

Chemical Management Training Program at ARC Textile Mills Faisalabad

Promotion of Sustainability in the Textile and Garment Industry in Asia-FABRIC

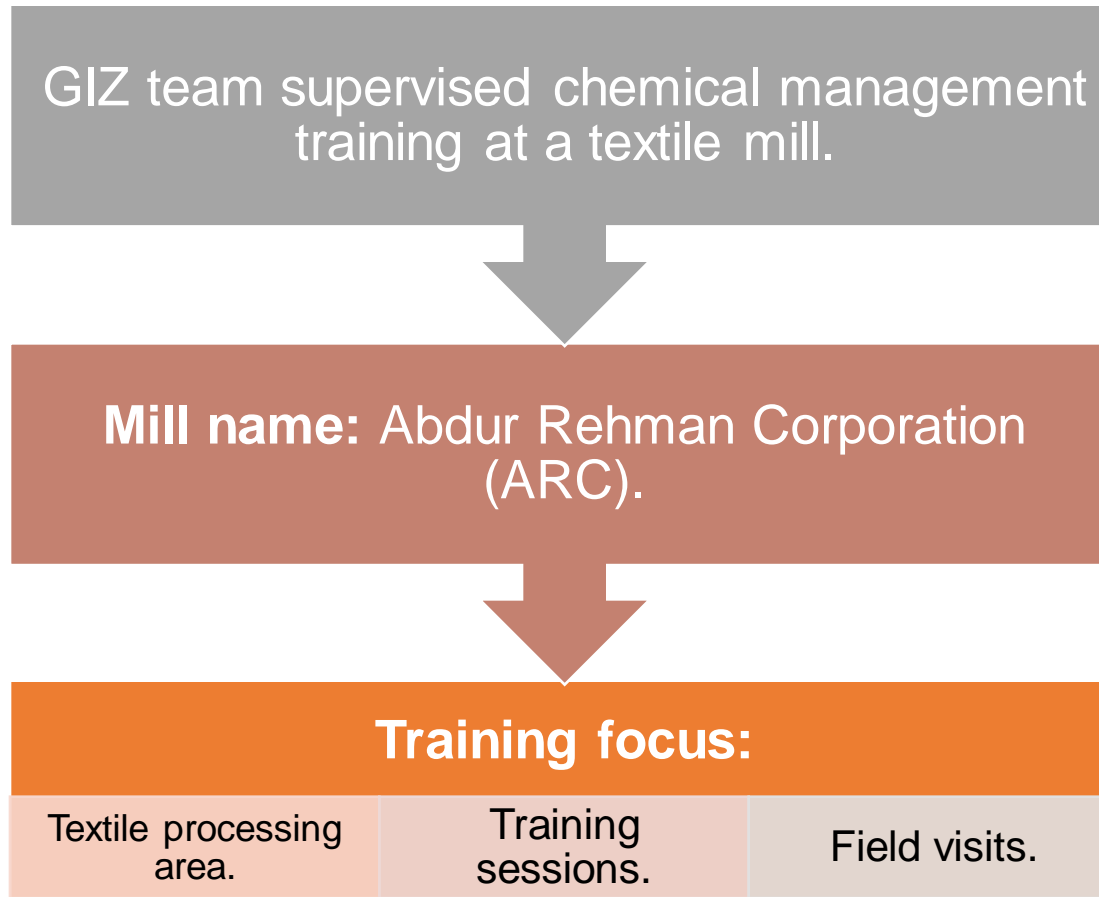
Textile industry in Pakistan and chemical management

- Use of many hazardous chemicals on fabrics.
- Industry is facing an increased pressure to manage chemicals.
- Progress is slow due to absence of proper practice.

How GIZ supported the textile industry

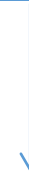
- GIZ has launched a very effective program.
- Program trained master trainers.
- Program accelerated the chemical management efforts at the textile industry in Pakistan.

How GIZ supported the textile industry



Selection of Factory

Five textile factories
were contacted



ARC was selected
based on their interest
and relevance to
Chemical
Management

Key coordination persons at ARC

Key person:

Eng. Rasheed

Technical Director

Contact person:

Qaisar Shahzad

Manager QC Laboratory

Existing Practices at ARC

Production chemicals: Solvents, acids, alkalis, dyes, and bleaching agent.

