Data on File. Epoetin alfa Syringe Stability; correspondence from Amgen. 2023.
2. Naughton CA, Duppong LM, Forbes KD. Stability of multidose, preserved formulation epoetin alfa in syringes for three and six weeks. *Am J Health Syst Pharm*. 2003;60(5):464-468.
3. PROCRIT (epoetin alfa) [Prescribing Information]. Horsham, PA: Janssen Products, LP; <https://www.janssenlabels.com/package-insert/product-monograph/prescribing-information/PROCRIT-pi.pdf>.