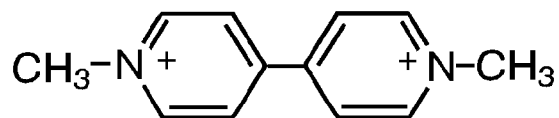


## INFORMATION

**COMMON NAME:** paraquat is the ISO name for the cation

**STRUCTURAL FORMULA (CATION):**



**EMPIRICAL** 1  
 $C_{12}H_{14}N_2$  (cation)

**FORMULA:**

**RMM:** 186.3 (cation)

**CAS REGISTRY NUMBERS:** 4685-14-7 (cation)  
1910-42-5 (dichloride)

**CIPAC CODE NUMBER:** 56

**CHEMICAL NAME:** 1,1'-dimethyl-4,4'-bipyridinium dichloride (IUPAC and CA)

{PRIVATE }PARAQUAT DICHLORIDE TECHNICAL CONCENTRATES{tc \l 2 "PARAQUAT DICHLORIDE TECHNICAL CONCENTRATES"}

FAO Specification 56/TK/S/F (2003)

**1. DESCRIPTION**

The material shall consist essentially of an aqueous solution of paraquat dichloride, together with related manufacturing impurities containing not more than a trace of suspended matter, immiscible solvents or sediment, and containing an effective emetic. Technical concentrates may also include colourants.

**2. ACTIVE INGREDIENT**

2.1 Identity tests (56/SL/M/2, CIPAC G, p.128)

The active ingredient shall comply with an identity test and, where the identity remains in doubt, shall comply with at least one additional test.

2.2 Paraquat dichloride (56/SL/M/3, CIPAC E, p.167)

The paraquat dichloride content (Note 1) shall be declared (not less than 500 g/l at 20°C, Note 2) and, when determined, the average measured content shall not differ from that declared by more than  $\pm 25$ g/l.

2.3 Emetic Content ( for method see Appendix 1)

PP 796: 2-amino-4,5-dihydro-6-methyl-4-propyl-s-triazole-(1,5a)pyrimidin-5-one

Not less than 0.8 g/l (Note 3)

**3. RELEVANT IMPURITIES**

3.1 Free 4,4~~c~~-bipyridyl (56/13/M/7.4, CIPAC 1A, p.1317)

3.2 Maximum: 1000ppm (0.1% w/w)

3.2 Total terpyridyls content ( for method see Appendix 2)

Maximum: 1.0ppm (0.0001%w/w)

**4. PHYSICAL PROPERTIES**

4.1 pH range (56/13/M/7.5, CIPAC 1A, p. 1589)

pH range: 2.0 to 6.0.

## 5. CONTAINERS

Containers may be manufactured from suitable polymeric materials or metal, and must comply with pertinent national and international transport and safety regulations. If metal is used containers shall be lined with suitable polymeric material, or the internal surfaces treated to prevent corrosion of the container and/or deterioration of the contents. The product must not be allowed to come into direct contact with metal.

### Notes

1. *Multiply the paraquat ion content as determined by CIPAC method 56/SL/M/3 by 1.38*
2. *If the buyer requires both g/l at 20°C and g/kg, then in case of dispute the analytical results shall be calculated as g/kg.*
3. *An effective emetic must be included. No compound, other than PP796 has been found to be effective in meeting the following criteria:*
  - *It must be rapidly absorbed (more rapidly than paraquat) and be quick acting. Emesis must occur in about half an hour in at least 50% of cases.*
  - *It must be an effective (strong) stimulant of the emetic centre to produce effective emesis. The emetic effect should have a limited 'action period' of about two to three hours to allow effective treatment of poisoning.*
  - *It must act centrally on the emetic centre in the brain.*
  - *It must not be a gastric irritant because, as paraquat is itself an irritant, this could potentiate the toxicity of paraquat.*
  - *It must be toxicologically acceptable. It must have a short half-life in the body (to comply with the need for a limited action period).*
  - *It must be compatible with and stable in the paraquat formulation and not affect the herbicidal efficacy or occupational use of the product..*

### APPENDIX 1

Method for the determination of PP796

### APPENDIX 2

Method for the determination of Total Terpyridines