Best Practices in Vendor MSDS Data Management for SAP EHSM

Eric Schmidt, Manager, Systems Development, Lincoln Electric
Dan Iskra, Global EHS Engineer, Lincoln Electric
Connie Prostko-Bell, Sr. Solutions Manager, 3E Company
Agenda

- Introductions
- Hazardous Substance Management in SAP EHSM
- Vendor Compliance Data in SAP EHSM
- Automating Vendor Data Change management
- Plugging functional shortcomings in standard SAP EHSM
- Solution Benefits
- Roadmap
Learning Points

- Vendor Product Data is critical to compliance and supply chain risk management
- Maintaining current data is vital and difficult
- Obtainment services and complementary functionality are needed for a full solution
About the Speaker

Connie Prostko-Bell

*Director, Supply Chain Compliance Data Solutions*

- **Currently** focused on developing 3E’s content and services in support of Supply Chain Compliance Programs
- With 3E Company for 3.5 years, 15 years focused in the Environmental Management Information Systems (EMIS) space
- **Education:** B. Sc. Environmental Science, WVU
3E Company

Corporate Headquarters
Carlsbad, CA

International Operations
Copenhagen, Denmark
Montreal, QC, Canada

Global Research
Bethesda, MD

MSDS Authoring Services
Kingsport, TN

Field Sales & Account Management Presence
US, Canada, Europe & Japan

Wholly owned by Verisk Analytics – The Science of Risk
About the Speaker

Eric Schmidt
Manager, Systems Development

- **Currently** focused on supporting Lincoln Electric’s implementation of the SAP EHSM as the IT project manager. Additional responsibilities include managing production support for SAP FICO and Business Warehouse modules and project management for various small application implementations and rollouts of SAP to subsidiaries.

- **Prior Experience**: Eric’s previous experience includes managing Lincoln Electric’s internal IT audit program. It also includes IT project management and IT audit management at several additional employers including Deloitte.

- **Education**: MBA, The Ohio State University
  B.A., Earlham College
About the Speaker

Dan Iskra, CHMM, REP

Global EHS Engineer

- **Currently** focused on supporting Lincoln Electric’s implementation of the SAP EHSM as the primary end user. Additional responsibilities include assessment and support of LE’s Global Operations regarding Environmental, Health and Safety regulatory compliance and strategic initiatives.

- **Prior Experience**: Dan’s previous experience includes Environmental Engineering at General Motors. He also has experience in Environmental Remediation Project Management, Emergency Response, Hazardous Waste and Dangerous Goods Management and implementing EHS Regulatory Compliance programs.

- **Certifications**: Certified Hazardous Materials Manager
  Registered Environmental Professional

- **Education**: B.Sc. Environmental Science, BGSU
Lincoln Electric
World-Class Arc Welding and Cutting Products

Virtual and Automated welding

MIG & TIG consumables

Welding Consumables 65%

Welding Equipment 35%

Stainless, Nickel & High Alloy consumables, Submerged Arc, Stick Electrodes

Flux-Cored Wire

Soldering and Brazing alloys

Power Wave® AC/DC 1000®SD

Welder/Generator – Engine Drive

Fume extractor

Plasma cutter

CNC Cutting System

Gas regulators, welding guns and torches, accessories
SAP Rollout Progression

1999 - USA and Canada
• SAP 3.1h
  • 3 companies
  • 5 plants
  • 1040 users

Current - 9 Countries
• ECC 6.0 EhP4 SP2
  • 22 companies
  • 21 plants
  • 2500 users

“An important part of our global expansion involves the implementation of SAP worldwide as we make further acquisitions or build new sites. Introducing SAP promotes consistent and efficient sharing of information throughout our entire global organization.”

John Stropki, Chairman, President & Chief Executive Officer, Lincoln Electric Holdings, Inc.
## SAP Rollout Progression

<table>
<thead>
<tr>
<th>Additional SAP Component</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Warehouse</td>
<td>2000</td>
</tr>
<tr>
<td>Human Resource Management</td>
<td>2001</td>
</tr>
<tr>
<td>Customer Relationship Management (Mobile Sales)</td>
<td>2004</td>
</tr>
<tr>
<td>Employee Self Service</td>
<td>2005</td>
</tr>
<tr>
<td>Environmental Compliance CfP (RoHS &amp; WEEE)</td>
<td>2006</td>
</tr>
<tr>
<td>Warehouse Management</td>
<td>2008</td>
</tr>
<tr>
<td>Upgrade SAP 4.7 Enterprise to ECC 6.0 Unicode</td>
<td>2009</td>
</tr>
<tr>
<td>Environmental Health and Safety (Product Safety and Dangerous Goods)</td>
<td>2012</td>
</tr>
</tbody>
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Hazardous Substance Management

- Refers to vendor products used as raw materials or non-process chemicals
- Enables safe handling and tracking of hazardous substances that exist in designated areas of the enterprise
- Allows you to track substance quantities for regulations by maintaining the composition of raw materials (SARA)
- Allows you to create exposure profiles in IHS
- Enables material master -hazardous substance relationship for manufactured products
- Supports both enterprises that manufacture and sell hazardous substances and those that use hazardous substances they purchase
- Creates and maintains a hazardous materials exposure log for the manufacturing site(s)
- Manages received MSDSs
As of SAP ECC Enterprise Extension PLM 6.0 (EA-PLM 600), the hazardous substance master is available.

