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AUSTRALIAN STANDARD

1870.9 D - 1978

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INFORMATION CENTRE
STANDARDS AUSTRALIA

DIQUAT

9, 10 - dihydro - 8a, 10a - diazoniaphenanthrene ion

AND

PARAQUAT

1, 1' - dimethyl - 4, 4' - bipyridylium ion



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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and Departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Department of Agriculture
Australian Department of Health
Department of Agriculture, NSW
Department of Agriculture, Vic
Department of Agriculture, SA
Department of Primary Industries, Qld
Department of Public Health, Tas
Agricultural and Veterinary Chemicals Association
Pest and Weed Control Association of Australia
Australian Chemical Industry Council
Australian Farmers Federation
Australian Institute of Agricultural Science
CSIRO, Division of Entomology
The Australian Veterinary Association

This standard, prepared by Committee CH/5, Pesticides, was approved on behalf of the Council of the Standards Association of Australia on 22 December 1975, and was published on 1 May 1978.

To keep abreast of progress in industry, Australian standards are subject to regular review. Suggestions for improvement, addressed to the head office of the Association, are welcomed.

**AUSTRALIAN STANDARD SPECIFICATION
(FOR DEVELOPMENT)**

PESTICIDES FOR AGRICULTURAL USE

DIQUAT

9, 10 - dihydro - 8a, 10a - diazoniaphenanthrene ion

AND

PARAQUAT

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NOTES ON AUSTRALIAN ADOPTION OF THE FAO SPECIFICATION

Committee CH/5 - Pesticides of the SAA, under direction of its Chemical Standards Board is undertaking the preparation of a series of standards for pesticides for agricultural use. These will be based on the work of the United Nations' Food and Agriculture Organization.

The Association has accepted the recommendation of Committee CH/5 that selected FAO specifications be adopted for use in Australia forthwith in order to take immediate advantage of the technology incorporated in these internationally recognized documents.

In particular, the FAO specification which follows, viz. FAO code numbers

55//13/S/6 to 56/13/S/6

is now adopted as an Australian standard for development.

The requirements embodied in this standard will be the subject of detailed investigation and development as necessary to suit Australian conditions and usage.

Committee CH/5 will welcome comment on this standard by persons or organizations engaged in the manufacture, testing and use of these products.

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DISCLAIMER

FAO specifications are developed with the basic objective of ensuring, as far as possible, that pesticides complying with them are satisfactory for the purpose for which they are intended. However, the FAO Working Party of Experts on the Official Control of Pesticides: Section B (Specifications) wishes to emphasize that, owing to the complexity of the problems involved, questions such as the suitability of pesticides for the control of a particular pest must be decided at national or provincial level. These specifications should not be assumed to be an endorsement, by either the Working Party or FAO, of the use of a particular compound for a given purpose.

Accordingly, neither the Food and Agriculture Organization of the United Nations (FAO) nor the members of the FAO Working Party of Experts on the Official Control of Pesticides: Section B (Specifications) warrants that pesticides complying with these specifications are suitable for the control of any given pest or for use in any particular area.

Furthermore, the preparation and use of pesticides complying with these specifications are not exempt from any safety regulation or other legal or administrative provision applicable thereto. Neither FAO nor any member of the FAO Working Party shall be liable for any injury, loss, damage or prejudice of any kind that may be suffered as a result of the preparation or use of pesticides complying with these specifications.

Additionally, the Working Party wishes to warn users of specifications that improper field mixing and/or application of pesticides can result in either a lowering or complete loss of their efficacy. This holds true even in cases where such pesticides comply with the specifications indicated.

Accordingly, the Working Party and/or FAO can accept no responsibility for the consequences of improper field mixing and/or application

INTRODUCTION

From time to time, FAO publishes booklets of specifications for technical materials and related formulations of plant protection products. Revisions of, and additions to, already published specifications will be issued when necessary, but during the interval between editions, revisions may be printed in the FAO Plant Protection Bulletin.

FAO specifications and relevant methods of analysis^{1/} contained herein have been carefully reviewed and agreed by the FAO Working Party of Experts on the Official Control of Pesticides: Section B (Specifications) after consultations with official government scientists, the pesticides industry through GIFAP (Groupement International des Associations Nationales de Fabricants de Pesticides), and, where appropriate, with individual manufacturers.

Specifications are published either as FAO Specifications (i.e., acceptable on the basis of evidence presented) or FAO Provisional Specifications (i.e., usable, but requiring further work).^{2/}

^{1/} Methods of analysis and miscellaneous techniques referred to in these specifications have been developed and adopted by CIPAC (Collaborative International Pesticides Analytical Council Ltd.). See CIPAC Handbook, Volume I (1970) and Volume IA (1974), W. Heffer & Sons Ltd., Cambridge, United Kingdom. Relevant references to specific methods in the Handbook are given in brackets in the specifications.

^{2/} For detailed definitions and other essential background information on basic procedures and technical principles adopted by the FAO Working Party of Experts on the Official Control of Pesticides: Section B (Specifications), see "Manual on the Use of FAO Specifications for Plant Protection Products" FAO, Rome, 1971. FAO Agricultural Development Paper No. 93.

The clauses of the specifications are divided into "requirements" and "information", the latter being indicated in the individual specifications by three asterisks. The information clauses provide the buyer with additional safeguards by indicating potential difficulties for which adoption of a definite requirement is not yet practicable.

Wherever possible, standards for apparatus and common names for pesticides are those approved by the International Standards Organization (ISO). Where such standards and names are not available, those recommended by The British Standards Institution (BSI) are used.

For solids, technical liquids, volatile liquids (of maximum boiling point 50°C) and viscous liquids (with minimum viscosity of 1000 centipoises at 20°C) the FAO Specifications shall be based on a percent weight/weight expression of content. For all other liquids the active ingredient content of the product shall be declared in terms of grammes per litre at 20°C . The content may also be requested in terms of weight/weight and density.

In cases of dispute, however, where a user of the specifications has information on the content both in terms of g/l and w/w, the w/w value will be accepted as the correct statement of content.

Allowable variations in analytical results (i.e., tolerances in content of active ingredient) with respect to specific pesticide consignments are intended to cover reasonable variations in content of active ingredient during manufacture and also to compensate for possible inaccuracies in relevant methods of analysis. For examples of such permitted tolerances, see document mentioned in footnote 2/ on page 2.

DIQUAT SALT AQUEOUS SOLUTIONS
FAO Specification Code 55/13/s/6:

.1 DESCRIPTION

The product shall consist essentially of an aqueous solution of a salt of diquat, with or without added surface active agents and corrosion inhibitors, and shall be virtually free from visible suspended matter, immiscible solvents and sediment.

.2 ACTIVE INGREDIENT

.2.1 Identity (Method 55/13/m/1.9; see note 1, p.13)

If required, the identity shall be determined.

.2.2 Diquat Salt

The name of the salt shall be declared.

.2.3 Diquat (See CIPAC I, p. 343, section 1.3, method 55/13/M/1.3)

The diquat (ion) content shall be declared (% w/w and/or g/l at 20°C) and, when determined, the content obtained shall not differ from that declared by more than $\pm 5\%$ of the declared content, subject to a maximum deviation of ± 2.5 percentage units or ± 25 g/l.

.3 IMPURITIES

.3.1 Free 2,2'-Bipyridyl (Method 55/13/M/1.4; see note 1, p.13)

Maximum: 0.25% of the diquat content found under .2.3.