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

SN/T 2497.6-2010

**Test method of import and export dangerous chemicals. Part 6:
In vitro sister chromatid exchange assay in mammalian cells**

进出口危险化学品安全试验方法 第6部分：哺乳类动物细胞姐妹染色单体互换体
外试验

(English Translation)

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Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and Definitions
5 Apparatus and reagents

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 section SN/T 2497 Part 6.

The partial modification of the use of the Organization for Economic Cooperation and Development (OECD) Chemicals testing guidelines NO. 479 "mammalian cells staining sisters Monomer exchange (SCE) in vitro test "and its technical content with exactly the same method described above, the standard text format according to GB/T 1.1-2000 made editorial changes.

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 mammalian cells sister chromatid exchange (SCE) in vitro assay Test equipment, test principle, test methods and test results.

This section applies to a homologous chromosomal loci and export of hazardous chemicals cause DNA replication product swaps to change the frequency of detection the extent of hazardous chemicals on cells in S phase injured.

2 Normative references

The following documents contain provisions which, through reference SN/T 2497 to the present, constitute provisions of this section. For dated reference documents Member, all

subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

OECD479 mammalian cells sister chromatid exchange (SCE) in vitro assay

3 Terms and Definitions

OECD479 established as well as the following terms and definitions apply to this section.

Homologous chromosomal DNA replication seat exchange product, the frequency of DNA strand breaks and repair.

Principle 4

In dividing cells, each chromosome consists of two chromatids, each chromatid double-stranded DNA. When bromodeoxyuridine Pyrimidine nucleoside (BrdU) as a post-nucleotide precursor substituted thymidine, may be incorporated into the newly copied DNA nucleotide chain. After two After the second copy, two sister chromatids of a double-stranded DNA in the chemical composition have differences. One from single-stranded nucleotide chain containing BrdU Composed of DNA, and the other by a single double-stranded DNA nucleotides contain BrdU composed. With Hoechst33258 staining, the former color depth, which is a light color. When switching between the two allelic chromatids occur, according tucked inside each chromatid different shades Stained fragments are identified.

5 Apparatus and reagents

- BrdU-containing medium;
- Colchicine or amine;
- 0.25% trypsin solution;
- 2 x SSC solution (i.e., 0.3mol/L sodium chloride and 0.003mol/L trisodium citrate);
- 3% Giemsa solution (pH 6.8 phosphate buffer solution);
- Incubator.