Munitions Item Disposition Action System (MIDAS)

As of DEC 2017

Joint Munitions Command
Munitions Operations
AMSJM-ICM
MIDAS Agenda

- History
- Knowledge Management System
- Characterization Defined
- System Value
  - Resource Recovery and Reuse (R3)
  - OB/OD Alternatives
  - Environmental Compliance
  - Data Integrity & Security
- Reporting Examples
- Summary
MIDAS is a pure knowledge management system, that details Munition items to meet requirements of 40 CFR

- B5A (Army, Navy, Air Force and Marines) and field service accounts
- Over 32,000 NSN’s characterized
- Proprietary and Classified Off-line
- Digitization and storage of TDP’s
MIDAS Customers (Who)

- Demil – Commercial & Organic
- Environmental
- DOD Studies
- Maintenance / Renovation
- Safety / Health
- Training
- Testing
- Medical Community
- Acquisition

- Packaging
- Law Enforcement Agencies
- EOD
- Legal Community
- Foreign Countries
- UXO / Cleanup (FUDS)
- UN Demining
- Toxic Chemical Demilitarization Program
Munition detailed structures (the “Expands”)
Material/compound usages
Reports for each munition
Word dictionary and synonyms
Calculated weights

Similar to Web Search Engines - MIDAS Tools Create Support Databases to Boost Performance

*These tools create databases 80 times the size of the Central Library (12 GBytes).*
Characterization

- Characterization is the knowledge management process used to break down munitions items to identify the recoverable components (RRDA) and identify those items that generate environmental issues upon demilitarization (MMR & RCRA). This process involves taking technical data packages, specifications, material safety data sheets, technical documentation, and experiential learning and formatting them into a usable knowledge source for the enterprise.

- Technical Data Collection/Digitization

- Knowledge Management Process

(CFR) 40 264.13 (a) (1) before an owner or operator treats, stores or disposes of any hazardous wastes he must obtain a detailed chemical and physical analysis of that waste
### DAC - MIDAS Detailed Structure For An Item

**Reported Weight**
- Reported Weight (lbs): 9.1800
- Calculated Weight (lbs): 9.5123

#### Explosive Constituents
- IRON (7439-09-6) (98.649%)
- COPPER (7440-50-8) (0.125%)
- ZINC (7440-65-6) (0.1%)
- MANGANESE (7439-90-5) (0.059%)
- CHROMATE COATING
- CHROMIC ACID (7778-04-5) (5%)
- HEXAVALENT CHROMIUM (0.5%)
- WATER (7732-18-5) (0%)
- SODIUM SILICO FLUORIDE (16903-85-0) (0%)
- POTASSIUM FERROCYANIDE (13746-66-2) (0%)
- COMP A5
- COMP A5 (RDX 98.5%)
- RDX (121-82-4) (98.5%)
- STEARIC ACID (57-11-4) (1.5%)
- PELLET EXPL COMB
- PELLET EXPL COMB
- RDX (121-82-4) (98.5%)
- STEARIC ACID (57-11-4) (1.5%)

#### Material Code
- Cmpd
- Mtl
- P
- GR

#### Factor
- 1

#### Specification
- MIL-E-14970
- MIL-S-271
- MIL-P-48395

#### TGCS
- ///1A///
- ///1 OR 2///
- ///6A OR B///

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**Ready – Reliable – Lethal!**
## TRI Reportable Chemicals Contained in Munitions Demilitarized

### Open Burn

<table>
<thead>
<tr>
<th>TRI Chemical</th>
<th>CAS#</th>
<th>Total Amount (lb)</th>
<th>Source</th>
<th>EF</th>
<th>Amount Released (lb)</th>
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<tr>
<td>NITROGLYCERIN</td>
<td>55-63-0</td>
<td>164159.568825527</td>
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<td>164159.568825527</td>
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<tr>
<td>COPPER</td>
<td>7440-50-8</td>
<td>5.51832916644571</td>
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<td>0.231759824991535</td>
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<td>LEAD</td>
<td>7439-92-1</td>
<td>20274.804220807</td>
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<td>851.532377727391</td>
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### Open Detonation

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<th>TRI Chemical</th>
<th>CAS#</th>
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<th>EF</th>
<th>Amount Released (lb)</th>
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</table>

#### Ready – Reliable – Lethal!

- Identifies Chemical of Concern
- CAS Number
- Amount
- Emission Factor
- Release
Summary

- MIDAS = effective demil
  - Knowledge Management System
  - Defined Characterization
  - System Value across 4 thrust areas
  - Reporting Examples

- Questions
BACKUP SLIDES
Authority (*Why*)

- 40 CFR
  - §260 through §271
- JCAPP 7
- EPCRA Section 313
- Resource Conservation and Recovery Act (RCRA)
- Resource Recovery and Disposition Account (RRDA)
- DA PAM 700-16
What Determines Characterization Detail?

Munition items should be characterized down to the compound level in order to:

1. comply with environmental standards and regulations for the quantification and reporting of toxic chemicals processed and released to the land, water and air,
2. ensure conformance to Industrial Hygiene and Occupational Health and Safety Administration standards for protecting and enhancing the health and safety of personnel in work environments,
3. effectively identify available quantities and qualities of potential materials preferred for resource recovery and recycling,
4. predict optimum demil throughput rates and or process restrictions for various closed disposal demil technologies being used throughout the Demil Enterprise,
5. and identify potential negative impacts to equipment and or personnel from complex chemical interactions arising between the diversity of materials being processed through demil technologies in support of demilitarization execution.
MIDAS Tool Suite

Munitions Items Disposition Action System

- Website (Self-Help design)
  - Munitions Characterization
  - Capability/Capacity Data
- Demil Technology Trees (Process-Based Mapping)
- Ammunition Maintenance and Demilitarization Interactive Tool (ADMIT)
- MyQC (Munitions Yield and Quality Control)

Ready – Reliable – Lethal!