A Formula for Managing Hazardous Materials Information & Compliance

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AWMA

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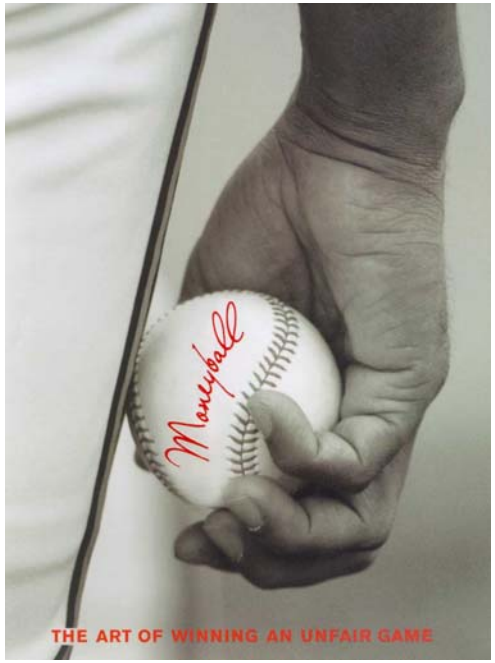
Baseball's Formula

- 100 year old player evaluation system
- Does it Work for the Winners?

MONEYBALL



Old Formula

- Two franchises since 1995 in playoffs each year
  - New York Yankees
  - Atlanta Braves

Oakland A's Results

- 4 straight years in bottom 3rd of payroll...yet...
- 4 straight years in the playoffs
- What was A's secret?

New Formula

- Oakland A's
- Most important information?
- Impact analysis

Overlooked

Winning = Not Getting Out

Not getting out = Walks +

Fouls +

Base %

Baseball and HazMat?

- What is the HazMat version of critically important but commonly overlooked data?
- In other words, what is the HazMat version of "not getting out?"
- Good information can give you an advantage
- What is the analysis of your inventory?
- What does the industry analysis look like?

HazMat Formula

Inventory Assessment

+

MSDS Analysis

=

Reduction of Risk and Liability

Inventory Assessment

What we studied:

Analysis of hundreds of companies across major industries in North America...

- 1 Million products
- 300 companies

What did it reveal?

Our Results

- 1/3 products did not exist / not accounted for
- 12% commonality
- Toxicity of products grossly underestimated
- Average inventory contained 55 known carcinogens

Typical Inventory Findings

- HazMat (Toxics) were more prevalent and more diverse than expected
- Programs (MSDS, HazCom) - insufficient
- Permits (SARA, Business Plans) - insufficient
- Training - misleading / missing crucial info
- Decision making throughout the organization needed improvement (methodology, check lists, etc.)

MSDS Analysis

What we studied:

Pervasive products in North America…

- Two MSDS Sets
  - Chemical Manufacturing
  - Chemical Users
- 17 point “Appendix D” OSHA Completeness Guide
- Technical Accuracy CAS, TLV, PEL, STEL, TWA
- Emergency Response Contact Information

What did it reveal?

Our Preliminary Results

- All MSDS were determined to be current
- Emergency contact information was accurate
- 90% met completeness requirements
- 50% failed technical accuracy

