

ICS 13.300
CCS G 09

SN

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

SN/T 2497.21-2010

**Test method of import and export dangerous chemicals. Part
21: Agarose gel electrophoresis**

进出口危险化学品安全试验方法 第21部分：琼脂糖凝胶电泳试验
(English Translation)

Issued on: March 2, 2010

Implemented on: September 16, 2010

Issued by: General Administration of Customs

Table of Contents

Foreword

1 Scope

2 Terms and definitions

3 Reagents and materials

Foreword

SN/T 2497 "Test Methods for Chemical Safety & Exports dangerous" series of standards is divided into 29 parts.

--- Part 1. mammalian liver cells in vivo DNA synthesis (UDS) test;

--- Part 2. plaque-forming cells (PFC) test;

--- Part 3. Large Zhuan reproduction test;

--- Part 4. *Saccharomyces cerevisiae* mitotic recombination test;

--- Part 5. testicular cells UDS test;

--- Part 6. mammalian cells in vitro sister chromatid exchange test;

--- Part 7. mouse ear swelling test;

Part --- Article 8. fossa lymph node assay;

--- Part 9. Determination of serum hemolysin test;

Part --- Article 10. T lymphocyte proliferation assay test;

--- Part 11. germline mutation assay;

--- Part 12. single cell gel electrophoresis test;

--- Part 13. fluorescence in situ hybridization;

Part --- Article 14. SDS- polyacrylamide gel electrophoresis;

--- Part 15. PCR-SSCP experiment;

Part --- Article 16. Western-Blot test;

--- Part 17. Behavior of mammalian toxicology tests;

--- Part 18. Detection of DNA adducts;

--- Part 19. NorthernBlot experiment;

- Part 20. Bradford protein assay;
- Part 21. agarose gel electrophoresis;
- Part 22. T_m value determination method of DNA;
- Part 23. organelle separation experimental methods;
- Part 24. cellular immunity in vitro assay method;
- Part 25. humoral immune function tests;
- Part 26. macrophage function tests;
- Part 27. Flow cytometry of apoptosis;
- Part 28. Application shuttle plasmid mutations Inspection;
- Part 29. Biochemical Oxygen Demand (BOD) was measured.

This is Part 21 SN/T 2497 series of standards.

This section proposed and managed by the National Certification and Accreditation Administration Committee.

This section is responsible for drafting unit. People's Republic of China Tianjin Entry-Exit-Entry Inspection and Hunan People's Republic of China Quarantine Bureau.

1 Scope

This section SN/T 2497 provisions of the import and export of hazardous chemicals by agarose gel electrophoresis and definitions of terms and procedures.

This section applies to the import and export of hazardous chemicals by agarose gel electrophoresis.

2 Terms and definitions

The following terms and definitions apply to this section.

A simple and efficient method for isolation and purification of DNA fragments. Since both sides of the double helix DNA molecule containing a skeleton with a negative charge the phosphate residues and thus move to the cathode in an electric field. Under certain field intensity, the migration velocity depends on the DNA molecule sieve effect. DNA mobility rate has a different molecular weight is not the same, which can be based on the size of the DNA molecule to make it separate.

During electrophoresis can be obtained by detecting the tracer dye or relative molecular mass and standard reference samples were electrophoresed together.

3 Reagents and materials

3.1

electrophoresis buffer. can be appropriately selected according to Table 1 in accordance with the test requirements and the actual situation.

Table 1 Common electrophoresis buffer

Buffer stock solution (1L) Tris- acetate (TAE) 50 x 242g Tris base, 57.1mL glacial acetic acid, 100mL 0.5mol/L EDTA (pH 8.0) Tris- phosphate (TPE) 10 x 108g Tris base, 15.5mL 85% phosphoric acid, 40mL 0.5mol/L EDTA (pH 8.0) Tris- borate (TBE) 5 x 54g Tris base, 27.5g boric acid, 20mL 0.5mol/L EDTA (pH 8.0) Basic buffer 1 x 5mL 10mol/L NaOH, 2mL 0.5mol/L EDTA (pH 8.0) Note. The basic buffer should now use the existing.

3.2

ethidium bromide solution. working solution 0.5µg/mL, stored. Ethidium bromide is a strong mutagen, must wear gloves when using.

3.3

Electrophoresis grade agarose. according to the size of DNA fragments separated by agarose gel of an appropriate concentration formulated in accordance with Table 2 selection.

Table 2 content agarose gel separation range

Effective separation range of agarose content /% linear DNA molecules (kb) 0.3 5 ~ 60 0.6 1 ~ 20 10 0.7 0.8 7 0.9 0.5 1.2 0.4 ~ 6 3 0.2 ~ 1.5 2 2.0 0.1 3.4 loading buffer.