MEMORANDUM **June 2, 2000**

SUBJECT: Information on the Misuse of Sodium Dimethyldithiocarbamate

FROM: Michael B. Cook, Director
Office of Wastewater Management

TO: Water Management Division Directors (Regions 1-10)

I am writing to alert you to the potential problems that could arise from the misuse of sodium dimethyldithiocarbamate and associated compounds. Sodium dimethyldithiocarbamate, is used to aid the precipitation of metals in industrial wastewater treatment and pretreatment systems. When used appropriately it can effectively enhance the removal of some difficult to treat pollutants, without impacting the environment or POTW operations. However, sodium dimethyldithiocarbamate is toxic to aquatic life and can combine to form, or break down to, a number of other toxic chemicals, including thiram (an EPA registered fungicide) and other thiurams, other dithiocarbamates, carbon disulfide, and dimethylamine. Thiram is known to be toxic to aquatic life at the following levels: LC50 less than 10 μg/l (parts per billion) including some less than 1 μg/l for several varieties of catfish, carp, rainbow trout, daphnia, and harlequinfish; LC50 between 10 and 100 ug/l in other studies (AQUIRE database at http://www.epa.gov/medecotx/quicksearch.htm).

The U.S. Department of Justice, on behalf of U.S. EPA, filed a complaint on April 27, 2000, which alleges that a metal plating facility in Indiana discharged the above chemicals during closure operations (http://www.epa.gov/region5/news00/00opa084.htm). The State of Indiana has filed a similar suit. (http://www.state.in.us/idem/macs/factsheets/whiteriver/complaint.pdf). Specifically, the complaint alleges that greater than normal amounts of sodium dimethyldithiocarbamate and other treatment chemicals were used to treat more concentrated wastewaters than those encountered during routine production. This resulted in discharges that caused inhibition and disruption of the local Publicly Owned Treatment Works (POTW), and discharges of pollutants to the river. Pollutants discharged into the river included ammonia, Thiram and other thiurams, amines, and carbamates. Shortly thereafter, hundreds of thousands of fish, 117 tons, died along a 50-mile stretch of the White River, and the ecosystem of the river was severely damaged.

Based on the above, I encourage you to alert municipalities and industrial facilities utilizing sodium dimethyldithiocarbamate to exercise caution in the handling and use of this chemical. Since there are no categorical or water quality standards for this chemical, it is unlikely that industrial facilities are required to monitor wastestreams for this chemical and

others associated with it. Control Authorities must ensure that their industrial users are aware of their responsibility to provide information regarding industrial production and treatment operations. Consistent with those responsibilities, industrial facilities must provide notice of any substantial change in the volume or character of pollutants in their discharge (40 CFR 403.12(j)). In addition, potential operational problems or concerns must be promptly reported to the appropriate permitting authority or pretreatment Control Authority (40 CFR 403.12(f)). Any use of sodium dimethyldithiocarbamate in a manner or amount that could result in measurable discharge of this chemical, including complexed or combined forms, to a sewer system or water body should be avoided.

For additional information, contact: Timothy Connor, Office of Science and Technology, Engineering and Analysis Division, at 202/260-3164, or Jan Pickrel, Office of Wastewater Management, Water Permits Division, at 202/260-7904.

cc: Susan Wayland, EPA-OPPT
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Tom Dickerson, EPA-OCIG
National Metal Finishing Strategic Goals Program Implementation Committee
Association of Metropolitan Sewerage Agencies
Association of State and Interstate Water Pollution Control Administrators
Water Environment Federation
National Association of Metal Finishers
American Electroplaters and Surface Finishers Society
Metal Finishing Suppliers Association
Chemical Manufacturing Association
Regional Pretreatment Coordinators
State Pretreatment Coordinators