COMPARATIVE 13-WEEK DRINKING WATER TOXICITY STUDY OF SODIUM DICHROMATE DIHYDRATE IN MALE $B6C3F_1$, BALB/C, AND am3-C57Bl/6 TRANSGENIC MICE AND EVALUATION OF *IN VIVO* MUTAGENICITY OF SODIUM DICHROMATE DIHYDRATE

Groups of 10 $B6C3F_1$ and BALB/C male mice and groups of 15 (5 animals for toxicity and 10 for mutagenesis) am3-C57Bl/6 male transgenic mice were given sodium dichromate dihydrate in their drinking water at doses of 0, 62.5, 125, or 250 mg/L for 13-weeks. The laboratory report from this study done under contract was received by the NTP in April 2003. The final pathology data and the *in vivo* mutagenicity study results are tentatively scheduled to be available by June of 2004. The following is a summary of the completed data.

Survival, Water Consumption and Body and Organ Weights:
Mice of all three strains used survived till the end of the study period. There was a dose-related decrease in water consumption and body weight of all three strains of mice. The decrease in body weight was attributed to the decrease in water consumption due to poor water palatability. The decreases in organ weights of the heart, lung, liver, and right kidney were attributed to the decreased body weight.

Hematology:
Hematology measurements were taken at the end of the study. A dose-related in decrease in mean corpuscular cell volume and mean corpuscular hemoglobin concentration was observed in all three strains of mice and the decrease was statistically significant in all dose groups of mice receiving the chemical. Also, a dose-related increase in red blood cell count was observed in all three strains of mice and the increase was significant in $B6C3F_1$ and BALB/C mice in the 250 mg/L dose group. A significant decrease in hemoglobin was observed in am3-C57Bl/6 mice at 125 and 250 mg/L and a significant decrease in hematocrit was observed in the same strain of mice at the 250 mg/L dose level.

Clinical Chemistry:

Significant decreases in serum sorbitol dehydrogenase (SDH) and alkaline phosphatase activities occurred in $B6C3F_1$ mice in the two highest dose groups and a significant increase in total serum protein occurred in mice in the highest dose group. Balb/c mice in the highest dose and/or the mid- and highest groups showed decreases in SDH activity, total protein and albumin concentrations and increases in serum alanine aminotransferase activity (ALT). am3-C57Bl/6 mice in the low- and mid- dose groups showed a significant decrease in SDH activity and those in the highest dose showed a significant increase in ALT activity.

Peripheral Blood Micronucleus Test Findings:
Peripheral blood smears taken at study termination showed a significant increase in micronucleated erythrocytes in am3 C57BL/6 mice, and a small increase in micronucleated erythrocytes was noted in $B6C3F_1$ mice; no induction of micronuclei occurred in male BALB/c mice. No indication of bone marrow toxicity was seen in any of the mouse strains examined, based on the comparative percentages of mature and immature erythrocytes in peripheral blood.