



# Cytec Product Stewardship System and GHS Implementation

Society for Chemical Hazard  
Communication

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# Topics

- n Mission and purpose
- n Cytec Product Stewardship System
  - Background
  - Key Business processes
  - Content and Use
- n GHS Implementation
- n Automated Labeling

# About Cytec Industries, Inc.

- n Global specialty chemicals and materials company
- n Product serving diverse end markets
  - Aerospace
  - Adhesives
  - Automotive and industrial coatings
  - Chemical intermediates
  - Inks
  - Mining
  - Plastics
- n 44 plants and R&D facilities in 19 countries
- n ~\$3.3B annual sales

# Product Stewardship & Regulatory Affairs Dept. Mission and Purpose

- n Actively promote the responsible and safe use of Cytec products around the world and manage product regulatory compliance globally through:
  - Corporate Stewardship
  - Sustainability
  - Regulatory Compliance
  - Product Regulatory Advocacy
  - Superior Service
  - Continuous Improvement

***System is a critical tool to support department mission***

# Cytec Product Stewardship System

## n Software

- WERCS = Worldwide Environmental Regulatory Compliance Solutions

## n Overall use

- Store and maintain product HSE data to protect human health and the environment
- Comply with global chemical regulations
- Provide product information in the form of SDS's and labeling
- Interface with other systems

***System directly supports product regulatory compliance***

# Background/Major Implementations

- n Evolution from paper to database systems
- n Original Weracs implementation (Aug 2002)
  - Migrate from homegrown legacy system
  - Meet functionalities of old system and add new needed functionalities
  - Electronically migrate 60 years worth of Cyanamid/Cytec data and documents
- n Second implementation (Dec 2006)
  - Integration of UCB Surface Specialties
  - Migrate from SAP EHS and other homegrown systems
  - Establish interface to SAP ERP's

***Strategic review of business needs drove system selection***

# Overall Product Stewardship Business Process

- n Cytec Policy – No product can be manufactured or sold without a PSCF/AMA and approved MSDS and Label
- n PSCF (Product Stewardship Compliance Form) and AMA (Additional Material Approvals)
  - Cytec process to collect and maintain composition, chemical/physical properties and other data such as use and what countries the product is intended to be sold in
- n PSCF/AMA process triggers other activities:
  - Assign codes to enable setup in ERP systems
  - Assess hazards
  - Determine regulatory classifications
  - Prepare SDS and Label

***System directly supports our key business process***

# Key System Technical Functionalities

- n Globally accessible and secure
- n Flexible to add new fields, languages and create new format SDS's
- n Intranet access
- n Interfaces with ERP systems
  - Product labeling
  - Gate-keeper/products to regulated countries
  - SDS distribution
- n Electronic PSCF/AMA

# System Data Content Overview

- n Product business information
- n Detailed composition
- n Manufacturing information
- n Toxicology & environmental data
- n Chemical, physical, and other properties
- n Regulatory classifications
- n SDS/Label documents
- n Chemical component data

*System contains much more than just MSDS data*

# Products and Documents

- n Approximately 20000 active materials including:
  - Commercial products
  - R&D samples
  - Intermediates
  - Raw materials
  - Wastes
- n Another 20000 "inactive" materials

# SDS and Labels

- n System contains ~90,000 active SDS and Labels
- n Currently published in 34 formats and 22 languages including Chinese, Japanese and Korean
- n Major Formats
  - US
  - Canada
  - EU
  - Australian
  - Mexican/Latin American
  - Japanese
  - Asia/Pacific

