

SMART Factories Programme Case Study 06:

Systematic Chemical Management in a Handbag Factory: Implementing Effective Documentation, GHS labelling and Safety Data Sheet

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Factory Profile

The RUIFA Enterprise Company was established in 2019 and specialises in producing various types of handbags with 100% foreign investment. As of June 2024, the factory employs a total of 521 workers, including 468 females and 53 males.

A well-implemented programme can lead to operational efficiencies in production, a reduction in chemical incidents, compliance with legal regulations, and improved overall factory efficiency.

The MADE Chemical Management team led the factory through a six-month intensive factory assessment and training programme. The MADE Chemical Management and Detox Acceleration Programme, initiated in 2023, focused on several key objectives:



Standardising Chemical Inventory Management Practices

REMC Standard
(Resource Efficient Management of Chemicals)



Enhancing Employee Training

The hazardous meanings of GHS (Globally Harmonised System) pictograms for Labelling of Chemicals.



Globally Harmonised System (GHS)

For GHS Safety Data Sheet and Labelling were implemented

Findings

Chemical Awareness

Workers were initially unaware of the risks associated with GHS pictograms and chemical usage due to insufficient training and communication channels for sharing hazard information.

Chemical Inventory Management

The chemical inventory management system was largely outdated and missing essential information, including details on the types of chemical hazards and the corresponding control measures.

GHS labelling and Safety Data Sheet

The chemical inventory was disorganised, leading to inefficiencies and difficulties in promptly identifying hazards. Safety Data Sheets (SDS) were either incomplete or from chemical suppliers.

Challenges

Resistance to Change

Initial resistance from workers and management to adopt new practices due to time constraints and lack of awareness about the programme's benefits.

Language Barriers

Limited understanding of technical terms related to GHS pictograms among workers and supervisors who primarily speak local languages.

Resource Limitations

Inadequate resources to implement systematic chemical management and insufficient resources GHS SDS and labelling from suppliers before MADE's intervention.

Compliance with Regulations

The factory struggled to keep up with regulatory requirements for chemical management and workplace safety.



What MADE Identified and Recommended



During their initial assessment, the MADE team evaluated chemical management practices in key factory areas:



Chemical Warehouse



Sewing Line Areas



Zipper 2 Area



Paint Section

The factory utilised seven types of chemicals, including various adhesives, across production stages. The MADE team pinpointed the following actions and recommendations:

1



Chemical Documentation: Implement a systematic approach to managing GHS Safety Data Sheets (SDS) and chemical inventories.

2



Hazard Communication: Enhance understanding of chemical hazards and proper usage.

3



Training Awareness: Educate employees on the importance of GHS pictograms and safe practices for handling chemicals.



Strategies for Training Awareness

Challenges were identified in understanding GHS pictograms and chemical hazard information among both management and workers.

The MADE team addressed these gaps by:



Training 95 chemical workers in 2023 and 94 chemical users in 2024.



Ensuring that workers and management comprehended the hazardous meanings of GHS pictograms.



Encouraging chemical workers to disseminate this knowledge to colleagues.

Outcomes of the MADE Chemical Programme



Regulatory Compliance

Enhanced documentation systems ensure adherence to legal standards.

GHS Safety Data Sheet and Labelling

obtain 100% of GHS Safety Data Sheets and 90% of GHS labelling directly from chemical suppliers.

Cost Savings

The factory saved 30% in costs by implementing MADE's recommendations.

Training Impact

100% of surveyed chemical users reported understanding GHS pictograms.

Inventory Management

Efficient processes ensure easy hazard identification, preventing chemical accidents.

Future Goal

- Explore environmentally friendly chemical alternatives.
- Promote sustainable practices in the factory.

Current Status

- Workers can identify chemical hazards and protect themselves accordingly.
- Awareness of GHS pictograms is widespread among employees.



After joining MADE's six-month programme, our chemical workers are aware of hazards and immediately recognise GHS pictograms in their community. The training materials are effective, and we now maintain a perfect chemical management system, reducing costs by 30%.

HR Manager



The factory provides PPE like masks, aprons, and gloves. GHS pictogram training helped me understand chemical hazards better, and I always wear PPE to protect my health.

Zipper II Chemical Worker



Before MADE's assessment, I was unaware of chemical hazards. Now, I understand the importance of PPE and know how to prevent health risks. I also appreciate the health checks provided by the factory, which included X-rays.

Factory Chemical Team Member

Key Takeaways

The implementation of MADE's Chemical and Detox Acceleration Programme has significantly improved chemical management and safety practices at RUIFA Enterprise Company. Enhanced documentation systems, inventory control, and employee training have made the workplace safer and more compliant. The factory is now positioned to adopt sustainable practices and further reduce environmental impact.