Most chemicals are **imported** from major suppliers.

Some common chemicals are **procured locally**.

Existing Practices at ARC

Lack of awareness about the harmful effects of chemicals.

Labelling was not as per **GHS**.

Latest **16-points SDS** was missing for certain chemicals.

Existing Practices at ARC

Expiry date of chemicals was missing.

PPE was missing at certain places.

Electric hazard symbols were missing from DB boards.

Existing Practices at ARC



Recipe area without protective equipment



Absence of electric hazard symbols from DB board

Meeting with senior management of ARC



Key mutually agreed modules for training

- Module 03 (Chemical information sources and traceability)
- Module 06 (Streamlining chemical purchasing practices)
- Module 07 (Preparing for chemical risk management)

Jointly agreed areas of improvement

GHS improvement

Implementation of **PPE**

Electrical hazard symbol for DB boards

Inclusion of **expiry date** of chemicals

Factory team formation

Eng. Rasheed, Technical Director, ARC

Qaisar Shahzad, Manager QC Laboratory, ARC

Sanaullah, Manger, Chemical store, ARC

Shahbaz Ahmad, Officer, Environment, health and safety

Muhammad Ali, Purchasing officer

List of factory people for training

Qaisar Shahzad

Sanaullah

Shahbaz Ahmad

Muhammad Ali

Muhammad Irfan

Muhammad Hanif

Rana Altaf

Riaz Hussain

Naeem Raza

Muhammad Afzal

Waqar Nasir

Training material and sessions

Outline of the training material was planned using **REMC handbook and eREMC modules/materials**.

Key expectations:

- Create awareness about the **implementation of GHS and SDS**.
- Motivation to adopt chemical management **best practices**.

Training material and sessions

Two comprehensive training sessions were conducted at training room in ARC mill.

The implementation of the identified issues was **assigned to the concerned persons**.

Trainees were helped to **implement the required guidelines in several random days**.

Employees on training sessions



**Employees on the training on
October 20, 2021**



**Employees on the training on
October 27, 2021**

Training material and sessions

- **Action plan** was developed with the help of **top management in ARC**.
- Finally, the **follow up on action plan** was performed. For this purpose, **two field visits** were performed.
- **Feedback of each session** was collected.

HO 210012 - Action planning - Chemical risk management controls

Sr. No.	Hazardous chemical/critical situation/loss/identified gap	Proposed measure	Objective of proposed measure	Necessary action/activities for implementing measure	Person(s) Responsible	Deadline for completion	Results/indicators to be monitored
1	Global harmonized system (GHS) implementation for all chemicals	Complete GHS based labelling	Health and safety improvement and certification	<ul style="list-style-type: none"> Contact chemical suppliers. Update labelling 	Qaisar Shahzad, Manager QC Laboratory	December 12, 2021	Global harmonized system (GHS) implementation
2	Latest 16-points Safety data sheet is missing in many chemicals	Update latest SDS for all chemicals	Health and safety improvement and certification	<ul style="list-style-type: none"> Contact chemical suppliers. Update labelling 	Qaisar Shahzad, Manager QC Laboratory	December 15, 2021	Latest 16-points Safety data sheet updating
3	Electrical hazard symbols missing on DB board	Fixing of symbols	Health and safety improvement and certification	<ul style="list-style-type: none"> Identify missing labels Fixing of symbols. 	Shahbaz Ahmad, Officer, Environment, health and safety	September 25, 2021	Improved symbols
4	Personal protective equipment missing in certain areas	Improved PPE use	Health and safety improvement and certification	<ul style="list-style-type: none"> Identify area with missing PPE Provide and use PPE 	Shahbaz Ahmad, Officer, Environment, health and safety	September 29, 2021	Ensure PPE use in target areas
5	Expiry date of chemicals is missing in system and packing	Ensure expiry date in system and packing	Health and safety improvement and certification	<ul style="list-style-type: none"> Checking of expiry for all chemicals Add expiry date in the system. 	Sanaullah, Manger, Chemical store	December 20, 2021	Updating of expiry date

Free
03/11/21

Key topics and contents of session 1

- Introduction to GHS
- History of GHS
- Importance of GHS
- Purpose of GHS
- Detailed discussion on the GHS hazard pictograms
- Detailed discussion on the components of the GHS compliant label
- Implementation guidelines for GHS in the factory

Implementation of GHS

- GHS was ensured for the **majority of chemicals**.
- Chemical **suppliers were contacted**.
- The labelling was updated to ensure GHS based information.
- Several suppliers have started to update their labelling according to GHS based information.