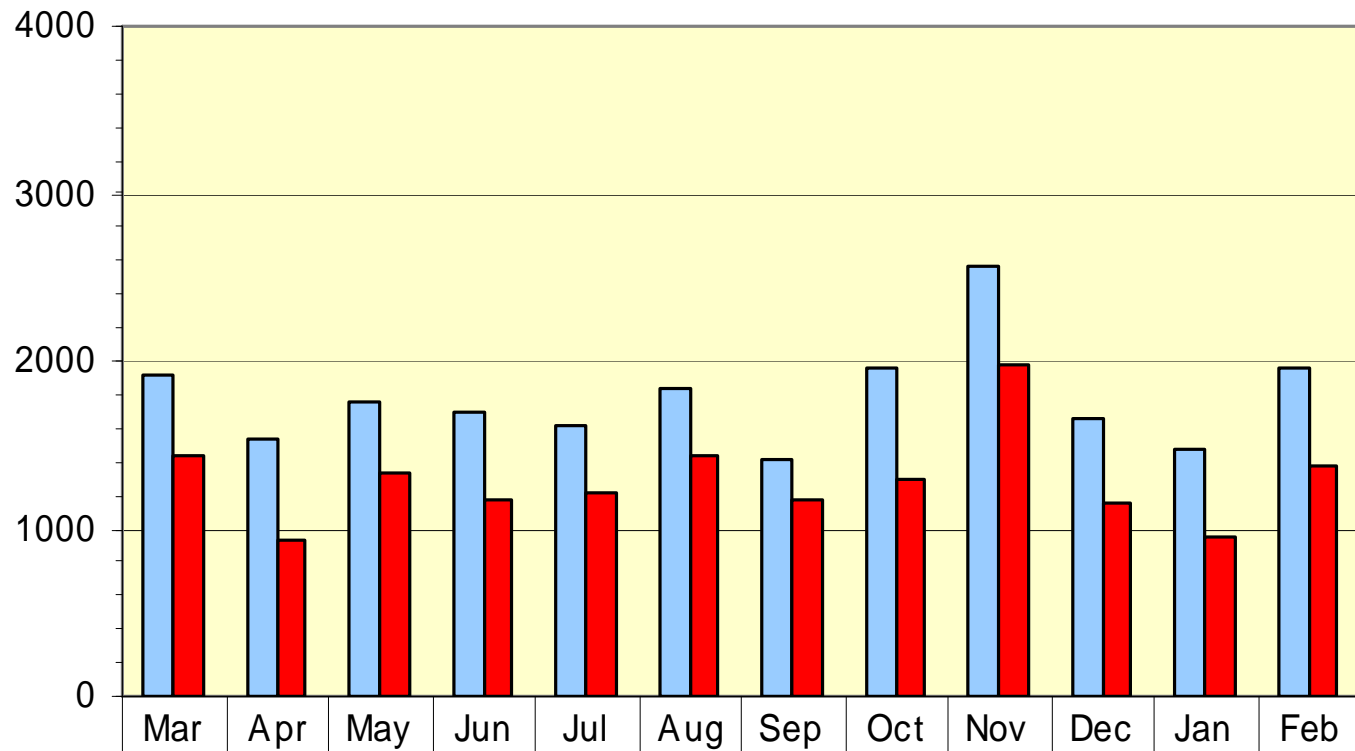
# Metrics

- n Use data generated from Wercs to keep metrics on our production processes
- n Key measures include:
  - SDS/Labels published
  - PSCF cycle time
  - Performance against due dates
- n Continue to use Six Sigma tools to understand and improve our processes
  - Control charts, thought-maps, value-stream mapping, process mapping, relationship diagrams

