

**FINAL STATEMENT OF REASONS
TITLE 27, CALIFORNIA CODE OF REGULATIONS**

**PROPOSED AMENDMENT TO
SECTION 25805, SPECIFIC REGULATORY LEVELS: CHEMICALS CAUSING
REPRODUCTIVE TOXICITY**

**MAXIMUM ALLOWABLE DOSE LEVEL:
METHAM SODIUM**

This is the Final Statement of Reasons for the adoption of a Maximum Allowable Dose Level (MADL) for metham sodium. This chemical was listed in May 1998 as known to the State of California to cause reproductive toxicity (developmental endpoint) under Proposition 65¹. On January 26, 2018, the Office of Environmental Health Hazard Assessment (OEHHA) issued a Notice of Proposed Rulemaking to adopt the MADL under Title 27, California Code of Regulations, section 25805(b)². OEHHA proposed a MADL of 290 micrograms per day for metham sodium. The Initial Statement of Reasons (ISOR) set forth the scientific basis for the proposed amendment. A public comment period was provided from January 26 to March 12, 2018. The Notice stated that a public hearing would be held only on request. No request for a public hearing was received. No public comments were received by OEHHA.

PEER REVIEW

OEHHA provided the Notice of Proposed Rulemaking and the ISOR for the proposed MADL for metham sodium to the members of the Developmental and Reproductive Toxicant Identification Committee (DARTIC) for their review and comment as required by Section 25801(f). Comments were received from committee members Dr. Charles Plopper and Dr. Patrick Allard.

RESPONSES TO EXTERNAL SCIENTIFIC PEER REVIEW COMMENTS

The peer-review comments received by OEHHA on March 21, 2018 are summarized and responses are provided below.

¹ The Safe Drinking Water and Toxic Enforcement Act of 1986, commonly known as Proposition 65 (codified at Health and Safety Code, section 25249.5 et seq.)

² All further references are to sections of Title 27, California Code of Regulations, unless otherwise noted.

Dr. Patrick Allard:

Comment: There is little quality data available from the Initial Statement of Reasons pertaining to Metham Sodium: 2 studies, one in rat and one in rabbit. Based on the paucity of data, it is difficult to accurately estimate a MADL. Furthermore, as the documents pointed out, inhalation is a route of exposure of significance, yet the included studies did not examine that particular route. Considering that for chronic toxicity, according to EPA's ToxRef data, the LOAEL is five times lower (1mg/kg/day) and the NEL is at 0.05mg/kg/day, it seems that perhaps we should either wait for more data to become available or use a more stringent MADL based on the chronic toxicity data which is more comprehensive than the developmental toxicity.

Response: Four studies, two in rats and two in rabbits, were identified in the ISOR. These included two studies that established the scientific basis for the 1998 listing of metham sodium as known to cause reproductive toxicity, as well as two additional, relevant studies discussed in the ISOR. OEHHA determined that these studies provide a sufficient basis for calculation of a MADL. Section 25801 requires that MADLs be determined based on evidence and standards of comparable scientific validity to the evidence and standards that form the scientific basis for the chemical's listing. The two studies that established the basis for the listing clearly meet this requirement. OEHHA determined that the two additional studies identified in the ISOR also meet this requirement.

OEHHA agrees that, as noted in the comment, developmental toxicity studies by the inhalation route of exposure were not identified. For that reason, OEHHA relied on oral developmental toxicity studies of metham sodium for estimating effects that may occur via either oral or inhalation exposures, which is consistent with the approach taken by other bodies such as the US Environmental Protection Agency and the California Department of Pesticide Regulation. As with most safe harbor levels, the MADL for metham sodium is applicable to all relevant routes of exposure.

Consistent with the regulatory requirement that "only studies producing the reproductive effect which provides the basis for the determination that a chemical is known to the state to cause reproductive toxicity shall be utilized for the determination of the NOEL" (Section 25803(a)(1)), OEHHA must base the MADL on developmental toxicity. No change to the proposed regulation was made based on this comment.

Dr. Charles Plopper:Comment:

Multiple effects on dams and their fetuses of oral exposure to metham sodium were evaluated in both the study using Wistar rats (Tinston, 1993) and the study using NZW rabbits (Hodge, 1993). The study assessments appeared to be of sufficient breadth and

depth to provide an adequate basis to select maternal and developmental NOEL's of 5 mg/kg.

The selected studies in rats and rabbits were of sufficient quality and sensitivity to establish the highest level of no observable effect. No effects in the dams or fetuses were observed in the rabbit study at 5 mg/kg (Hodge, 1993). In the rat study (Tinston, 1993), minor, nonsignificant changes in ossification at two sites in a small number of fetuses was observed. However, according to the study authors, this level of change was within the range observed in historical controls.

Based on assessment of the four studies available to reviewers, the selected study (Tinston, 1993), is of comparable, in fact higher, quality scientific validity to the evidence and standards which form the scientific basis for listing the chemical.

The data available are sufficient for assessments of anatomic, physiologic and metabolic considerations of reproductive and developmental toxicologic impacts on pregnant dams and fetuses exposed to metham sodium via the oral route.

The calculation of the MADL appears to be correct.

Response: OEHHA acknowledges the comment. No changes were made to the regulatory proposal based on these comments.

ALTERNATIVES DETERMINATION

In accordance with Government Code section 11346.9(a)(4), OEHHA has, throughout the adoption process of this regulation, considered available alternatives to determine whether any alternative would be more cost effective in carrying out the purpose for which the regulation was proposed, or would be as cost effective and less burdensome to affected private persons than the proposed action.

OEHHA has determined that no reasonable alternative considered by OEHHA or that has otherwise been identified or brought to the attention of OEHHA would either be more effective in carrying out the purpose for which the action is proposed, or would be as effective and less burdensome to affected private persons, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law than the proposed regulation.

LOCAL MANDATE DETERMINATION

OEHHA has determined this regulatory action will not impose a mandate on local agencies or school districts nor does it require reimbursement by the State pursuant to Part 7 (commencing with Section 17500) of Division 4 of the Government Code. OEHHA has also determined that no nondiscretionary costs or savings to local agencies or school districts will result from this regulatory action. Proposition 65 provides an express exemption from the warning requirement and discharge prohibition for all state and local agencies. Thus, these regulations do not impose any mandate on local agencies or school districts.