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

SN/T 2497.18-2010

**Test method of import and export dangerous chemicals. Part
18: Detection method of DNA adduct**

进出口危险化学品安全试验方法 第18部分：DNA加合物的检测方法
(English Translation)

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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 18 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

SN/T 2497 provisions of this part of the main reagents and materials import and export of hazardous chemicals DNA adduct detection methods, the main instrument Device, test procedures and test results.

This section applies to post-³²P labeled DNA adducts were detected due to the import and export of hazardous chemicals.

2.1 Terms and Definitions

The following terms and definitions apply to this section.

2.1.1

DNA adduct compound is covalently linked to the electron affinity of the compound or its metabolites with DNA, DNA is the chemical damage One of the main forms of injury.

2.2 Acronyms

The following abbreviations apply to this section.

2.2.1

DNA deoxyribonucleic acid Principle 3 Strand DNA adducts containing nucleic acid in the exonuclease action degrades the 3' nucleoside monophosphates, (PI or S1) treated with nuclease 3' monophosphate nucleosides, the normal 3' nucleotide monophosphate is dephosphorylation and 3' monophosphate nucleoside adducts can resist having this role. in T4 polynucleotide kinase under the action of specific, 32P-ATP phosphate groups transferred to a 5' hydroxyl terminus of a nucleotide adduct, Forming 3'-5' diphosphate nucleosides, quantified by detecting the amount of 32P-ATP to DNA damage resulting adduct.

4 Reagents and materials

Unless otherwise specified, all reagents were of analytical grade, sterile distilled water was used or ultrapure water.

Endonuclease 4.1.

4.2

exonuclease.

4.3

P1 nuclease.

4.4 32P-ATP.

4.5

T4 polynucleotide kinase.

4.6

T4 polynucleotide Kinase Buffer. 0.1mol/LBicine-NaOH, 0.1mol/LMgCl₂,0.1mol/L-threitol disulfide, 10mmol/L spermidine, pH value of 9.5.

4.7

ODS-TLC plate (reverse phase adsorption TLC plate).

4.8

PEI-TLC plate (TLC plate anion exchange).

5 Key Equipment

5.1

UV spectrophotometer.