***System supports management of work processes***

# SDS Production - 2007

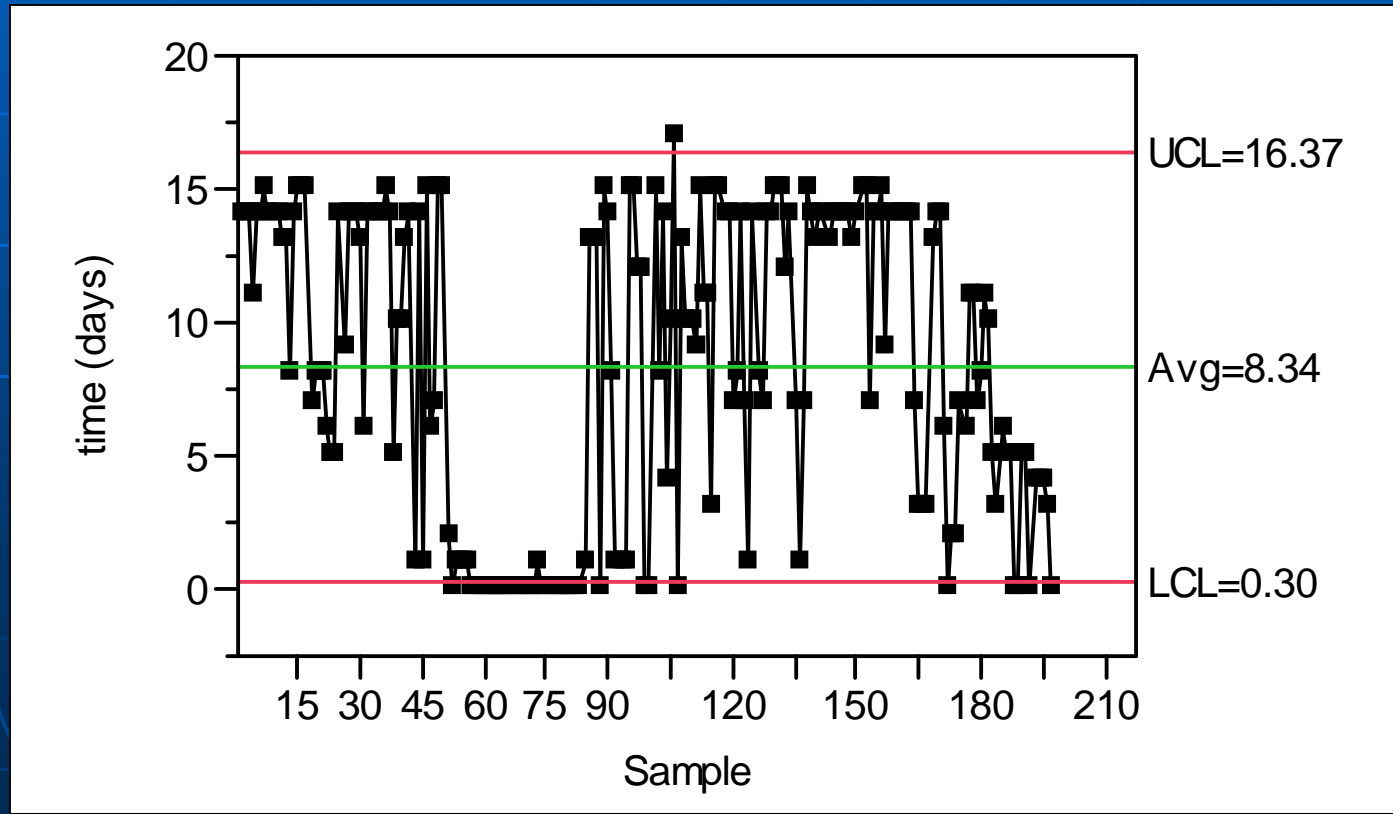
**Cytec MSDSs/Labels Published - 12 Months Running**



■ MSDSs (3,435 YTD)	1911	1532	1751	1696	1609	1846	1424	1963	2559	1652	1473	1962
■ Labels (2,314 YTD)	1434	920	1335	1163	1206	1439	1168	1293	1980	1160	945	1369

# Process Capability – PSCF cycle time

- n Control chart shows turnaround time for each request
- n Upper/Lower control limits (UCL/LCL) represent normal process variation
- n All normal requests expected to fall within range
- n Current Process capability of 16 calendar days based on UCL with a turnaround average of 8 days



