

Hazardous Materials Reporting - *Developments in Reporting for Systems Acquisition Programs*

Tim Sheehan
Risk and Regulatory Manager
Raytheon Global Substances Program
(401) 835-1390
timothy_j_sheehan@raytheon.com

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Agenda

- Hazardous Materials Declaration for Military Systems Acquisition Products
 - Department of Defense-Defense Industry Collaboration

- Aerospace and Defense Industry Activities

Hazardous Materials Reporting in Military Systems Acquisition

- “Systems” – hardware (“articles”) developed for military purposes (planes, radars, ships, etc.)
 - Tend to be developmental and fairly large
 - Contain commercial products as components
 - Developed under contract.



- Contractual requirement for reporting associated hazardous materials since the 90’s as a risk management activity
- Main focus for HM reporting:
 - Materials in hardware as materials of construction
 - Materials needed for operations and maintenance of systems
 - Estimates for the lifecycle of the system.

Current State of Reporting

- Hazardous materials information provided from contractors under contractual requirements
 - Hazardous materials management programs (“HMMP”)
- National Aerospace Standard 411 (“NAS411”)
 - Reporting framework
- Lists of chemical substances for reporting imposed by contract
 - No standardized list in use
- Reporting information provided in documents with limited consistency in format and content
 - Limited opportunity to (re-)use information

Opportunities for Improvement and Efficiencies

DoD-Industry Collaboration

- National Aerospace Standard (NAS) 411, “Hazardous Materials Management Program” required update and common focus for materials reporting by industry and DoD
 - Last update: 1994
 - Focus on amounts of hazardous materials, rather than those posing risks

- NAS411 Workgroup initiated in 2012 to update standard
 - Enabled collaboration between DoD and Aerospace Industries Association (AIA) members
 - Two standards published in September 2013
 - NAS411 Update
 - NAS411-1, “Hazardous Material Target List”

New Standard: NAS411-1

- Hazardous Materials Target List (HMTL)
 - standardizes the list of materials used for reporting
 - Identifies “prohibited” materials posing increased risks for use restrictions
 - Uses military system safety terminology to identify and classify materials for reporting
 - Can be modified to suit the needs of the customer
 - All listed materials can be “tracked” = “declarable”

- Current Activities
 - Collaboration continues to identify “tracked” materials

Meanwhile...

- “Materials declaration” for hazardous/ regulated materials is an emerging global issue
 - Main purposes are to reduce hazardous materials impacts and control supply chain risks
 - Can be used for “materials of concern”, not just HMs (high value, critical product materials, etc.)
- Concept ideal – Manufacturers report substance composition of their products and have full supply chain transparency to address:
 - Product regulatory compliance (e.g. RoHS, REACH, RoHS, Conflict Minerals)
 - Product safety
 - Contractual reporting requirements
 - Voluntary disclosures for marketing or other purposes.



Standardized Materials Declaration

- Helps support materials risk management
 - Supply chain management and sustainability
 - Identify source concerns (provenance)
 - Predictive material obsolescence
 - Global regulatory compliance
 - End-of-Life Concerns – Reclamation/ Disposal
- Support customer needs
- Standard content/format
 - Material presence, concentration, locations
 - Spreadsheets, disclosure forms, text, XML files

Why Standardize Across the A&D Industry?

- Commonality of purpose
 - Represent the needs/ capabilities of the actors in the supply chain
- Reduce burden on suppliers and contractors
 - Know what to expect
 - Increased ability to successfully report
 - Lead to the development of new capabilities
- Identify risk management progress and additional needs across many contracts
 - Impact of emerging issues – risk assessment
 - Status of risk mitigation activities
- Improve data integrity and promote secure information exchange

The development of the suppliers' capabilities is key!

Aerospace and Defense Industry Materials Declaration Activity

- International Aerospace Environmental Group (IAEG™)
 - Global collaboration of Aerospace & Defense (A&D) companies
 - Governance and management processes ensure needs of industry are addressed
- Developing a Declarable Materials Standard
 - List of materials: Aerospace and Defense Declarable Substances List (“AD-DSL”)
 - Declaration format and process
 - Maintenance process

Opportunity

- A&D companies expressed desire to correlate military and commercial declaration lists
- Working to include the NAS411-1 HMTL in the AD-DSL
 - Will allow the use of the A&D list to provide declarations for military system products

Challenges

- Comparison and adjustment between the two lists
 - Resolving scope differences between the two lists
 - Regulatory (IAEG) vs. “operational” (AIA)

- Complete chemical families “speciation”
 - “Hex chrome list” for each lists
 - “Mercury and mercury compounds”
 - Others: PCBs; compounds - arsenic, beryllium, cadmium, nickel...

Possibilities...

- **Electronic data transfer**
 - Secure data transmission
 - Reuse of data

- **Materials risk identification and management across the supply chain and across numerous industries**
 - Deeper government and industry collaboration on critical materials sourcing and availability issues

- **Harmonization across supply chains**
 - Engagement between suppliers and customers across industry lines

Summary

- Materials declaration is already providing information for defense acquisition systems through NAS411
 - However, significant improvement opportunities remain

- Materials declaration is an emerging industry issue
 - The Aerospace and Defense industry is developing a materials declaration process
 - Materials declaration for military systems may be addressed through industry approaches