

PROPYLENETHIOUREA (PTU) (150)

EXPLANATION

Propylenethiourea (PTU) is a metabolite and decomposition product of propineb. Propineb was evaluated several times between 1977 and 1985 and, in the CCPR periodic review programme, in 1993. PTU was included in these evaluations. A temporary ADI for propineb was established in 1977 and withdrawn in 1985, but the CCPR maintained the Guideline Levels for PTU recorded in 1984. A TADI was allocated to PTU by the 1993 JMPR, but no recommendation was made to convert the GLs to TMRLs at that Meeting.

The present appraisal is based on the evaluation of propineb and PTU by the 1993 JMPR, and the residue evaluations of that Meeting should be consulted for details of the data to which reference is made below.

APPRAISAL

Approved uses of propineb continue on grapes, tomatoes, potatoes, pome fruits, onions and melons. Extensive data on residues of propineb and PTU in these crops were provided for evaluation by the 1993 JMPR.

In apples, grapes and pears the residues of PTU were in the range <0.02 to 0.08 mg/kg, except in one grape trial, where a residue of 0.15 mg/kg PTU was measured.

Residues of PTU in tomatoes were at or below the lower limit of determination (0.02 mg/kg).

In melons, onions and potatoes residues of PTU were also below the LOD of 0.01 mg/kg.

The effects of processing commodities containing residues of propineb and PTU were extensively studied on apples, cherries, grapes, hops and tomatoes. The level of PTU in processed products is primarily influenced by the residue level of propineb and the nature of the processing. The ratio of PTU in the processed product to propineb in the raw commodity was 0.04 for apple puree, 0.003 for beer, 0.2 for cherry juice, 0.1 for cherry jam, 0.2 for must and wine, 0.1 for tomato juice and 0.2 for ketchup. The residue levels of PTU were higher in those processed products for which the processing involves extensive contact with the peel of the harvested crop, as in the case of red wine and tomato ketchup.

No information was available on PTU levels in food moving in commerce or at consumption.

Residue analytical methods are available to determine PTU by HPLC. They are suitable for regulatory purposes with limits of determination of 0.05 mg/kg.

The Meeting noted the similar nature of the residues of PTU and ETU, and concluded that limits for PTU did not assist in deciding whether GAP in the use of propineb had been followed.

RECOMMENDATIONS

The Meeting agreed to recommend the withdrawal of all GLs, listed below, for PTU. (Although a TADI was allocated to PTU in 1993, no recommendation was made to convert the existing GLs to TMRLs).

Pesticide (Codex ref. No.)	Commodity		Guideline Level (mg/kg)	
	CCN	Name	New GL	Previous MRL or GL
Propylenethiourea	FP 0226	Apple	W	0.1
(PTU) (150)	VR 0578	Celeriac	W	0.05*
	FS 0243	Cherry, Sour	W	0.1
	FB 0269	Grapes	W	0.1
	FS 0247	Peach	W	0.05*
	FP 0230	Pear	W	0.1
	FS 0014	Plums (including Prunes)	W	0.1
	VR 0589	Potato	W	0.02*
	VO 0448	Tomato	W	0.1