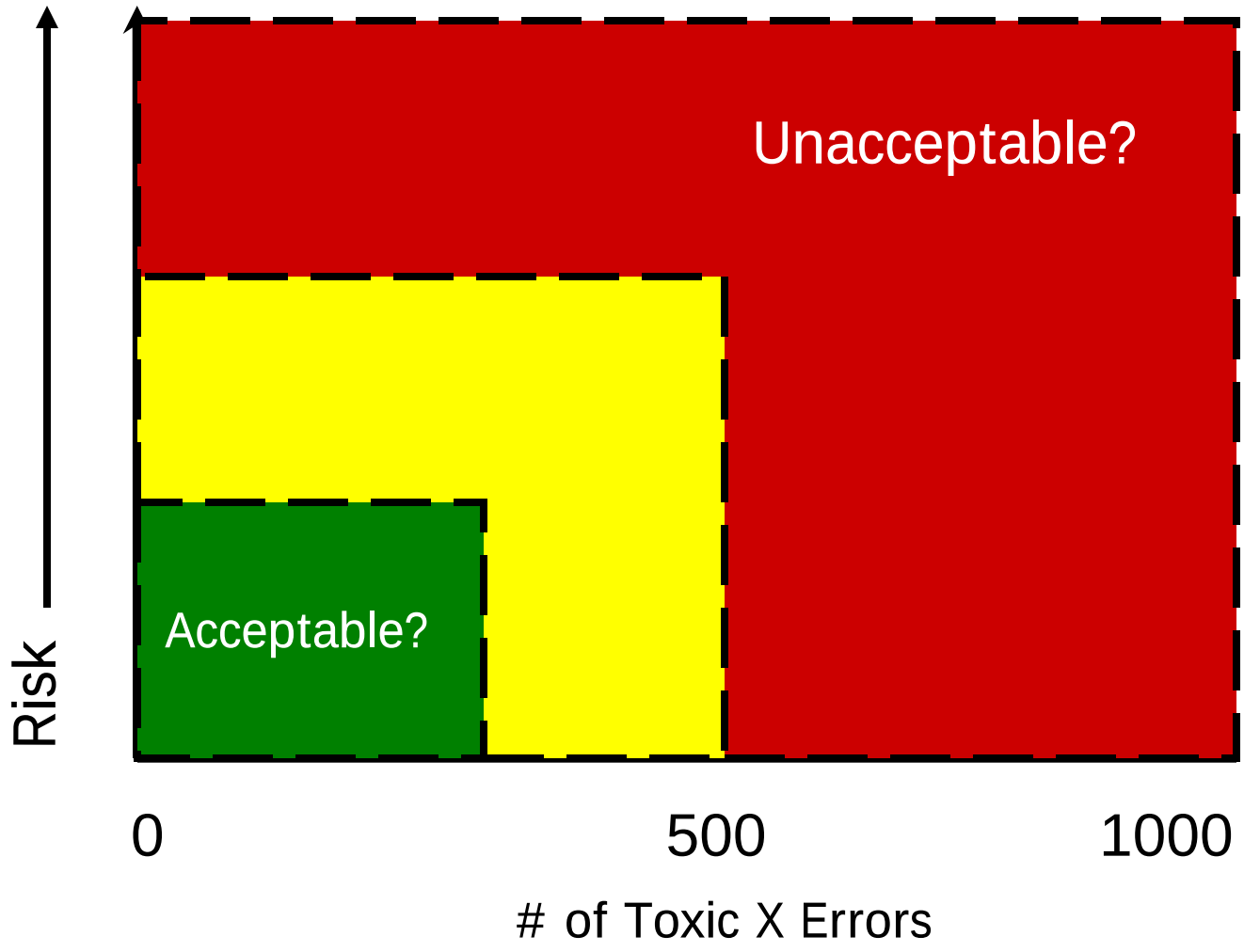
Typical Accuracy Findings

"Synopsis"

