

# **Eco-friendly hydrogen peroxide elimination by REDUZOL RED**



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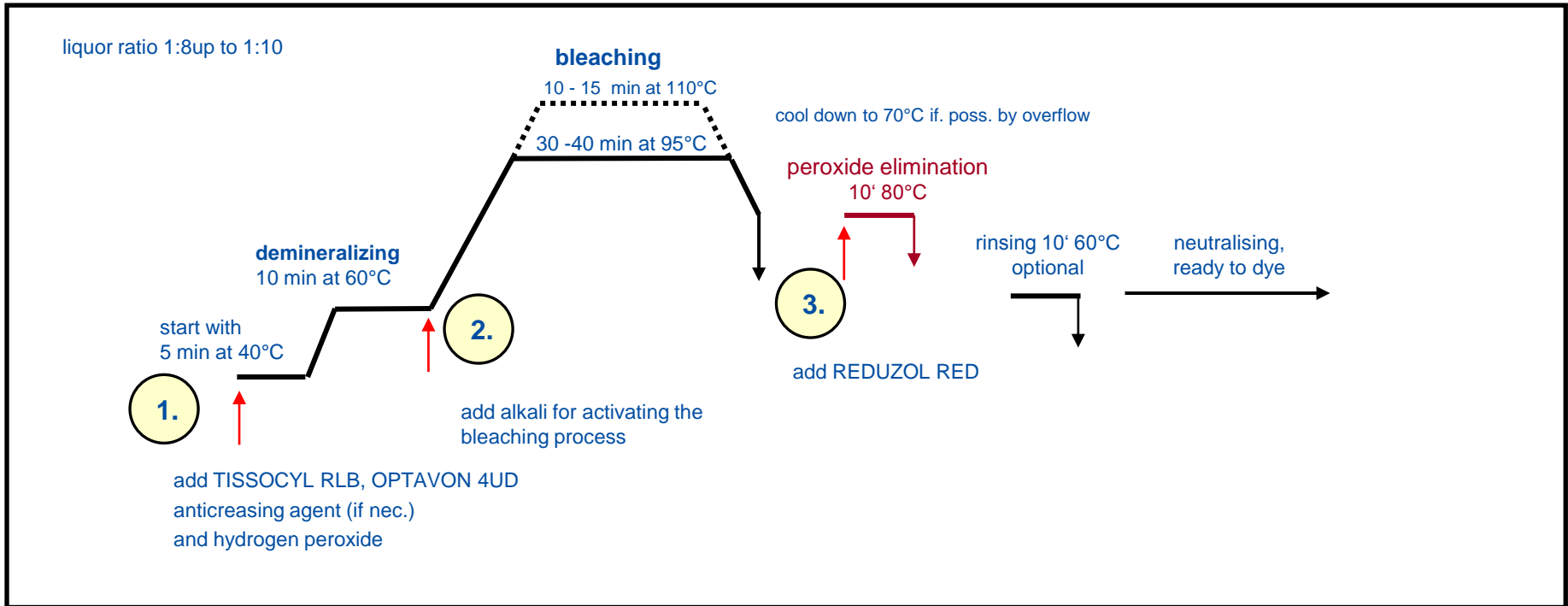
## What is REDUZOL RED ?

- high efficient reducing agent for peroxide elimination after hydrogen peroxide bleaching
- chemical base: combination of inorganic and organic reducing agents
- active matter about 60%

## The advantages of REDUZOL RED:

- complete elimination of residual peroxide after bleaching due to synergistic effects getting from the combination of inorganic and organic reducing agents
- increasing of reproducibility of reactive dyeing after pre-bleaching
- easy handling because of the liquid formulation
- dosable, pumpable
- approval for GOTS 3.0 in progress

**Process scheme for OPTABLEACH:**



**1.**

**Demineralisation**

- 0.5 - 1.0 g/l TISSOCYL RLB**  
wetting-/washing agent
- 0.7 - 1.5 g/l OPTAVON 4UD**  
sequestering agent
- 2.0 - 4.0 g/l H<sub>2</sub>O<sub>2</sub> (50%)**  
hydrogen peroxide

