

PARAQUAT : POLICY ON INCLUSION OF EMETIC

1. Background

It is appropriate to review again the policy on the inclusion of emetic in paraquat formulations. When the subject was last reviewed formally by the PPD Executive (in March 1982) it was agreed that the emetic should not be introduced pro-actively into all paraquat formulations, but that inclusion of emetic should continue to be considered on a market-by-market basis.

Since that review several events have occurred :-

- a) PP796 has been introduced into paraquat in the USA. News of this inclusion of emetic has been announced by the EPA, ICI Americas and Chevron and has been noted in the agricultural press.
- b) Paraquat has been under strong pressure in several markets in Europe and elsewhere because of toxicological concerns.
- c) In the Far East, there has been a move towards inclusion of the emetic in more markets : it is to be added in Thailand in the near future, and in Philippines, Indonesia and Burma later in the year, and it is now considered desirable to add it to paraquat in Malaysia.
- d) Concern is widespread within the Division about the "double standard" of including the emetic in some markets and not in others. This concern has been heightened by the publicity about the emetic in the USA.
- e) At a recent paraquat work group meeting in which toxicological issues involving paraquat were discussed, representatives of all Regions agreed that there was a strong case for inclusion of emetic in all markets.

2. Emetic efficacy

Statistical evidence of the efficacy of the emetic in reducing the numbers of paraquat poisoning deaths remains elusive. However, since it is agreed that the emetic is most useful in cases of accidental poisoning, where the amount of product swallowed is relatively small, and the number of accidental poisoning cases is small, it is unlikely that such statistical evidence will ever be available. However, it is clear that the emetic leads to the rapid onset of vomiting in people who have drunk emeticised product, and it is thus ICI's contention that it is a valuable aid to the prevention of death following accidental poisoning.

3. Markets now without emetic

The countries in which PP796 is not included in paraquat formulations are (with likely 1983 sales volumes, in tonnes of ion, in parentheses) :-

WER	None	
EMA	Hungary*	(275)
Americas	Argentina	(50)
	Boliva	(15)
	Central America	(650)
	Colombia	(210)
	Cuba	(120)
	Dominican Republic	(35)
	Ecuador	(160)
	Mexico	(114)
	Paraguay	(8)
	Peru	(12)
	Uruguay	(4)
FEP	Bangladesh	(20)
	India	(130)
	Indonesia	(228)
	Malaysia	(2225)
	Pakistan	(8)
	Philippines	(45)
	South Korea	(236)

* Although EMA region have for some time wanted to have PP796 included in Hungarian paraquat, this was blocked by PPD's policy if not supplying emetic to companies outside the ICI Group.

In general "black drum" paraquat seems not to contain emetic, except in EMA Region where PP796 is included in all such material.

4. Supply position

There has been some difficulty in meeting demand for PP796 in recent months. This is because of the introduction of emetic into two large markets, USA and Thailand, the latter unexpectedly. This is only a short-term problem, and by 1984, following the expenditure of about £30,000, FCMO will be able to supply sufficient PP796 to meet all PPD's requirements.

5. Costs

The current variable production cost of PP796 is £21-22/kg. At the recommended rate of addition to Gramoxone (0.5 g/litre), this is equivalent to an additional cost of just over 1 p per litre of product (£50/te of paraquat ion).

Addition of PP796 to paraquat in all markets in which it is not now included would require its incorporation in about 4300 te of paraquat (ie about one third of the total volume of paraquat sold) of which the Malaysian market makes up more than half - viz. 1340 te of paraquat in Gramoxone and Paracol 885 te of third party paraquat.

The total additional variable cost of including PP796 in all markets would therefore be about £0.22 m per annum.

6. Other safety additives

It is now accepted in the Regions that all paraquat products should incorporate at least the "deterrent" safety additive and that this should preferably be a blue colour, with stenching agent as an optional extra.

Added costs : of blue dye : 0.2-0.5 p/litre (depending on strength of colour) ie £10-25/te of paraquat ion

of pyridine base : 0.5 p/litre ie £25/te paraquat ion
stenching agent
(at 10 g/litre)

Recommendations

1. The appropriate steps should now be taken to enable PP796 to be included in all paraquat products sold by ICI. (For the moment, black drum material is excluded from this recommendation : this aspect requires further discussion).

The major reasons are :

- a) Emetic addition could help prevent accidental poisoning, which is worthwhile in its own right and also useful as a component of our product defence strategy.
 - b) We should now have a uniform policy on emetic.
2. The policy on supplying PP796 outside the ICI Group should be changed to allow it to be sold to Alkaloida for incorporation into paraquat in Hungary.

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PS/SAP

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