- PEL & TLV Order of Magnitude Errors?
  5 ppm vs .5 ppm
  100 ppm vs 1000 ppm

- PEL, STEL, TLV Omitted
- PEL Listed as TWA

Impairment & Impact Analysis



HazMat Life Cycle

Data Flow

Inventory Management

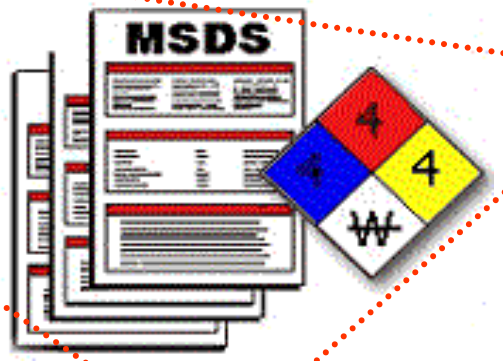
Own the Inventory

Chemical Manufacturers

Chemical Distributors

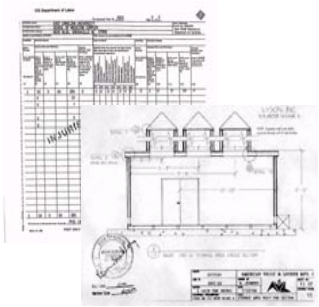
End Users

Disposer or Recycler



Recurring Compliance Programs

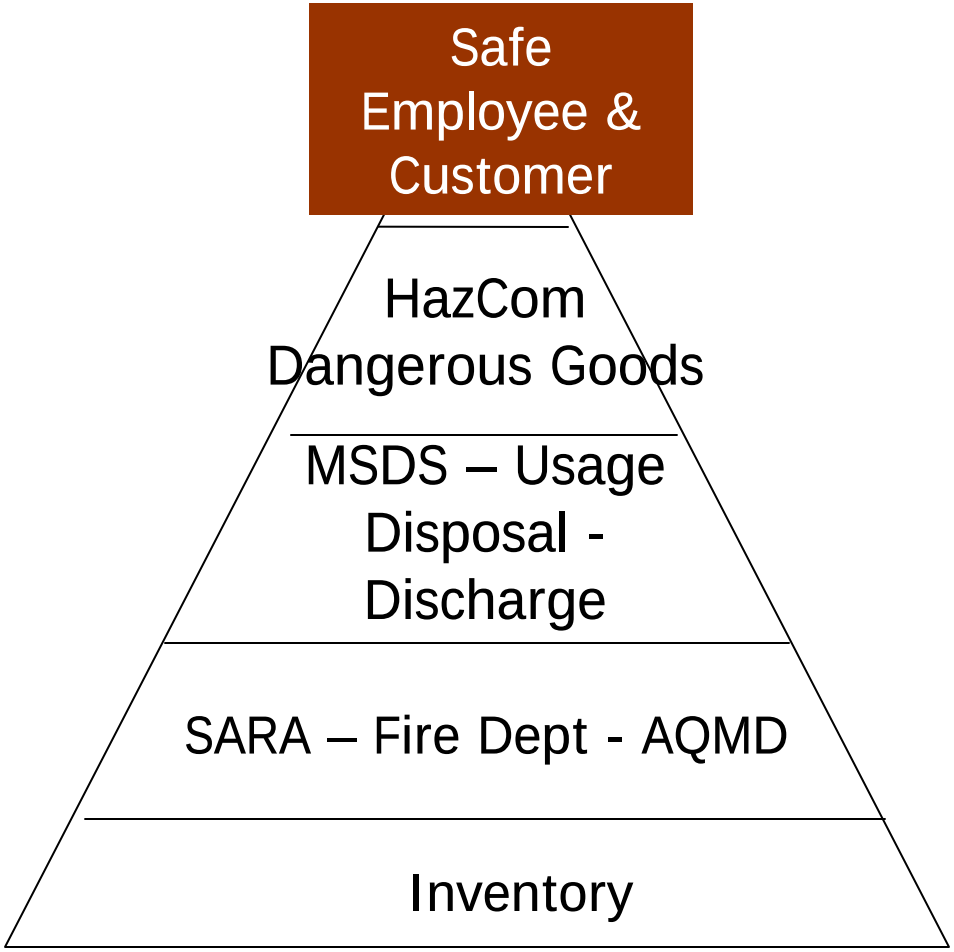
Permits
Forms
Submittals



Programs
Record Keeping
Processes

Training
Education
Consulting

Inventory is the Foundation



Communication

Education

Programs

Checklist for HazMat Framework

Start with accurate inventory and build program

- MSDS Inventory Management
- Training
- Spill Response, Poison & Exposure, Emergency Response
- Haz Waste Management
- Transportation
- Compliance Reporting

Assessment with Inventory

- Compare the as is
- Compare to historical data
- Know what you are dealing with
- Manage the inventory vs. the inventory managing you
- Product elimination may be the quickest route to compliance

MSDS & Inventory Management

If even 10% of your inventory is inaccurate

- MSDS will not be available when needed
- Acquire and maintain MSDS unnecessarily
- Exposure archive could include phantom chemicals

Or if you assume all sites are the same

- Site specific MSDS are not available
- Unable to provide proper support documents to ER
- Level of compliance with HazCom is not optimal
- Top 10 OSHA citations