# Current Initiatives

## n GHS

- Activities
- Automated labeling roll out

## n Other initiatives

- REACH
- Additional interfacing
- More data automation

# GHS Implementation Activities

- n Prior to 2006 GHS not an urgent activity
- n Priorities changed in Fall 2006
- n Japan's December 1, 2006 implementation of GHS labeling for certain ISHL chemicals

# Initial Cytec GHS Actions

- n Design/add new fields to WERCS system
- n Identify ISHL impacted products
- n Determine GHS classifications
- n Add classification data to system
- n Design GHS label for Japan

# Data Entry Screen

PowerWercs - Editor

EN 0015006 MYCOAT™ 101 Resin

Code	Type	Header
SECT1752	SH	GHS - Product Labeling (Final Classification)
SECT1753	SH	GHS - All Product Classifications
SECT1750	SH	GHS Classification - Product Data (Output from Wzard)
SECT1751	SH	GHS Classification - Product Data (Precautionary Statements)
SECT5350	SH	GHS Classification - Component Data

**GHS - All Product Classifications**

**PHYSICAL HAZARDS**

Explosive hazard category:	Not classified
Flammable gas hazard category:	Not classified
Flammable aerosol hazard category:	Not classified
Oxidizing gas hazard category:	Not classified
Gases under pressure hazard category:	Not classified
Flammable liquid hazard category:	Category 3
Flammable solid hazard category:	Not classified
Self-reactive hazard category:	Not classified
Pyrophoric liquid hazard category:	Not classified
Pyrophoric solid hazard classification:	Not classified
Self-heating hazard category:	Not classified
Contact with water emits flammable gases hazard category:	Not classified
Oxidizing liquid hazard category:	Not classified
Oxidizing solid hazard category:	Not classified
Organic peroxide hazard category:	Not classified
Corrosive to metal hazard category:	Not classified

**ENVIRONMENTAL HAZARDS**

Aquatic environment acute hazard category:	Not classified
Aquatic environment chronic hazard category:	Category 2

**HEALTH HAZARDS**

Acute toxicity (oral) hazard category:	Category 4
Acute toxicity (dermal) hazard category:	Category 3
Acute toxicity (inhalation) hazard category:	Not classified
Skin corrosion/irritation hazard category:	Category 2
Serious eye damage/eye irritation hazard category:	Category 2A
Respiratory sensitizer hazard category:	Not classified
Skin sensitizer hazard category:	Category 1
Germ cell mutagenicity hazard category:	Not classified
Carcinogenicity hazard category:	Category 2
Toxic to reproduction hazard category:	Not classified
TOST (single exposure) hazard category:	Category 3
TOST (repeated exposure) hazard category:	Not classified
Aspiration hazard category:	Category 2

# Overall Classification and Labeling

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EN 0015006 MYCOAT™ 101 Resin

Code	Type	Header
SECT1752	SH	GHS - Product Labeling (Final Classification)
SECT1753	SH	GHS - All Product Classifications
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SECT1751	SH	GHS Classification - Product Data (Precautionary Statements)
SECT5350	SH	GHS Classification - Component Data


### GHS - Product Labeling (Final Classification)

**GHS Signal Word** Danger


**Physical Hazard Statements**  
Flammable liquid and vapour

**GHS Final Hazard Statements for Health & Env Effects (accumulated)**  
Toxic in contact with skin  
Suspected of causing cancer  
May be harmful if swallowed and enters airways  
Harmful if swallowed  
Causes skin irritation  
Causes serious eye irritation  
May cause an allergic skin reaction  
May cause respiratory irritation  
Toxic to aquatic life with long lasting effects


