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**NATIONAL OCCUPATIONAL HEALTH STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Diagnostic Criteria of Occupational Acute Carbamate
Insecticides Poisoning
(English Translation)**

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Foreword

Article 4.1 of this standard is recommended and the remainder is mandatory.

According to the "People's Republic of China Occupational Disease Prevention Law" to develop this standard. Since the implementation of the standard date, the original standard GB 16372-1996 inconsistent with this standard, the standard shall prevail.

Acute poisoning can occur in occupational activities that are exposed to carbamate insecticides. To protect the health of the contact person, there are Effective prevention and treatment of acute carbamate pesticide poisoning, has published GB 16372-1996. This standard is a revision. In view of the urgency Sex carbamate insecticide poisoning acute onset, quick recovery, the condition is relatively light, so no observation of the object.

Appendix A to this standard is an informative appendix and Appendix B is a normative appendix.

This standard is proposed and centralized by the Ministry of Health of the People's Republic of China.

This standard by the China Center for Disease Control and Prevention of occupational health and poisoning control is responsible for the drafting, Xi'an Central Hospital Occupation Disease, Jiangsu Provincial Center for Disease Control and Prevention, Xuzhou City Health and Epidemic Prevention Station, Zhenjiang City Health and Epidemic Prevention Station and Wuxi City Health and Epidemic Prevention Station to participate in drafting.

This standard is interpreted by the Ministry of Health of the People's Republic of China.

Occupational acute carbamate pesticide poisoning diagnostic criteria Acute carbamate pesticide poisoning is a short time after exposure to carbamate insecticides, due to in vivo cholinesterase activity Sexual decline caused by muscarinic, nicotine-like and central nervous system symptoms of systemic disease.

1 Scope

This standard specifies the diagnostic criteria and principles of occupational acute carbamate pesticide poisoning.

This standard applies to the diagnosis and treatment of occupational acute carbamate pesticide poisoning.

2 Diagnostic principles

According to a short period of exposure to a large number of carbamate pesticide occupational history, the rapid emergence of the corresponding clinical manifestations, combined with whole blood Cholinesterase activity of the timely determination of the results, reference to the scene of labor hygiene survey data, a comprehensive analysis, excluding other diseases Since then, can be diagnosed.

3.1 Mild poisoning

Short-term close contact with carbamate, the emergence of lighter muscarinic and central nervous system symptoms, such as dizziness, headache, Fatigue, blurred vision, nausea, vomiting, salivation, sweating, dilation of the pupil, and some may be associated with muscle tremor and other nicotine samples Type, usually within 24 h to return to normal. Whole blood cholinesterase activity is often below 70%.

3.2 Severe poisoning

In addition to the above symptoms, and have any of the following, can be diagnosed as severe poisoning.

- a) pulmonary edema;
- b) coma or brain edema.

Whole blood cholinesterase activity is generally below 30%.

4.1 Principles of treatment

4.1.1

quickly leave the poisoning scene, take off contaminated clothing, thoroughly clean the contaminated skin with soap and warm water, hair and fingers A.

4.1.2

special effects detoxification drugs.

- a) mild poisoning may not use special detoxification drugs, if necessary, oral or intramuscular injection of atropine, but not atropine the
- b) severe poisoning according to the condition of the application of atropine, and as soon as possible atropine.
- c) single carbamate pesticide poisoning without oxime complex agent.

4.1.3

The principle of symptomatic treatment is the same as that of internal medicine.

4.2 Other processing

Poisoning can still be engaged in the original work.

5 Use the instructions of this standard correctly

See Appendix A (informative), Appendix B (normative).

Appendix A

(Informative)

Correctly use the instructions in this standard A.1 This standard applies to the production, packaging, processing, handling and use of carbamate insecticide Sexual poisoning. Commonly used varieties of domestic carbofuran, civeton, speed off Granville, mixed with Wei, leafhopper San, Zhong Dingwei, pest and so on.

Living acute carbamate pesticide poisoning can also be used in this standard. Thio (or dithio) carbamate herbicides or Fungicides have no inhibitory effect on cholinesterase. Its poison diagnosis and treatment can not be in accordance with this standard.

A.2 acute carbamate pesticide poisoning clinical features is acute onset, quick recovery, the condition is relatively light, poisoning cure After the occurrence of delayed neuropathy.

A.3 acute poisoning classification of the clinical manifestations as the main basis for the determination of blood cholinesterase activity can be used as a reference index. Whole blood cholinesterase determination, if unconditional according to Appendix B, available hydroxytic acid colorimetric method.

A.4 need to carry out differential diagnosis of the disease are acute organophosphorus poisoning, heat stroke, acute gastroenteritis and food poisoning.

According to the history of exposure, clinical features and blood cholinesterase determination and dynamic observation is generally not difficult to make identification, if

necessary, can be measured the content of carbamate pesticides or their metabolites in the material.

A.5 present pesticide compound application more, there can be a combination of carbamate and organic phosphorus or other pesticide poisoning problem, in the diagnosis and differential diagnosis should be noted.

A.6 mild poisoning from the contact after the relief of faster treatment of atropine 0.6 ~ 0.9 mg or 0.5 to 1.0 mg Intramuscular injection, if necessary, repeat 1 ~ 2 times, without atropine; severe poisoning should be as soon as possible atropine, but the general total Dosage than organic phosphorus poisoning is small, medication interval may be appropriate to extend the maintenance time is relatively short.

Appendix B

(Normative appendix) Whole blood, red blood cells, plasma cholinesterase activity assay Principle B.1 Acetylcholine in the role of cholinesterase, hydrolysis of thiocholine and acetate. Thiocholine and disulfide bis-nitro Benzoic acid reaction was yellow compound after the colorimetric quantitative. The amount of thiogenic choline produced by hydrolysis reflects the value of cholinesterase activity.

B.2 instrument

- a. Constant temperature water tank (37 ± 0.5 °C);
- b. Centrifuge
- c. spectrophotometer.

B.3 Reagent

- a. Thioacetyl iodocholine solution (matrix); weighed thioacetyl iodocholine 75 mg, dissolved in double distilled water, Dilute to 10 mL, set the refrigerator (4 °C) to save. Before use with double distilled water diluted 10 times.
- b. Dithiobis-nitrobenzoic acid solution (reagent). Weigh 20 mg of bisulfobenzoic acid and dissolve in 50 mL After adding saline, add 1/15 mol of phosphate buffer (pH 8.0) to 50 mL of the solution. Set the refrigerator to save. Before use Diluted 10-fold with an equal volume of physiological saline and 1/15 mol of phosphate buffer.
- c. Salicylic acid physostigmine (inhibitor). Weigh 10mg salicylic acid physostigmine, dissolved in double distilled water and diluted to 10 mL. Fridge storage.

B.4 Procedure

B.4.1 10 μ L of the ear (or finger) blood was added to a centrifuge tube containing 10 mL of disulfide bis-nitrobenzoic acid solution, gently Mix well.

B.4.2 Remove 4.0 mL in test tube A as the whole blood cholinesterase activity assay tube.