



# International Code of Conduct on the Distribution and Use of Pesticides

## Guidelines for Quality Control of Pesticides



**World Health  
Organization**



March 2011

The Inter-Organisation Programme for the Sound Management of Chemicals (IOMC) was established in 1995 following recommendations made by the 1992 UN Conference on Environment and Development to strengthen cooperation and increase international coordination in the field of chemical safety. The participating organizations are the Food and Agriculture Organization of the United Nations (FAO), the International Labour Organization (ILO), the Organisation for Economic Co-operation and Development (OECD), the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO), the United Nations Institute for Training and Research (UNITAR) and the World Health Organization (WHO). The World Bank and the United Nations Development Programme (UNDP) are observers. The purpose of the IOMC is to promote coordination of the policies and activities pursued by the participating organizations, jointly or separately, to achieve the sound management of chemicals in relation to human health and the environment.

This publication was developed in the IOMC context. The contents do not necessarily reflect the views or stated policies of individual IOMC participating organizations.

WHO/HTM/NTD/WHOPES/2011.4

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) or of the World Health Organization (WHO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these are or have been endorsed or recommended by FAO or WHO in preference to others of a similar nature that are not mentioned. The published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall FAO or WHO be liable for damages arising from its use. The views expressed herein are those of the authors and do not necessarily represent those of FAO or WHO.

All rights reserved. FAO and WHO encourage the reproduction and dissemination of material in this information product. Any proposed reproduction or dissemination for non-commercial purposes will be authorized free of charge upon request, provided the source is fully acknowledged. Any proposed reproduction or dissemination for resale or other commercial purposes, including educational purposes, is prohibited without the prior written permission of the copyright holders, and may incur fees. Applications for such permission and all other queries on rights and licences, should be addressed by e-mail to [copyright@fao.org](mailto:copyright@fao.org) or to the Chief, Publishing Policy and Support Branch, Office of Knowledge Exchange, Research and Extension, FAO, Viale delle Terme di Caracalla, 00153 Rome, Italy.

# Table of Contents

ABBREVIATIONS.....	3
DEFINITIONS .....	4
1. INTRODUCTION .....	6
2. SCOPE OF THE GUIDELINES.....	7
3. OBJECTIVES OF THE GUIDELINES.....	7
4. RESPONSIBILITIES .....	7
4.1 GOVERNMENTS : .....	8
4.2 INDUSTRY :.....	8
4.3 INTERNATIONAL ORGANIZATIONS : .....	9
4.4 GOVERNMENT AND INDUSTRY :.....	9
5. PESTICIDE QUALITY CONTROL – LEGISLATION, ORGANIZATIONAL SETUP, AND ADMINISTRATIVE REQUIREMENTS AND RESOURCES.....	9
5.1 LEGISLATION .....	9
5.2 ORGANIZATIONAL SETUP .....	11
5.3 ADMINISTRATIVE REQUIREMENTS AND RESOURCES .....	12
5.3.1 Responsible authorities with access to local pesticide analytical laboratory facilities.....	12
5.3.2 Responsible authorities without access to local pesticide analytical laboratory facilities.....	13
5.3.3 Pesticide manufacturers or formulators .....	14
5.3.4 Pesticide importers.....	14
6. PRACTICAL CONSIDERATIONS FOR REGULATORY QUALITY CONTROL OF PESTICIDES.....	14
6.1 PRODUCTS SUBMITTED FOR REGISTRATION.....	15
6.2 POST-REGISTRATION SURVEILLANCE OF PESTICIDE PRODUCTS IN THE MARKET .....	15
6.2.1 Non-enforcement samples.....	16
6.2.2 Enforcement samples.....	16
6.3 SAMPLING .....	17
6.3.1 Preparation for sampling .....	17
6.3.2 Sampling procedure.....	18
6.3.3 Shipping and transaction records.....	19
6.3.4 Seizure of goods.....	19
6.4 TRANSPARENCY IN PROCESS OF QUALITY MONITORING.....	19
6.5 COORDINATION OF ENFORCEMENT.....	20
6.6 CONTROL OF MANUFACTURE (INCLUDING FORMULATION, REPACKAGING, RE-LABELLING) AND SALE OF PESTICIDES.....	20
7. QUALITY CONTROL OF PESTICIDES IN INTERNATIONAL TRADE .....	21
8. NON-COMPLIANT PESTICIDES .....	21
8.1 REGISTRATION SAMPLES .....	21
8.2 NON-ENFORCEMENT SAMPLES .....	21
8.3 ENFORCEMENT SAMPLES.....	22
9. REGIONAL COOPERATION .....	22
10. EDUCATION AND PUBLIC AWARENESS .....	23
11. FUNDING.....	23
12. REFERENCES.....	25

ANNEX 1	TYPICAL FLOWCHART FOR SCHEME TO RECEIVE AND INVESTIGATE FEEDBACK AND COMPLAINTS REGARDING SUBSTANDARD, COUNTERFEIT, AND BANNED AND ILLEGAL PESTICIDE PRODUCTS .....	27
ANNEX 2	TYPICAL FLOWCHART FOR TAKING ENFORCEMENT ACTIONS.....	28
ANNEX 3	TYPICAL SAMPLING REPORT.....	29
ANNEX 4	TYPICAL CHAIN-OF-CUSTODY RECORD .....	30
ANNEX 5	TYPICAL FORMAT FOR REQUESTING ANALYSIS OF SAMPLES .....	31