- Transfer hazardous substance data (using filling) from specification management to a Haz Sub Master
- Distribute data from the hazardous substance master in the ERP system to Supply Chain Management systems (SCM systems) that do not contain specification management.
Why is VMSDS necessary?

- Missing pieces in standard HSM functionality
  - Mass loads are labor intensive
  - No automated means of monitoring changes and maintaining data
  - No integrated obtainment services mechanism
Two-step Process to Load into SAP

Initial VMSDS Load

- An option to load MSDSs via DVD (for large volumes) or via the Internet (for small volumes)
- Includes implementation services (SAP EHS customization, VMSDS installation, mapping, and loading)

VMSDS Updates

- Reduce workload by loading only changed MSDSs
- Update documents and meta data in SAP EHS by just clicking a button
- Review VMSDS and select the best fit for the business
The Process

Lincoln Electric

- MSDS Authoring
  - SAP MM
  - Material Inventory
  - SAP EHS
    - VMSDS App.

3E Company

- Web Service
  - (M)SDS Catalog

**Initial Load (low volumes or document e-links only):**
- Create a list of products in SAP EHS
- Request data for the list of products
- Response with requested MSDSs and metadata
- Store MSDSs and metadata in SAP

**Data Update:**
- Request a list of impacted products
- Response with the list of impacted products (changes in metadata and/or MSDS)
- Follow the initial load scenario for the hit list

**MSDS database:**
- Real Substance ID
- (M)SDS
- Language

**Metadata may include:**
- Material/Product Name
- Manufacturer
- Revision Date
- Flash Point
- Boiling Point
- Density
- pH
Lincoln Electric’s Legacy Incoming MSDS Process

- 6,000 Material Safety Data Sheets (MSDS) must be manually maintained, while product formulations must change dynamically in response to raw material supplies.

- There is no query capability at the substance data level because MSDS are in PDF format. So, material use and composition information is inaccessible.

- Does not support ‘where used’ analysis or Superfund Amendments and Reauthorization Act (SARA)/Toxic Substance Control Act (TSCA) reporting functions.

- Secondary container labels are inefficient to maintain.
The Value of VMSDS Functionality to Lincoln Electric

- **Integration:**
  - Seamlessly integrates 3E Online Vendor SDS meta-data directly into SAP EHSM

- **Data Consolidation:**
  - Centralized in SAP EHSM with correlation to SAP Supply Chain Management

- **Enhanced Accuracy:**
  - CAS level composition supports pinpoint Substance Volume Tracking for accurate threshold determination

- **Streamlined Efficiency:**
  - SAP EHSM Transitions vs. Manually extracting and analyzing data from fragmented databases
Lincoln Electric’s VMSDS Data Analysis

- **SAP Transaction:** CBIHSR01 = SARA 311 & 312 Tier II
  - CAS level composition
    - to support EHS threshold determination (500 lbs. or TPQ)
  - SARA Hazard Categories
    - Immediate (Acute), Delayed (Chronic), Fire, Reactive, Sudden Release of Pressure
  - Purity and State
    - Pure vs. Mixture; Liquid, Solid, Gas
  - Inventory
    - Maximum and Average Daily Amounts
    - By Plant and Storage Location(s)
  - (M)SDS PDF
Lincoln Electric’s VMSDS Data Analysis

- SAP Transaction: CBRC20 = SARA 313 TRI
  - CAS level composition
  - Support threshold determination
  - Extrapolates Purchases and Material Movements down to the CAS composition Level

Substance Volume Tracking: Hit List (9 Hits)
Benefits of Lincoln Electric’s MSDS Online/VMSDS Approach

- Wider range of hazard & environmental communication enabled by
  - Electronic metadata of complete chemical inventory
    - HMIS Rating, Hazardous Ingredients Composition, (GHS Classification when released)
  - Comprehensive new chemical approval process (which includes supplemental material use information gathering.)
  - Ability for EHS staff to query database and complete a wide range of critical detailed analyses

- Enhanced environmental reporting
  - Integrated in SAP with supply chain through Substance Volume Tracking

- Consolidated functions in single system
  - MSDS Obtainment and Document Management
  - HMIS labeling

- 24-7-365 Hotline Support
Lincoln Electric’s Roadmap

Chemical Information System Project

Inventory of chemical properties and global regulatory data.

For the purpose of communicating chemical hazards, externally and internally.

Compliant with the new Globally Harmonized System (GHS) of Classification and Labeling of Chemicals developed by the United Nations.

Integrated with SAP Supply Chain Management functionality.

Linked and pertaining to Lincoln Electric’s purchased and manufactured products.
3E Roadmap

- 3E’s Supply Chain Compliance Solution Roadmap
  - Currently obtaining, maintaining and pushing SDS documents and metadata for Vendor Products into SAP EHSM and SAP MM
  - Can obtain and manage other risk related documentation such as REACH Compliance Certificates, Halal or Kosher Certifications, Material Declarations, Tech Sheets.
  - Supplier Portal along with Manufacturer Relationship Specialists facilitate collection of Supply Chain Data
  - Ability to share information with stakeholders and provide compliance assurance with or without full disclosure
Thank you for participating.

Please remember to complete and return your evaluation form following this session.

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