

A. The Explosive Hazard Evaluation (EHE) Module

The EHE module is used to conduct a relative comparison of the potential explosive hazards posed by UXO or DMM at an MRS. The EHE module determines the explosive hazard through evaluation of three general factors (*i.e.*, categories of information), each of which is comprised of two to four specific data elements. The factors comprising the EHE module are:

- Explosive hazard, which has the elements Munitions Type and Source of Hazard and characterizes the cause of the hazard;
- Accessibility, which has the elements Information on the Location of Munitions, Ease of Access, and Status of Property and characterizes the pathway or means by which a receptor can encounter the hazard; and
- Receptors, which has the elements Population Density, Population Near Hazard, Types of Activities/Structures, and Ecological and/or Cultural Resources and accounts for any receptors likely to be impacted by exposure to the hazard.

Each data element is assigned a maximum numerical value and consists of several classifications (each of which is assigned a numeric value ranging up to the maximum value of the data element) that are intended to capture certain site-specific conditions. The DoD work group developed these values based on the knowledge of technical experts within DoD and comments received from stakeholders. The values were adjusted based on the results of extensive testing of the Protocol and stakeholders' comments. The total value assigned to each data element as well as the value of the specific classifications

within each element are relative evaluations of each element's contribution to the overall explosive hazard. The sum of these values is the EHE module score for the MRS, which is used to derive the EHE module hazard evaluation rating. Additional information on each factor and data element is provided in the text.

(1) Explosive Hazard Factor

The Explosive Hazard factor of the EHE module is comprised of two data elements, Munitions Type and Source of Hazard, and constitutes 40 percent of the numerical score of the EHE module.

The Munitions Type data element classifies munitions according to their potential to detonate and their inherent explosive power. Portability, the ability for a munition to be readily transported, is indirectly accounted for in this element. The DoD work group initially considered including portability as a distinct data element under the Accessibility factor, but because UXO can be found in many different configurations (*e.g.*, intact warheads, fuzes or other components that have separated from the munitions) that would be considered portable, DoD found it too difficult to define the criteria necessary to address portability separately in the EHE module.

In developing the data elements within this factor, the DoD work group determined the need for separate classifications for many common munitions types but also recognized that there are exceptions to several categories. For example, although there is a separate classification for practice munitions, when the associated fuze is determined to be sensitive by a technically qualified individual, the

munition will be classified as sensitive not as practice to more accurately reflect the greater explosive hazard presented by sensitive fuzes. Similarly, while the Protocol provides a separate classification for small arms ammunition to reflect the limited explosives hazard they posed because they lack an explosive charge. To select the small arms ammunition classification, there must be evidence that only small arms ammunition was used at the MRS. If there is evidence that munitions other than small arms ammunition were used or could be present on the MRS, the munition type with the highest numeric value (*i.e.*, the greatest potential hazard) is used for the evaluation. DoD has also included an "evidence of no munitions" classification, which can only be used if, after investigation, there is physical or historical evidence that indicates there are no munitions present. The definition for "evidence of no munitions" is important as it requires DoD to investigate all MRS for the presence of UXO or DMM. Further, DoD adopted the criteria for physical and historical evidence as an affirmation that the DoD Components will collect information upon which to base decisions. This approach to physical or historical evidence is intended to preclude decisions based on the logic that " * * * there is no physical/historical evidence of * * *," which could mean there is an absence of information on what physical or historical evidence is available.

The classifications, the definition for each classification, and associated numerical scores for the Munitions Type data element are presented in Table 1.

TABLE 1.—CLASSIFICATIONS WITHIN THE EHE MODULE TYPE DATA ELEMENT

Classification	Description	Score
Sensitive	<ul style="list-style-type: none"> • All UXO that are considered likely to function upon any interaction with exposed persons, including: submunitions, cluster munitions, 40mm high-explosive grenades, white phosphorus (WP) munitions (including practice munitions with sensitive fuzes, but excluding all other practice munitions), and high-explosive anti-tank (HEAT) munitions. • All hand grenades containing an explosive filler. 	30
High explosive (used or damaged)	<ul style="list-style-type: none"> • All UXO containing a high-explosive filler (<i>e.g.</i>, RDX, Composition B) that are not considered "sensitive". • All DMM containing a high-explosive filler that have been damaged by burning or detonation. • All DMM containing a high-explosive filler that have deteriorated to the point of instability. 	25
Pyrotechnic	<ul style="list-style-type: none"> • All UXO containing pyrotechnic fillers other than white phosphorous (<i>e.g.</i>, flares, signals, simulators, smoke grenades). • All DMM containing pyrotechnic fillers other than white phosphorous (<i>e.g.</i>, flares, signals, simulators, smoke grenades) that have been damaged by burning or detonation or that have deteriorated to the point of instability. 	20