

TABLE 4.—AGGREGATE RISK ASSESSMENT FOR ACUTE EXPOSURE TO THIAACLOPRID

Population Subgroup	aPAD (mg/kg)	% aPAD (Food)	Surface Water EEC (ppb)	Ground Water EEC (ppb)	Acute DWLOC (ppb)
General U.S. population	0.01	20	10.2	0.06	281
All infants < 1 year old	0.01	51	10.2	0.06	49
Children 1-2 years old	0.01	47	10.2	0.06	53
Children 3-5 years old	0.01	33	10.2	0.06	67
Females 13-49 years old	0.01	8.5	10.2	0.06	274

2. *Chronic risk.* Using the exposure assumptions described in this unit for chronic exposure, EPA has concluded that exposure to thiacloprid from food will utilize <1.0 % of the cPAD for the U.S. population, 4.4 % of the cPAD for all infants and 4.2% of the cPAD for

children 1-2 years old. There are no residential uses for thiacloprid that result in chronic residential exposure to thiacloprid. In addition, there is potential for chronic dietary exposure to thiacloprid in drinking water. After calculating DWLOCs and comparing

them to the EECs for surface and ground water, EPA does not expect the aggregate exposure to exceed 100% of the cPAD, as shown in Table 5 of this unit:

TABLE 5.—AGGREGATE RISK ASSESSMENT FOR CHRONIC (NON-CANCER) EXPOSURE TO THIAACLOPRID

Population Subgroup	cPAD mg/kg/day	% cPAD (Food)	Surface Water EEC (ppb)	Ground Water EEC (ppb)	Chronic DWLOC (ppb)
U.S. Population	0.004	<1.0	2.36	0.06	139
All Infants < 1 year old	0.004	4.4	2.36	0.06	38
Children 1-2 years old	0.004	4.2	2.36	0.06	38
Children 3-5 years old	0.004	2.9	2.36	0.06	38
Children 6-12 years old	0.004	1.3	2.36	0.06	39
Females 13-49 years old	0.004	<1.0	2.36	0.06	120

3. *Short-term risk.* Short-term aggregate exposure takes into account residential exposure plus chronic exposure to food and water (considered to be a background exposure level).

Thiacloprid is not registered or proposed for use on any sites that would result in residential exposure. Therefore, the aggregate risk is the sum of the risk from food and water, which do not exceed the Agency's level of concern.

4. *Intermediate-term risk.* Intermediate-term aggregate exposure takes into account residential exposure plus chronic exposure to food and water (considered to be a background exposure level).

Thiacloprid is not registered or proposed for use on any sites that would result in residential exposure. Therefore, the aggregate risk is the sum of the risk from food and water, which do not exceed the Agency's level of concern.

5. *Aggregate cancer risk for U.S. population.* In accordance with the EPA Draft Guidelines for Carcinogen Risk

Assessment: (July 1999), thiacloprid was classified into the category Likely to be Carcinogenic to Humans. A linear low-dose extrapolation approach is applied to the quantifications of risk to be estimated, based upon male rat thyroid, rat uterine, and mouse ovarian tumors. The data did not support a mode of action. The Q1* is 4.06×10^{-2} in human equivalents based on the rat uterine adenoma, adenocarcinoma and/or adenosquamous carcinoma combined tumor rates.

The dietary cancer risk from residues in food is 1.3×10^{-6} . A cancer DWLOC is calculated only for the general U.S. Population. For this population the calculated DWLOC of 1.5ug/L is the same as the calculated EEC of 1.5 ug/L.

$DWLOC = 3 \times 10^{-6} / Q_1^* \times \text{average food exposure (mg/kg/day)} \times \text{bw} \times 1,000 \text{ ug/mg} \div \text{Water consumption (liter/day)}$

$DWLOC (\text{US Pop.}) = 1.5 \text{ ug/L}$. Since the surface water EEC for cancer is 1.5 ug/L the risk cup is exactly filled to 3×10^{-6} .

For risk management purposes, EPA considers a cancer risk to be greater than

negligible when it exceeds the range of 1 in 1 million. EPA has generally treated cancer risks up to 3 in 1 million as within the range of 1 in 1 million.

EPA believes that the lifetime exposure will be result in negligible cancer risk for the following reason:

The cancer risk from the food uses alone is 1.3×10^{-6} . The dietary risk is based on residue data derived from the average of field trials. It is not unusual in the Agency's experience for field trial data to be an order of magnitude above actual monitoring. Since thiacloprid is a new chemical, actual monitoring data are not yet available. It is likely that the actual risk contribution from food will be much lower than current data indicate, which would result in a larger DWLOCcancer.

Thus, EPA does not expect that the general population would be exposed to levels that would exceed a negligible cancer risk over a lifetime.

6. *Determination of safety.* Based on these risk assessments, EPA concludes that there is a reasonable certainty that no harm will result to the general