Implementation of 16-points SDS

- The latest 16-points Safety data sheet (SDS) was missing for many chemicals.
- Factory management asked the suppliers to send 16-points SDS.
- Suppliers started to send latest SDS for several chemicals.
- Awareness was created about 16 points of SDS.



Recipe area with protective equipment



Implementation of electric hazard symbols



Absence of electric hazard symbols from DB board



Fixing of safety symbols on DB boards



Absence of electric hazard symbols from DB board

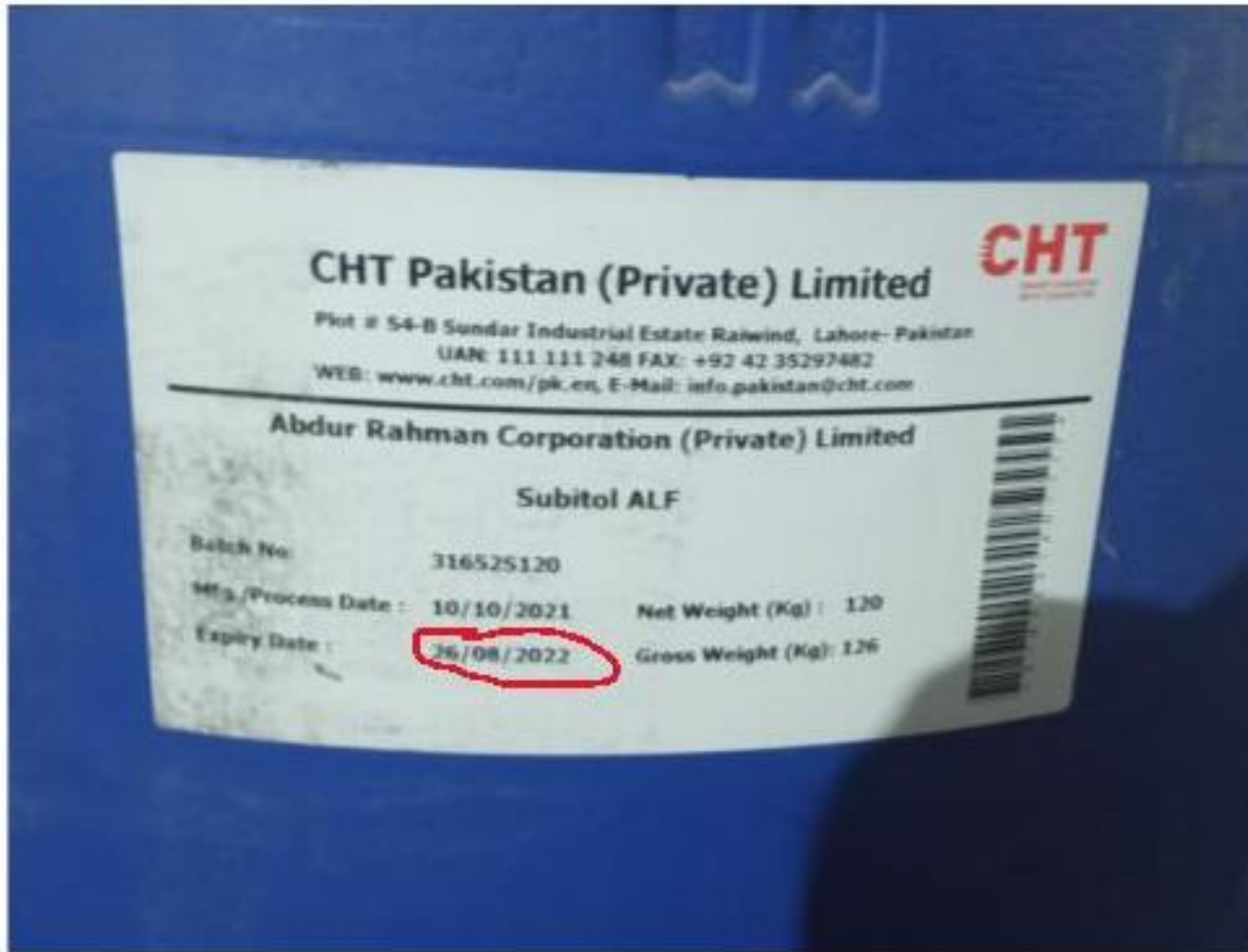


Fixing of safety symbols on DB boards

Expiry date of chemicals

- Expiry date of chemicals was **ensured on chemical containers**.
- The **inclusion of expiry date** into ARC's **chemical management software** has been promised.

