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Traditional Chinese medicine — Fermented *Cordyceps* powder

Médecine traditionnelle chinoise — Poudre de Cordyceps *fermenté*

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Foreword

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This document was prepared by Technical Committee ISO/TC 249, *Traditional Chinese medicine*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Cordyceps sinensis, known as “冬虫夏草”, Chinese Pinyin *Dong Chong Xia Cao* (winter worm, summer plant), is a rare raw material used in traditional Chinese medicine. *Cordyceps sinensis* enjoys equal popularity with ginseng and velvet and ranks first among these three tonic medicines. The use of *Cordyceps sinensis* can be traced to AD 863, during the Tang Dynasty, in the Youyang Essays by Duan Chengshi. In recent years, the efficacy of *Cordyceps sinensis* has been further confirmed and its extensive and significant efficacy is acknowledged worldwide.

The bioactivities of *Cordyceps sinensis* include immunoregulation, anti-bacteria, anti-cancer, anti-oxidation, anti-aging, blood sugar control and fat reduction. Due to the specific environment required for the growth of *Cordyceps sinensis*, the resources of wild *Cordyceps sinensis* are limited. Increasing market demand has therefore resulted in high prices. Driven by increased interest, wild *Cordyceps sinensis* is facing extinction due to plunder digging, which impacts its natural ecological environment. The culture of *Cordyceps sinensis* has become a hot topic of research, with a focus on liquid fermentation technology. Fermented *Cordyceps* powder is manufactured with strain extracted from wild *Cordyceps sinensis* by low-temperature liquid fermentation, simulating the growth environment of wild *Cordyceps sinensis.* Quality control for fermented *Cordyceps* powder is complicated. There are many functional active substances in fermented *Cordyceps* powder, including polysaccharide compounds, alkaloids (Cordycepin), peptide compounds, sterols, terpenoids and other secondary metabolites. The content of these substances in fermented *Cordyceps sinensis* determines to a large extent the quality and efficacy of fermented *Cordyceps powder*. Traditional analytical methods vary and depend highly on experience. It is difficult to determine the quality of fermented *Cordyceps* powder with existing methods.

A guarantee of the quality of fermented *Cordyceps* powder is crucial to ensure the quality and safety of medicines and health products made from fermented *Cordyceps* powder. Exploring quality control methods of fermented *Cordyceps* powder and creating a standard combining traditional Chinese medicine characteristics and current technology will have profound influence on the industry of fermented *Cordyceps* powder.

As national implementation can differ, national standards bodies are invited to modify the values given in 4.5, 4.8 and 4.9. Reference values of national and regional limits of heavy metals, microbiological examination and aflatoxins are given in Annex E.