

(greater than 180 days of exposure) non-occupational exposure scenarios. Therefore, the chronic aggregate risk assessment will consider exposure from food and drinking water only. The EECs for ground water residues of the parent compound (5.5), the ESA degradate (65.8), and the OA degradate (31.7) are

below the Agency's chronic DWLOC values for all population subgroups. The combined value of the parent plus degradates (103) is also below the chronic DWLOC value. The EECs for surface water residues of the parent compound (4.3), the ESA degradate (22.8), and the OA degradate (65.1) are

below the Agency's chronic DWLOC values for all population subgroups. The combined value of the parent plus degradates (92.2) is also below the chronic DWLOC value. The Agency concludes that chronic aggregate risks are not of concern.

TABLE 6.—AGGREGATE RISK ASSESSMENT FOR CHRONIC (NON-CANCER) EXPOSURE TO METOLACHLOR/S-METOLACHLOR

Population Subgroup	cPAD mg/ kg/day	% cPAD (Food)	Surface Water EEC (ppb)*	Ground Water EEC (ppb)*	Chronic DWLOC (ppb)
U.S. Population	0.1	2	92.2	103	3442.50
Females 13–50	0.1	1	92.2	103	2962.11
Children 1–6	0.1	4	92.2	103	959.75
Males 13–19	0.1	2	92.2	103	2954.55

\*Represents the combined value of parent plus the ESA and OA degradates.

3. *Short-term risk.* A short-term aggregate risk assessment considers potential exposure from food, drinking water, and short-term, non-occupational (residential) pathways of exposure. For S-metolachlor, potential short-term, non-occupational risk scenarios include oral exposure of children to treated lawns. In this aggregate short-term risk assessment, exposure from food, drinking water, and residential lawns (S-metolachlor use only) has been considered. Since only children have the potential for non-occupational, short-term risk, they are the only population subgroup included below. Short-term DWLOC values have been calculated for S-metolachlor only, since Syngenta no longer holds any racemic metolachlor residential end-use products. EECs for the parent

compound, the ESA degradate, and the OA degradate are below the short-term S-metolachlor DWLOC value for the population children (1 to 6 years old). The combined value of the parent plus the degradates is also below the short-term S-metolachlor DWLOC value. The Agency concludes that short-term aggregate risks from S-metolachlor are not of concern. The target MOE is 100, based on the 100x uncertainty factor, and the 1x FQPA safety factor. This MOE is not exceeded by the MOE for food which is  $1.6 \times 10^4$  (short-term oral NOAEL (50 mg/kg/day)/chronic dietary exposure of children (0.003171 mg/kg/day); MOE for oral which is 1,100 (short-term oral NOAEL (50 mg/kg/day)/combined hand-to-mouth, object-to-mouth, and soil ingestion oral exposure (0.046 mg/kg/day S-metolachlor));

aggregate MOE for food and residential which is  $1,000 (1 \div (1 \div \text{MOE food}) + (1 \div \text{MOE oral}))$ ; or allowable water exposure which is 0.45 mg/kg/day  $(1 \div (1 \div \text{Target Aggregate MOE}) - (1 \div \text{Aggregate MOE (food and residential)}))$ . The DWLOC is 4,000 ppb. The EEC for ground water is 103.3 ppb (parent 5.5, ESA metabolite 65.8 ppb and OA metabolite 32 ppb). The EEC for surface water is 92.2 ppb (parent 4.3, ESA metabolite 22.8 ppb and OA metabolite 65.1 ppb).

For informational purposes, it is noted that the EEC values for the parent compound, ESA degradate, and the OA degradate are below the metolachlor short-term DWLOC value for children. The combined value of the parent plus the degradates is also below the metolachlor short-term DWLOC value.

TABLE 7.—AGGREGATE RISK ASSESSMENT FOR SHORT-TERM EXPOSURE TO METOLACHLOR/S-METOLACHLOR

Population Subgroup	Aggregate MOE (Food + Residential)	Aggregate Level of Concern (LOC)	Surface Water EEC (ppb)	Ground Water EEC (ppb)	Short-Term DWLOC (ppb)
Children 1 to 6	1,000	100	92.2	103.3	4,000

4. *Intermediate-term risk.* An intermediate-term aggregate risk assessment considers potential exposure from food, drinking water, and non-occupational (residential) pathways of exposure. However, for metolachlor/S-metolachlor, no intermediate-term non-occupational exposure scenarios (greater than 30 days exposure) are expected to occur. Therefore, intermediate-term DWLOC values were not calculated and an intermediate-term aggregate risk assessment is not required.

5. *Aggregate cancer risk for U.S. population.* An aggregate cancer risk assessment considers potential carcinogenic exposure from food, drinking water, and non-occupational (residential) pathways of exposure. However, as noted under Unit III.B., Toxicological Endpoints, the NOAEL that was established based on tumors in the rat (15 mg/kg/day, seen at the highest dose tested of 150 mg/kg/day) is comparable to the NOAEL of 9.7 mg/kg/day selected for establishing the chronic

reference dose for metolachlor. It is assumed that the chronic dietary endpoint is protective for cancer dietary exposure. Therefore, a separate cancer aggregate risk assessment was not conducted, and cancer DWLOC values were not calculated.

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 population, and to infants and children