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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

11 MAY 1998

OFFICE OF THE
REGIONAL ADMINISTRATOR

Raymond Fatz
Deputy Assistant Secretary of the Army
(Environmental Safety & Occupational Health)
Department of the Army
110 Army Pentagon (Room 2E577)
Washington, DC 20310-0110

Dear Mr. Fatz:

For the past year, we have been working with representatives of the military, NASA and DOE to address a very serious environmental problem in Region 9 with the chemical perchlorate. We are providing you with information we have recently received which indicates perchlorate has been widely used across the country. We strongly recommend the testing of soil and water supplies which could be affected by major federal facilities on the enclosed lists, since all 14 sites investigated so far in Region 9 have discovered groundwater contamination by perchlorate. Additionally federal contractors responsible for manufacturing, testing, maintaining and disposing of perchlorate- containing chemicals should be instructed to monitor for releases of perchlorate to the environment. Our experience suggests the need for comprehensive research on the locations where federal agencies and their contractors used, tested and disposed of perchlorate since the 1940s. Perchlorate may persist in the environment for many decades.

We requested information about perchlorate shipments (greater than 500 pounds in any one year) from perchlorate manufacturers, and information about major users of perchlorate from the US Air Force. As you can see from the enclosed lists, we have information on over 150 different facilities in more than 35 states where perchlorate has been used. We are also aware of shipments to foreign countries. Since the 1950s, over 870 million pounds of perchlorate have been manufactured in the US. Military and space applications are widely represented on these lists.

Perchlorate (ClO_4^-) is a man-made inorganic salt used in solid rocket fuel, in munitions and in the pyrotechnics industry. Perchlorate in its various chemical forms is essentially as soluble as table salt and easily dissolves and moves through both groundwater and surface water. Perchlorate from at least 12 separate sources has been detected in 110 public water supply wells in California and in detectable concentrations in the Colorado River from sources in Nevada. Nearly all appear to be related to solid rocket fuel manufacturing and testing. The perchlorate manufacturers estimate that approximately 90% of perchlorate is used for rocket fuel, with most of the rest used for explosives and pyrotechnics.

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There remain many uncertainties concerning the toxicity and environmental effects of perchlorate. In high dosages, perchlorate interferes with thyroid activity and may have other health effects, particularly on children and sensitive populations. EPA has established a provisional reference dose in the range of 4 to 18 parts per billion in drinking water, and the State of California has set an action level of 18 ppb in public water supply.

We would encourage you to consider sending staff to the Interagency Perchlorate Steering Committee stakeholder forum which is scheduled for May 19-21 in Henderson, Nevada, cosponsored by the Department of Defense with EPA and a host of state, tribal and local agencies. This is a national stakeholder forum on perchlorate which will address many of the uncertainties surrounding this relatively new environmental and public health issue. A flyer for the meeting is attached.

Please feel free to contact Kevin Mayer of my staff at (415) 744-2248 if you have any questions or need additional information.

Yours,

Keith Takata

for Felicia Marcus
Regional Administrator

Enclosures