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

SN/T 2497.5-2010

**Test method of import and export dangerous chemicals. Part 5:
Unscheduled DNA synthesis (UDS) test with testicle cells**

进出口危险化学品安全试验方法 第5部分：睾丸细胞UDS试验
(English Translation)

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4.1 Preparation

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 5.

The partial modification of the use of the Organization for Economic Cooperation and Development (OECD) Chemicals testing guidelines NO. 486 (1997) "in vivo mammalian hepatocytes Outside the cellular DNA synthesis (UDS) test ", the technical content and the method described above exactly the same, in a standard text format press 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

SN/T 2497 This section specifies the terms and definitions testicular cells UDS test the import and export of dangerous chemicals, the principle of the test, the test Test procedures and test results.

This section applies to the import and export of dangerous chemicals to induce animal testicular cells detect DNA damage and repair.

2 Terms and definitions

The following terms and definitions apply to this section.

Silver Net nuclear grain (NNG) higher than the cells of the laboratory historical negative control values.

Active quantitative determination, calculation of radiation from the developing UDS UDS

test cell nuclear silver grains (NC) is equal to minus nuclear area the average number of silver particles within the cytoplasm (CG), namely NNG. NC-CG. NNG calculated by the number of cells, and then a parallel culture or cultures the cell NNG summary.

After the removal of DNA containing caused by chemical substances or physical damage to a section of DNA, carried out repair synthesis.

Principle 3

Testicular cells UDS test using somatic cells in vivo mammalian directs biological genetic toxicology, genetics primary end point DNA damage. Since the test for detection of the whole genome, high sensitivity of this test provides mutagenic activity of the lack of specific information it may be compensated.

UDS test showed that mammalian testicular cells, DNA DNA damage zone by the chain after removal by chemical or physical factors induce Repair synthesis. This test is usually detected by autoradiography with ^3H -TdR (thymidine) incorporation of testicular cell DNA. With a liquid scintillation counter Comparison number, radioimmunoassay interference from developing method of S-phase cells insensitive.

Test Method 4

4.1.1 Animal selection

We should just use common strains of healthy adult animals. Preferred rats, can also choose other appropriate mammals. In the beginning of the trial, Animal weight difference should not exceed $\pm 20\%$ of the average weight of each sex.

4.1.2 Feeding Conditions

Animal room temperature should be $22\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$, relative humidity is generally maintained at 30% to 70%, except in a clean animal room, the relative humidity Good control in 50% to 60%. Light artificial lighting, 12h alternating light and dark control. Fed with normal laboratory diet, limited access to water. Such as If the test was incorporated into the feed were exposed, you should select the appropriate feed in order to ensure adequate mixing with the test substance. Animals may be kept separate or the same sex