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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GA/T 2091.2-2023

**Forensic sciences - Reagents and consumables for capillary
electrophoresis - Part 2: Deionized formamide**

法庭科学 毛细管电泳试剂耗材 第2部分：去离子甲酰胺

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting.

This document is Part 2 of GA/T 2091 "Forensic Science Capillary Electrophoresis Reagents and Consumables". GA/T 2091 has been released with Lower part.

---Part 1: Separating gel;

---Part 2: Deionized formamide;

---Part 3: Buffer.

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

Introduction

Capillary electrophoresis reagent consumables are special reagent consumables used for forensic science DNA electrophoresis detection. They are used in conjunction with special genetic analyzers.

It plays a vital role in the accurate typing of DNA fragments such as STR loci, including various products such as separation gel, formamide and buffer.

Taste. In order to ensure that the basis used in the development, production, and testing of related products is practical, feasible, and standardized, a series of standards have been formulated. GA/T 2091 "Forensic Science Capillary Electrophoresis Reagents and Consumables" is planned to consist of three parts.

---Part 1: Separating gel. The purpose is to clarify the technical requirements of separation gels used in capillary electrophoresis for DNA testing in forensic science.

requirements, stipulating test methods, inspection rules, labeling, packaging, transportation

and storage requirements.

---Part 2: Deionized formamide. The purpose is to clarify the deionized formaldehyde used in capillary electrophoresis for DNA testing in forensic science.

Technical requirements for amides, stipulating test methods, inspection rules, labeling, packaging, transportation and storage requirements.

---Part 3: Buffer. The purpose is to clarify the technical requirements of buffers used in capillary electrophoresis for DNA testing in forensic science.

requirements, stipulating test methods, inspection rules, labeling, packaging, transportation and storage requirements.

Forensic Science Capillary Electrophoresis Reagents and Consumables Part 2: Deionized Formamide Warning. This reagent has specific target organ toxicity, carcinogenicity and reproductive toxicity. Users must wear protective equipment to avoid digestion of the reagent.

tract, respiratory tract or mucous membranes into the body.

1 Scope

This document specifies the technical requirements, test methods, and inspection regulations for deionized formamide used in forensic science DNA testing capillary electrophoresis.

rules, labeling, packaging, transportation and storage.

This document applies to deionized formamide used in capillary electrophoresis for DNA testing in forensic sciences. Deionized formyl is used in other fields Amines refer to this document.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations for undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 37226-2018 Basic quality requirements for human fluorescently labeled STR composite amplification detection reagents for forensic science GA/T 382-2014 Forensic Science DNA Laboratory Construction Specifications GA/T 383-2014 Forensic Science DNA Laboratory Testing Specifications GA/T 1163-2014 Analysis and application of human DNA fluorescently labeled STR typing results HG/T 3921 Chemical reagent sampling and acceptance rules

3 Terms and definitions

The following terms and definitions apply to this document.

deionizedformamidedeionizedformamide an amide derived from formic acid that acts as a denaturant for DNA after deionization. Can lower the denaturation temperature of DNA, making DNA During thermal denaturation, hydrogen bonds are more easily destroyed, causing the double strands to unravel; at the same time, hydrogen bonds can be formed with bases to maintain the single-stranded state of the DNA molecule, that is, dimensional Maintain the denatured state of DNA molecules to ensure the needs of subsequent DNA testing and identification.

Note: The molecular formula is. CH_3NO . The chemical structural formula is shown in Figure 1.

Figure 1 Chemical structural formula

conductivityconductivity the ability of formamide to conduct electrical current, expressed as a number, is the reciprocal of resistivity.