



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
HUNTSVILLE CENTER, CORPS OF ENGINEERS
P.O. BOX 1600
HUNTSVILLE, ALABAMA 35807-4301

CEHNC-CX-MM

7 May 2008

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Proper Use of Chromium Data in Health Hazard Evaluation Module of the Munitions Response Site Prioritization Protocol (MRSPP) for Formerly Used Defense Sites, Environmental and Munitions Center of Expertise Interim Guidance Document (IGD) 08-03

1. PURPOSE: This IGD:

a. Identifies incompleteness and errors associated with chromium data in Comparison Value Tables of the Health Hazard Evaluation (HHE) module of the Munitions Response Site Prioritization Protocol (MRSPP).

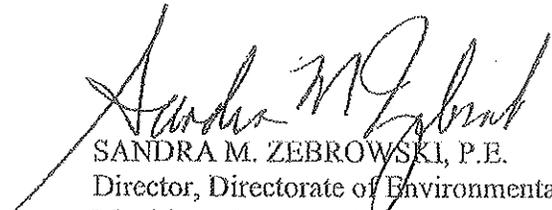
b. Provides guidance on proper use of chromium data for MRSPP score computation.

2. APPLICABILITY: This guidance is applicable to the geographic military Districts, MMRP Design Centers, US Army Engineering and Support Center, Huntsville, Major Subordinate Commands (MSCs), and designated Remedial Action Districts performing MMRP response actions.

3. EFFECTIVE DATES: The requirements and procedures set forth in this interim guidance are effective immediately. They will remain in effect indefinitely, unless superseded by other policy or regulation.

4. POINT OF CONTACT: If you need additional information, please contact Dr. Shah Alam at (256) 895-1349.

Encl


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Proper Use of Chromium Data in Health Hazard Evaluation (HHE) Module of the Munitions Response Site Prioritization Protocol (MRSPP) for Formerly Used Defense Sites (FUDS)

Issue: Incompleteness and errors associated with chromium data in Comparison Value Tables of the HHE module of the MRSPP have caused confusion among users. A consistent use of chromium data is necessary to achieve the prioritization objective of the MRSPP.

Background:

- On 5 October 2005, DoD published the MRSPP as a Federal Rule, codified at 32 CFR 179. The MRSPP requires the DoD Components to apply the prioritization methodology to determine a relative priority for munitions response actions at Munitions Response Sites (MRS). The priority assigned is based on the overall conditions at each MRS.
- The HHE Module evaluates the relative risk to human health and the environment where munitions constituents and any incidental non-munitions-related contaminants are known or suspected to be present.
- The Contaminant Hazard Factor (CHF) of the HHE Module is based on the ratio of the maximum concentration of a contaminant detected in an environmental medium to a risk-based comparison value for that contaminant in that medium. The comparison values for the contaminants are found in Appendix B of MRSPP Primer (https://www.denix.osd.mil/portal/page/portal/content/environment/cleanup/LA/MMRP/MRSPP_PRIMER.PDF). The Appendix B comparison values for chromium are reproduced in Table 1 (enclosed).

Discussion:

- Only contaminants and their associated comparison values listed in Appendix B (MRSPP Primer) can be used to calculate the CHF.
- If a contaminant is not listed in Appendix B (MRSPP Primer), it cannot be used to calculate the CHF.
- If a listed contaminant (for example, chromium) has comparison values only for some media, use only available values for the media listed to calculate the CHF.
- Comparison values from any source other than Appendix B should not be used.

- Available analytical data for FUDS Site Investigations are almost always for total chromium (chromium) by either method SW6010 or SW6020. Speciated chromium (chromium III or chromium VI) require a separate analysis via an alternate method. Analytical data reporting sheets will indicate whether analysis was for chromium (total is implied), chromium III or chromium VI.
- CAS numbers for chromium III (16065-83-1) and chromium VI (18540-29-9) are incorrect in Appendices B-2 and B-3 of the MRSPP Primer. CAS number for total chromium (7440-47-3) is also incorrect in Appendix B-1 of the MRSPP Primer. The corresponding comparison values, however, are correct.
- No screening value is available for total chromium in water for Human Health (Appendix B-1 of MRSPP Primer) and total chromium in water, fresh and marine, for ecological receptors (Appendix B-2 of MRSPP Primer). Therefore, the CHF should not include total chromium in the calculations for these media.

Recommendations:

- The USACE should adhere to the directions provided for the MRSPP score calculation to achieve consistency in prioritization.
- CHF values previously calculated using a process that deviated from directions above should not be changed unless the new calculation would change the MRS Priority. These can be corrected during the Army Quality Assurance Panel Review, input into FUDSMIS, or during the next Annual MRSPP Update. Unless the new calculation changes the MRS Priority, additional stakeholder coordination is not required.

Table 1: Chromium comparison values from Appendix B of MRSPP Primer with proposed corrections.

Analyte	CAS Number Appendix B-1	CAS Number Appendix B-2	CAS Number Appendix B-3	Appendix B-1 Human Health		Appendix B-2 Water Quality		Appendix B-3 Sediment	
				Soil mg/kg	Water µg/L	Freshwater µg/L	Marine µg/L	Freshwater mg/kg	Marine mg/kg
Total Chromium (1:6 ratio Cr VI:Cr III)	MRSPP-01 (Should be corrected to 7440-47-3)	Not listed	7440-47-3	1.60E+03	NA (No screening value available)	Not listed	Not listed	4.34E+01	5.23E+01
Chromium III	16065-83-1	1308-14-1 (Should be corrected to 16065-83-1)	1308-14-1 (Should be corrected to 16065-83-1)	1.00E+05	5.50E+04	7.40E+01	1.03E+02	NA (No screening value available)	NA (No screening value available)
Chromium VI	18540-29-9	7440-47-3 (Should be corrected to 18540-29-9)	Not listed	2.30E+02	1.10E+02	1.10E+01	5.00E+01	Not listed	Not listed