**GHS Physical Hazard Graphic (Primary)**




**GHS Health Hazard Graphic (Final)**



**GHS Health Hazard Graphic (Final #2)**



**GHS Environmental Hazard Graphic**



# Japanese GHS Label

## CYTEC

### マイコート™ 106

変性ベンゾグアナミン樹脂の2-ブトキシエタノール溶液



#### 警告

可燃性液体

発がんのおそれの疑い

飲み込み気道に侵入すると有害のおそれ

飲み込むと有害

皮膚に接触すると有害

強い眼刺激

皮膚刺激

アレルギー性皮膚反応を起こすおそれ

長期的影響により水生生物に毒性

皮膚、眼および衣服との接触を避けること。取り扱い後は、十分に洗浄すること。熱及び火炎源から遠ざかること。

#### 応急措置

**飲み込んだ場合:** 飲み込んだ場合は、直ちに医師の診察を受けること。医師の指示のもとでのみ嘔吐。意識のない者には決して口から物を与えてはならない。

**皮膚への接触:** 汚染された着衣、靴を直ちに脱ぐこと。直ぐに、多量の水で洗浄すること。汚染され、濯げず、再度着用してはならない。洗浄後、痛みや刺激が持続するようであったり、暴露によると見られる場合、症状が見られたら、医師の診察を受けること。

**眼に入れた場合:** 直ちに多量の水で最低15分間洗浄すること。症状が改善されない場合には、医師の診察を受けること。

**吸入了る場合:** 新鮮な空気のある場所に移す。もし呼吸が困難なら、酸素吸入を行う。症状が改善されない場合は、医師の診察を受けること。

本品はGHS規制に適合するために、サイテックMSDS(製品安全データシート) #0015008を参照して、正しい取り扱い、安全性、健康、環境に関するデータを参照して下さい。

この製品は、以下の有害成分を含有する:

#### CAS番号 / 成分

111-76-2 2-ブトキシエタノール  
68130-56-3 ベンゾグアナミンホルムアルデヒド重合体, メチル化合物  
50-00-0 ホルムアルデヒド

引火点: 69 °C

UJ/PDGI01 2008-02-12

注: 容器の上部空間には、有害な気体、蒸気が存在する恐れがあります。容器を開ける際には、注意し、十分な換気を確認すると共に、着火源がないことを確認して下さい。容器中の内容物を出す際に、加圧空気を使用したり、標火で加熱したりすることは、絶対に避けて下さい。内容物が空になった後、容器中には、固形、液体、及び/又は蒸気が残存する可能性があります。ラベルに注意事項が記されている場合は、引き継ぎ、その注意事項を全て守る必要があります。空容器を切開した入穴を開けたり、火にあてたりしないこと、空容器に接続したり、空容器の近くで落接作業をしたりしないこと、空容器を他の目的に使用しないこと。

TM は商標を示し、登録済みか、申請中のものである。使用許諾のもとで使用されている可能性もある。

日本サイテック インダストリーズ 株式会社 〒103-0023 東京都中央区日本橋本町3-4-1 トリイ日本橋ビル6階 緊急連絡先: Tel. 0832-66-1324

# Additional Cytec GHS Actions

- n Implemented GHS labeling for all products sold in Japan
- n Determined GHS classifications for Korea
- n Revised internal work processes to do a GHS classification for all routine work
- n Implemented minor EU SDS revisions as part of GHS requirements under REACH

# Current GHS Activities

- n Korean GHS Label and MSDS
- n Japanese GHS MSDS
- n Determine GHS classifications for all products sold or manufactured in Asia Pacific region
- n Continue to track country implementation plans

# Issues/Challenges

- n Disharmonized country implementations within industrial sector
  - Different building blocks
  - Different cut-offs for CMR's and sensitizers
  - Different disclosure/trade secret requirements
  - Different implementation time-tables

***“Disharmonization” Makes Implementation More Difficult***

# Global Labeling Project

- n Implement global labeling solution
  - Work processes
  - Ownership
  - Tools
- n Meet the requirements for
  - Customers
  - Business units
  - Manufacturing
  - Regulatory
- n Must integrate ERP system with Cytec Product Stewardship system