initial bath 40°C, heat up to 60°C  
demineralizing 10 min at 60°C

**2.**

**Activation of bleaching process**

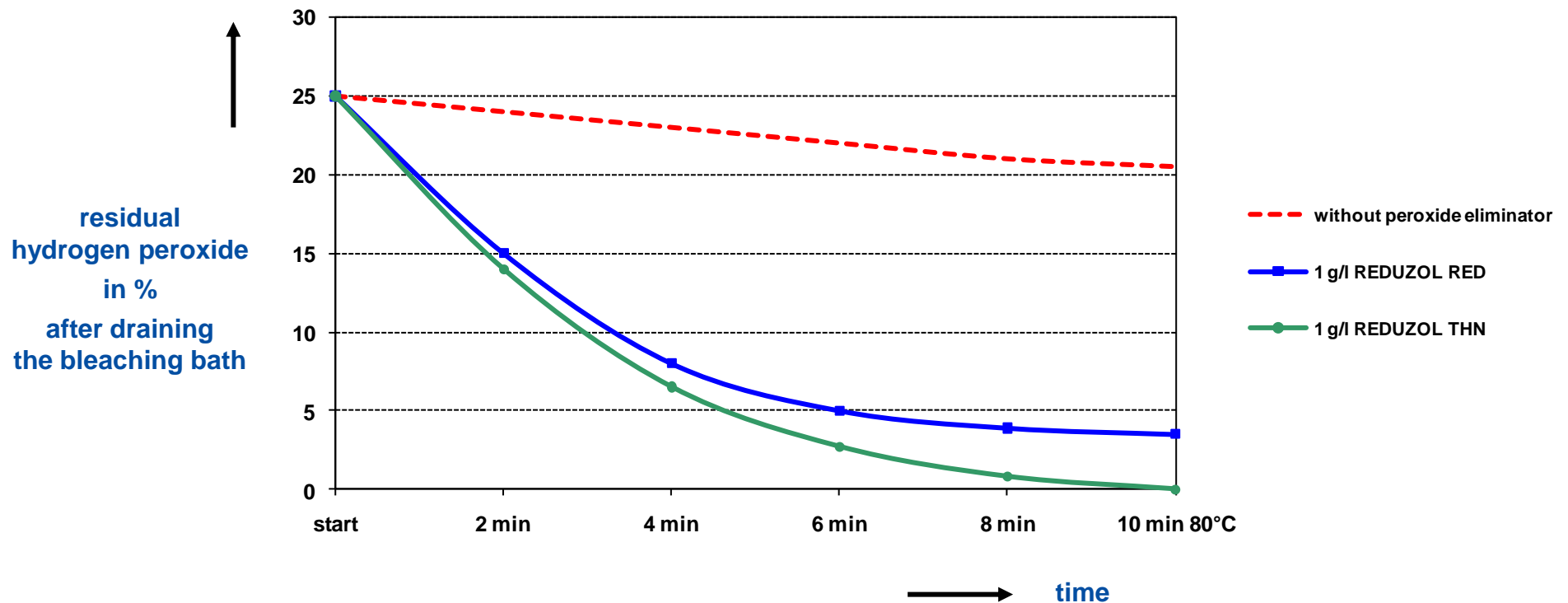
- 1.0 - 3.0 g/l NaOH (100%)**
- heat up without gradient,  
bleaching: 10 - 15 min at 110°C or  
30 - 40 min 95°C  
cool down, if nec., rinse

**3.**

**Peroxide elimination**

- 0.5 - 3.0 g/l REDUZOL RED**
- 10 min 80°C, 60°C rinsing optional,  
neutralising, ready to dye

## Peroxide elimination after OPTABLEACH bleaching processes, determined by titration with potassium permanganate:



**REDUZOL RED shows an excellent reducing effect !**

The highly concentrated version REDUZOL THN has a slightly higher redox potential than REDUZOL RED, but it has to be dissolved before use since it is a salt.

## Determination of hydrogen peroxide by spot tests with titanyl chloride:

- A quantitative determination of hydrogen peroxide in bleach liquors can be carry out easily and rapidly by using colorimetric methods.
- The method depends on the yellow-orange colour produced by the reaction of peroxide with a titanium compound. Testing: After peroxide elimination 1-3 drops of the titanium reagent are added to the liquor. After 1 minute it can be judged if a yellow colour is produced or not.
- Evaluation of the liquor after peroxide elimination:  
deep orange colour => high amount of residual peroxide is still left,  
yellowish to colourless => peroxide is eliminated sufficiently



### Description:

- 6) without peroxide eliminator
- 7) 1.0 g/l REDUZOL THN
- 8) 0.5 g/l REDUZOL RED
- 9) 1.0 g/l REDUZOL RED