

	<b>IMP-PM 12.7 Ninhydrin</b>	
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	<i>Document Manager: Cheryl Lozen</i>	<i>Approved By: Jeffrey Nye</i>

## 12.7 Ninhydrin

### 12.7.1 Introduction

Bloody footwear and tire tread impressions can be enhanced for the purpose of aiding forensic examinations. The use of Ninhydrin for the enhancement of bloody impressions is limited to impressions on porous non-glossy paper items. A fume hood should be used when applying Ninhydrin solution.

This procedure requires the use of a positive blood control and negative control prior to application. Enhanced impressions and/or substrates may experience additional color changes over time. It is recommended that the impression be photographed both before and immediately after processing.

### 12.7.2 Formula

5 grams Ninhydrin

30 ml Methanol

40 ml Isopropanol

930 ml Petroleum Ether

### 12.7.3 Mixing

In a 2 liter beaker on a magnetic stirring device dissolve the Ninhydrin crystals in the Methanol. Add the Isopropanol and then the Petroleum Ether. The Ninhydrin solution will be tested on a positive control blood stain prior to use.

### 12.7.4 Application

The Ninhydrin solution can be applied by spraying or dipping. Once the solution has been applied, it should be allowed to air dry. After the evidence is dry, the development process may be accelerated through the application of heat and humidity. If a humidity chamber is available, set the humidity between 60% and 70%. If a humidity chamber is unavailable, steam from a steam iron may be used as a source of humidity.

### 12.7.5 Reaction

Successful staining of the impression will produce a dark purple colored impression.

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## 12.7.6 Storage

The Ninhydrin solution can be stored in dark bottles for up to one year.

### Reference

SWGTHREAD Guide for the Chemical Enhancement of Bloody Footwear and Tire Impression Evidence, 2008