## Abbreviations

AOAC	Association of Analytical Communities, International
CAN	Comunidad Andina de Naciones (Andean Community)
CILSS	Comité Inter-Etate pour la Lutte contre la Sécheresse au Sahel (Permanent Inter-State Committee for Drought Control in the Sahel)
CIPAC	Collaborative International Pesticides Analytical Council
EPA	Environmental Protection Agency (United States)
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
OECD	Organisation for Economic Co-operation and Development
SEARCH	South East Africa Regulatory Committee on Harmonisation
WHO	World Health Organization

## Definitions

The definitions given below apply to the terms as used in these guidelines. They may have different meanings in other contexts.

### **Adulterated pesticide**

A pesticide any component of which has been substituted wholly or in part, or any constituent of which has been wholly or in part abstracted, added or modified in quantity compared with the regulatory specification on record.

### **Chain-of-custody**

The ability of the inspector to guarantee the identity and integrity of the enforcement sample from seizure, custody, transport, storage and analysis to reporting of test results.

### **Compliance**

The full implementation of legal requirements [6].

### **Counterfeit pesticide**

A pesticide made by someone other than the approved or registered manufacturer, by copying or imitating an original product without authority or right, with a view to deceive or defraud, and then marketing the copied or forged product as the original.

### **Enforcement**

The set of actions that governments or others take to achieve compliance by the regulated community with pesticide regulatory requirements and/or to halt situations that may endanger public health or the environment. Government enforcement usually includes activities such as investigations, negotiations and legal actions [6].

### **Inspector**

An officer who is authorized under the pesticide law of the country to enforce the provisions of the law, including taking pesticide samples from the market and taking prosecution actions in cases of non-compliance.

### **Official analyst**

A chemist who is authorized under the pesticide law of the country to carry out analysis and issue reports on the analysis of samples submitted by inspectors for use as evidence in court.

### **Pesticides Board (sometimes referred to as Pesticide Registration Board, Pesticide Council or Pesticide Committee)**

The officially or legally appointed body that takes the final decision on the request for registration [8].

**Quality control of pesticides**

The inspection by the responsible authority of pesticide products imported, manufactured and/or available in the market to check whether they meet the desired requirements, including of labelling, packaging and specifications, as well as to identify the cause for non-conformities and take the necessary corrective actions.

**Responsible authority**

The government agency or agencies responsible for regulating the manufacture, distribution or use of pesticides and, more generally, for implementing pesticide legislation [2].

**Sampling report**

The standard report form completed by the inspector at the time of sampling and countersigned by the person designated to be responsible for the batch at the time the sample is taken [9].

**Substandard pesticide**

A pesticide the physical-chemical properties of which do not meet the minimum quality standard.

**Violations** Noncompliance with a requirement [6].

# Guidance for Quality Control of Pesticides

## 1. Introduction

Pesticides, when properly used, can be important to the production of many agricultural crops as well as for the protection of human health. Successful control of pests and vectors relies on effective pesticide products of acceptable quality that do not cause any unacceptable effects when used as recommended. The use of substandard products can have serious adverse effects on human health and the environment. In addition, their use in quarantine situations could have serious repercussions, such as introducing a pest or a disease into an area previously free of that pest or disease. It can also result in not only ineffective pest or vector control operations thus leading to increasing application rates and cost, but also loss of crops and even human lives. It may also lead to the development of pest resistance to pesticides and aggravate any such existing problem. In addition, it may increase the risk to users and the environment as substandard formulations may contain impurities or chemicals which can increase the toxicity of the product to mammals and other non-target species.

In 2001, the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) [1] estimated that around 30 percent of pesticides marketed in developing countries with an estimated value of US\$ 900 million annually did not meet internationally accepted standards of quality. When the quality of labelling and packaging is also taken into account, the proportion of poor-quality pesticide products in developing countries is even higher. High incidences of substandard pesticides have also been reported to FAO and WHO by national pesticide quality control laboratories of developed countries, emphasizing the significance of the problem.<sup>1</sup> The possible causes of low-quality pesticides can be attributed to a range of factors that include poor production technology and quality control, production of counterfeit products, adulteration of products (see Definitions) and poor storage prior to marketing. Insufficient enforcement by regulatory authorities as a result of financial, infrastructure and human resource constraints can create an environment that enables such practices to expand.

The *International Code of Conduct on the Distribution and Use of Pesticides* (2) (hereafter referred to as the Code of Conduct)<sup>2</sup> describes the shared responsibility of many segments of society, including governments, industry, trade and international institutions. The Code of Conduct provides a framework for management of all pesticides, including those intended for use in agriculture and public health. The Code of Conduct emphasizes the importance of ensuring quality control of pesticides, and that is mainly the responsibility of government and

预览已结束，完整报告链接和二维码如下：

[https://www.yunbaogao.cn/report/index/report?reportId=5\\_28797](https://www.yunbaogao.cn/report/index/report?reportId=5_28797)