Training

If even 10% of your inventory is inaccurate

- Employees are not aware of all chemicals
- All hazards are not properly evaluated
- No MSDS for guidance
- Not meeting Federal TSCA requirements

Or if you assume all sites are the same

- Inadequate training
- Over training
- Chemical specific training will be missed

Carcinogen Training

- Lead 29 CFR 1910.1025
- Vinyl Chloride 29 CFR 1910.1017
- Asbestos 29 CFR 1910.1001
- Benzene 29 CFR 1910.1028
- Mercury OSHA Directive (CPL 2-2.6)

Spill / Poison / Exposure

If even 10% of your inventory is inaccurate

- MSDS will not be available when needed
- Med / Tox data not available or incorrect
- Exposure data will not be available or incorrect
- PPE will not be available or incorrect

Haz Waste Management

If even 10% of your inventory is inaccurate

- Waste profiles may be incorrect
- Manifests improperly prepared
- DOT descriptions wrong

Transportation

If even 10% of your inventory is inaccurate

- Improper classification or shipping labels
- Load weights calculated incorrectly
- Spills may be under reported

Or if you assume all sites are the same

- Inadequate training of shipping personnel
- Unqualified drivers
- Top 5 FAA citations

Compliance Reporting

If even 10% of your inventory is inaccurate

- Sensitive chemicals (EHS) may be excluded
- Reporting thresholds will be improperly calculated
- Air toxics reporting will be incorrect

Or if you assume all sites are the same

- Some chemicals will be reported unnecessarily
- Chemicals specific to a site will go unreported