# Goals/Benefits

- n **Improved Customer Satisfaction**
  - Facilitate better labeling and shipping practices
- n **Reliability**
  - Consistent and stable global solution
- n **Flexibility**
  - Ability to increase our label service offering
  - Easily expandable for future growth
- n **Accuracy / Consistency**
  - Reduced regulatory compliance risk
  - Consistent label content source
  - Consistent global processes, systems and ownership of data

# Scope

- n All businesses within Specialty Chemicals
- n All plants, distribution centers, tollers, re-packers and resale sources
- n All bulk and packaged finished commercial products
- n All countries and languages necessary to meet sales and regulatory requirements
- n All customer specific requirements and current label inclusions
- n LabelWercs is the selected solution

# Roll Out

## n Phased implementation

- Started April 2006 - US plants and distribution centers
- June 2006 – Canada
- July 2006 – Australia
- January 2007 – US tollers and US plants from UCB acquisition
- July 2007 China
- Europe and other regions in-progress

# Conceptual Model of Cytec Product Label

## Business Sub Label

- Directions for use or storage requirements
- Patent statements
- Slogans
- “Quasi-regulatory” information such as NSF or Kosher marks

## Customer Sub Label

- Customer codes
- Bar codes
- Customer name and address
- Hazard Ratings (e.g., HMIS)

## Manufacturing Sub Label

- Batch or Lot number
- Bar code
- Expiration date
- Country of origin

## Regulatory Sub Label

- Company logo
- Company name, address and emergency telephone number
- Product name
- Precautionary warnings and handling measures
- First aid
- Chemical components
- Container warnings
- Hazard Symbols

## Transportation Sub Label

- Transport symbol
- UN Number
- Proper shipping name
- Technical description
- Flash point

# Technical Overview

- n Labelweracs software
  - Design and render labels
- n Overall Weracs system hosts regulatory label data
- n User Interface front end based on .NET and VB
  - Enforces business rules, validations and ties Weracs data to ERP (BPCS)
- n Weracs Label templates
  - Templates designed in accordance with regional regulatory requirements
  - Scripts attached to retrieve ERP data
- n Color laser printers
- n Polyester label stock
- n Order scenario automatically generates label using appropriate template and languages

# CYTEC

LOT #: TEST

PKG # 1

## AEROFROTH® 70 Frother

00400R01D11

Methyl isobutyl carbinol

**DANGER!**  
**CAUSES EYE BURNS**  
**MAY CAUSE SKIN IRRITATION**  
**COMBUSTIBLE LIQUID AND VAPOR**



Do not get in eyes, on skin or on clothing. Keep away from heat and flame. Wash thoroughly after handling.

**FIRST AID**

**Ingestion:** If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

**Skin Contact:** Wash immediately with plenty of water and soap.

**Eye Contact:** Rinse immediately with plenty of water for at least 15 minutes. Obtain medical attention immediately.

**Inhalation:** Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

**ATTENTION -** Container handles may contain hazardous air pollutants. Open container without using adequate ventilation and avoid ignition sources. Do not use air pressure or apply heat to open flame to remove contents of container. After emptied, container may retain solid, liquid, and/or vapor residues. Continue to observe all precautions, if any, on label. Do not cut, puncture, torch, or weld on or near emptied container. Do not use for other purposes.

Before handling this material, read Material Safety Data Sheet # 0000628 for more detailed safety, health and environmental data.

Methyl isobutyl carbinol

The following components of this product are listed in accordance with right-to-know laws:

CA S No. / Component

108-11-2 Methyl isobutyl carbinol

UN2053

Flash Point: 39 °C / 102 °F

MADE IN: USA

NET WT: 360 LB / 163 KG

TARE WT: 40 LB / 18 KG

GROSS WT: 400 LB / 181 KG

LUSTDG101 Printed: 13-Mar-08

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# Closing

- n Mission and Purpose
- n Cytec Product Stewardship System
  - Background
  - Key Business processes
  - Content and Use
- n GHS Implementation
- n Automated Labeling

*Questions??????????*