United States Environmental Protection Agency | Prevention, Pesticides And Toxic Substances (7508W) | EPA-738-F-95-030 December 1995

# R.E.D. FACTS

# Hydroxypropyl methane-thiosulfonate



## Pesticide Reregistration

All pesticides sold or distributed in the United States must be registered by EPA, based on scientific studies showing that they can be used without posing unreasonable risks to people or the environment. Because of advances in scientific knowledge, the law requires that pesticides which were first registered before November 1, 1984, be reregistered to ensure that they meet today's more stringent standards.

In evaluating pesticides for reregistration, EPA obtains and reviews a complete set of studies from pesticide producers, describing the human health and environmental effects of each pesticide. The Agency develops any mitigation measures or regulatory controls needed to effectively reduce each pesticide's risks. EPA then reregisters pesticides that can be used without posing unreasonable risks to human health or the environment.

When a pesticide is eligible for reregistration, EPA explains the basis for its decision in a Reregistration Eligibility Decision (RED) document. This fact sheet summarizes the information in the RED document for reregistration case 3033, hydroxypropyl methanethiosulfonate (HPMTS).

## Use Profile

HPMTS is a microbiocide/microbiostat used to control slime forming algae, bacteria, and fungi in commercial/industrial water cooling systems, industrial processing water, and pulp/paper mill water systems. It is also used as a preservative in industrial coatings, emulsions, paints and wet-end additives/industrial processing chemicals.

Formulations include ready-to-use solutions and soluble concentrates. For the primary use, recirculating water cooling systems, it is applied mostly by direct pouring. HPMTS may be directly poured or metered into industrial processing water and pulp/papermill water systems. The chemical is also added to paint, varnish, coatings, polymer emulsions, and wet-end additives/industrial processing chemicals by metered pump.

Use practice limitations prohibit release to surface water except by National Pollutant Discharge Elimination System (NPDES) permit.

## Regulatory History

HPMTS was first registered as a pesticide in the U.S. in 1968. A March 1987 Data Call-In (DCI) required toxicity and exposure data. A September 1992 DCI required additional chemistry, human health and ecological effects data. Currently, nine HPMTS products are registered.

## Human Health Assessment

### Toxicity

In studies using laboratory animals, HPMTS generally has been shown to be of high acute toxicity. It is corrosive and severely irritating to skin and eyes and has been placed in Toxicity Category I (very highly or highly toxic) for this effect. HPMTS is also considered to be a dermal sensitizer. Testing indicated that HPMTS is negative for mutagenic effects.

### Dietary Exposure

chronic dietary risk is not expected because HPMTS is not a food-use pesticide.

### Occupational and Residential Exposure

Based on current use patterns, handlers (mixers, loaders, and applicators) may be exposed to HPMTS during pouring of concentrated solutions in industrial settings. Inhalation exposures are not expected because respirable particles are not expected from the current use pattern and because of the chemical's low vapor pressure. Residential exposures are not expected because of the chemical's low concentration in formulated paints and varnishes.

### Human Risk Assessment

HPMTS generally is of high acute toxicity, but was negative for mutagenic effects in animal studies. It poses no known chronic risks.

Of greater concern is the risk posed to handlers, particularly mixers/loaders/applicators who come into contact with concentrated HPMTS during mixing/loading/pouring of this pesticide. Exposure and risk to workers is mitigated by the use of PPE required by the Worker Protection Standard, supplemented by chemical resistant gloves, apron and face-shield as required by this RED. No Restricted Entry Interval is required because post-application exposures are not expected.

## Environmental Assessment

### Environmental Fate

In aqueous solutions, the chemical's half life is dependent on pH. HPMTS degrades moderately in weak acid solutions, quickly in neutral solutions, and very quickly in alkaline solutions.

### Ecological Effects

HPMTS is moderately toxic to slightly toxic to avian species on an acute and subacute basis, slightly toxic to fish, and moderately toxic to aquatic invertebrates.

### Ecological Effects Risk Assessment

Current uses of HPMTS are expected to result in minimal exposure or risk to the environment. Releases to surface water are already regulated through the requirement for NPDES permits. No risks to endangered species have been identified. Therefore, no additional risk mitigation measures are being required at this time.