Information Delivery Vehicles

2 4 - 7 - 3 6 5
3E COMPANY
EH&S Information & Compliance Services

HazMat Life Cycle

Data Flow

Chemical Manufacturers

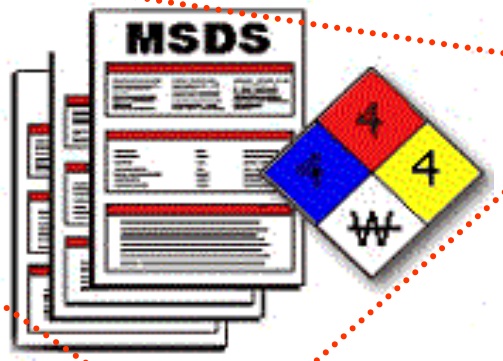
Chemical Distributors

End Users

Disposer or Recycler

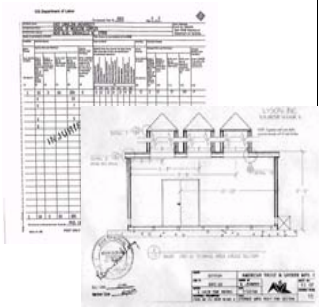
Inventory Management

Own the Inventory



Recurring Compliance Programs

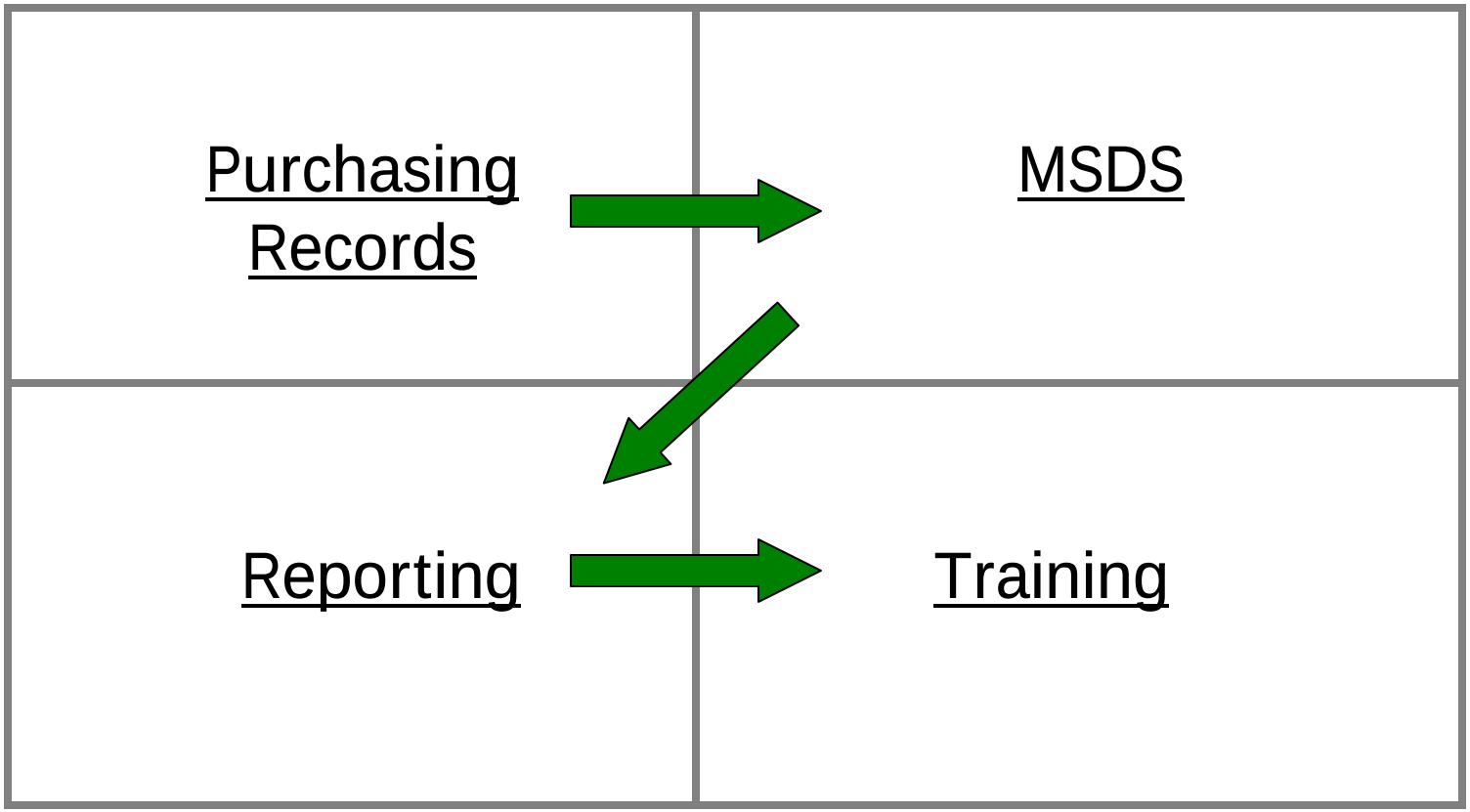
Permits
Forms
Submittals



Programs
Record Keeping
Processes

Training
Education
Consulting

Old Formula



New Formula

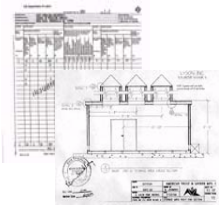
Inventory Assessment & MSDS Analysis	Accurate Data to Users • Functional • Geographic • Hierarchical
Improved Communication • Training • Education • Reporting	Decreased Risk Profile

Value Formula

Correct Inventory & MSDS Data

+

Permits
Forms
Submittals



Programs
Record Keeping
Processes

Training
Education
Consulting

Compliant Programs (Reduced Risk)

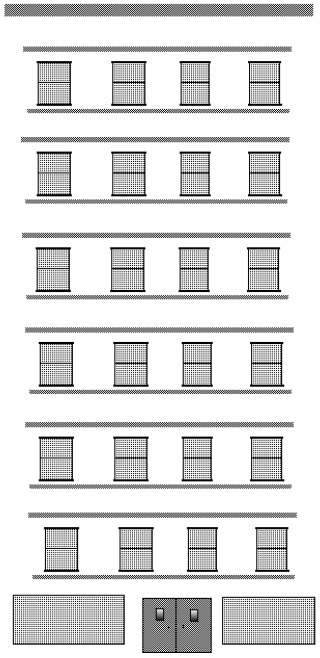
+

Safe Users

Customers

Employees

+



Good Decisions

= Formula for Success!

Summary

- You can get to the playoffs for less
- Correct inventory will reduce your cost and risk
- Centralize the inventory and data sheet
- Not knowing the whole picture can hurt you
- Expect the unexpected