Health Based Guidance for Water
Health Risk Assessment Unit, Environmental Health Division
651-201-4899

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Chemical Name: Dimethenamid Degradates: ESA and OXA

CAS: 205939-58-8 (ESA) and 380412-59-9 (OXA)

Dimethenamid ESA: Ethanesulfonic acid degradate of dimethenamid
Dimethenamid OXA: Oxanilic acid degradate of dimethenamid

MDH finds there is insufficient toxicity information available for dimethenamid ESA and OXA to develop chemical specific guidance for groundwater.

The dimethenamid ESA and OXA degradate guidance values will be issued as Risk Assessment Advice (RAA) and will be based on the Health Based Values (HBVs) of the parent compound, dimethenamid. This approach is consistent with the approach outlined in the Minnesota Statute 103H.201 Health Risk Limit Rules, Section 4717.7900 Chemical Breakdown Products.

The HBV values for dimethenamid are:

Short-term – 600 ug/L	Additivity Endpoints – Developmental, Hepatic (liver) system, Nervous system, Reproductive system (Female)
Subchronic – 600 ug/L	Additivity Endpoints – Developmental, Hepatic (liver) system, Nervous system, Reproductive system (Female)
Chronic – 300 ug/L	Additivity Endpoints – Hepatic (liver) system

For additional information about the derivation of the HBVs for dimethenamid see: http://www.health.state.mn.us/divs/eh/risk/guidance/gw/dimethensumm.pdf.

Dimethenamid ESA and OXA degradates have not been classified as to their carcinogenic potential. The parent compound, dimethenamid, is classified as a group C "possible human carcinogen" so a nonlinear approach was used to evaluate whether the chronic RfD is protective of potential cancer effects. MDH determined that the dimethenamid chronic RfD (0.06 mg/kg-d) is protective for cancer risk.

Volatile: Yes (moderate)

Summary of Guidance Value History:

No previous chemical specific MDH guidance exists for dimethenamid ESA and OXA. The MDH Risk Assessment Advice developed in 2013 represent new values. For the guidance history for dimethenamid see: https://www.health.state.mn.us/communities/environment/risk/docs/guidance/dwec/dimethensum.pdf.

Summary of toxicity testing for health effects identified in the Health Standards Statute:

	Endocrine	Immunotoxicity	Development	Reproductive	Neurotoxicity
Tested?	No	No	No	No	No
Effects?	No	No	No	No	No

Note: Even if testing for a specific health effect was not conducted for this chemical, information about that effect might be available from studies conducted for other purposes. Most chemicals have been subject to multiple studies in which researchers identify a dose where no effects were observed, and the lowest dose that caused one or more effects. A toxicity value based on the effect observed at the lowest dose across all available studies is considered protective of all other effects that occur at higher doses.

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