## Risk Mitigation

To reduce acute eye and skin irritation risks to applicators/handlers of HPMTS, use of PPE including chemical-resistant gloves, apron, and face shield is required for end-use products classified as Toxicity Category I for these effects.

## Additional Data Required

EPA is not requiring the submission of any additional generic studies for HPMTS. However, EPA is requiring product-specific data including product chemistry and acute toxicity studies, revised Confidential Statements of Formula (CSF), and revised labeling for reregistration.

## Product Labeling Changes Required

All HPMTS End-Use Products must comply with EPA's current pesticide product labeling requirements, and with the following. For a comprehensive list of labeling requirements, please see the HPMTS RED document.

### Personal Protective Equipment (PPE) Requirements:

Sole-active-ingredient end-use products that contain HPMTS must be revised to remove any conflicting PPE requirements on their current labeling.

Multiple-active-ingredient end-use products that contain HPMTS must compare the handler personal protective equipment requirements set forth in this section to the PPE requirements on their current labeling and retain the more protective. For guidance on which PPE is considered more protective, see PR Notice 93-7.

The minimum (baseline) PPE for occupational uses of HPMTS end-use products is:

"Mixers, loaders, and others exposed to the concentrate must wear:

--Long-sleeve shirt and long pants,

--Chemical-resistant gloves*,

--shoes plus socks,

--chemical-resistant apron, and

--face shield."

### Other Label Requirements

The Agency is requiring the following labeling statements to be located on all end-use products containing HPMTS.

Registrants must specify on labeling the complete directions for use for each use pattern: site of application, type of application, timing of application, equipment used for application, and the rate of application (dosage).

### Other Labeling Statements

"Do not use this product in a way that will contact workers or other persons."

"This product may cause skin sensitization reactions in some people."

### For all HPMTS end-use products:

"Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet."

"Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing."

"Do not use in facilities discharging directly or indirectly to the estuarine or marine environment."

To reduce environmental risk from HPMTS discharge and disposal, product labels must include the statements pertaining to effluent discharge under the NPDES permitting system (refer to PR Notice 93-10) and disposal under any applicable federal laws after the above statement.

For HPMTS end-use products "gloves" if gloves are required PPE:

"Users should remove Personal Protective Equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly."

## Regulatory Conclusion

EPA has determined that products containing HPMTS are eligible for reregistration. The use of eligible HPMTS products in accordance with labeling specified in this RED will not pose unreasonable adverse effects to humans or the environment. These products will be reregistered once the required confirmatory generic data, product specific data, CSFs, and revised labeling are received and accepted by EPA. Products which contain active ingredients in addition to HPMTS will be reregistered when all of their other active ingredients are also eligible for reregistration.

## For More Information

EPA is requesting public comments on the Reregistration Eligibility Decision (RED) document for HPMTS during a 60-day time period, as announced in a Notice of Availability published in the Federal Register. To obtain a copy of the RED document or to submit written comments, please contact the Pesticide Docket, Public Response and Program Resources Branch, Field Operations Division (7506C), Office of Pesticide Programs (OPP), US EPA, Washington, DC 20460, telephone 703-305-5805.

Electronic copies of the RED and this fact sheet can be downloaded from the Pesticide Special Review and Reregistration Information System

at 703-308-7224. They also are available on the Internet on EPA's gopher server, *GOPHER.EPA.GOV*, or using ftp on *FTP.EPA.GOV*, or using WWW (World Wide Web) on *WWW.EPA.GOV*.

Printed copies of the RED and fact sheet can be obtained from EPA's National Center for Environmental Publications and Information (EPA/NCEPI), PO Box 42419, Cincinnati, OH 45242-0419, telephone 513-489-8190, fax 513-489-8695.

Following the comment period, the HPMTS RED document also will be available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, telephone 703-487-4650.

For more information about EPA's pesticide reregistration program, the HPMTS RED, or reregistration of individual products containing HPMTS, please contact the Special Review and Reregistration Division (7508W), OPP, US EPA, Washington, DC 20460, telephone 703-308-8000.

For information about the health effects of pesticides, or for assistance in recognizing and managing pesticide poisoning symptoms, please contact the National Pesticides Telecommunications Network (NPTN). Call toll-free 1-800-858-7378, between 9:30 am and 7:30 pm Eastern Standard Time, Monday through Friday.