Update of expiry date of chemicals on container



Chemical Management Quick Check Worksheet filled by ARC representative

Company/Section ARC Textile/Processing Date 13-10-2021
 Completed by Daisar Shahzad

Chemical Management - Quick Check Worksheet

Find out where you stand

Use the checklist below to carry out a brief self-check and quickly assess where your company might stand with regard to chemical management. The indicators in the following quick-check describe what successful chemical management implies. Tick box, which to your opinion characterise the current situation.

		Score	5	4	3	2	1
Chemical management indicators in your company/factory/department		Your view	Fully applies	Applies to a large extent	Partly applies	Applies to a very limited extent	Does not yet apply
1	All chemicals used or present in your company are recorded in an up-to-date inventory/register.		✓				
2	The characteristics/hazard properties of all chemical substances (including chemical waste) that are stored and used in your enterprise have been identified and documented.			✓			
3	Up-to-date material safety data sheet (as per the Global Harmonised Systems - GHS) are available for all (hazardous) chemicals and substances.			✓			
4	All chemical (including those for temporary use) and chemical waste containers are labelled/marked (according to GHS) to allow clear identification of chemicals/contents inside and their hazardous properties.				✓		
5	Potential effects and risks for all situations/areas/operations where chemical hazards are present (hazard means anything that has the potential to cause harm to people and/or the environment or cause damage by to fire, explosion or other reactions) have been assessed and documented.					✓	
6	All chemical risk control (general, local ventilation, segregation) and improvement measures (including selection of PPE) are being implemented in line with a documented hazard and risk assessment process.				✓		

Chemical Management Quick Check Worksheet filled by ARC representative

7	Production sites/Operations specific work instructions are provided, wherever hazardous chemicals or their wastes are handled, (at least) providing guidance on safe chemical handling and personal protection in a form easily understood by the concerned staff and workers.			✓		
8	All staff and workers are aware of the harmful nature and effects of the substances they use/handle at work and how they may be exposed to them, and know how to protect themselves during regular work and what to do in case of emergencies.		✓			
9	Everybody (including managers, supervisors, workers, visitors, contractors) who is present in areas with possible exposure to hazardous chemicals follows safe work practices and uses appropriate control measures.		✓			
10	All waste water, in particular containing chemicals, is sent to a functional effluent treatment or recovery facility before being discharged outside the company.					✓
11	All chemical wastes (especially solid/liquid hazardous) are segregated, labeled and safely disposed of according to local regulations.				✓	
12	Quantities and costs of chemical inputs and outputs of chemicals (including in form of waste) in use are known by the respective production manager and supervisors.		✓			

Chemical Management Quick Check - Scoring

		Score
1	Chemical registration and inventory	
2	Chemical hazard classification	
3	Chemical hazard information sources	
4	Chemical hazard communication	
5	Chemical effect and risk assessment	
6	Chemical risk prevention and control	

		Score
7	Administrative controls	
8	Awareness and knowledge	
9	Attitude and internal compliance	
10	Waste water management	
11	Chemical waste management	
12	Resource efficiency orientation	

Selective feedback forms collected after training sessions in ARC

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Training feedback form

Employee name: Rizq Hussain Focus areas of the job: Stone

Employee's signature: [Signature]

Please Tick (✓) only one box for each statement.

		Strongly Agree	Agree	Neither agree not disagree	Disagree	Strongly Disagree
1	The contents of the presentation were useful and interesting	✓				
2	The training contents were structured, well organized, and easy to follow.	✓				
3	The content of the material was organized and easy to follow	✓				
4	The presentation materials were relevant		✓			
5	The pace of the course was appropriate to the content and attendees	✓				
6	The presentation was engaging all the attendees	✓				
7	Was adequate time provided for questions and discussion?	✓				
8	Answers to all the questions were received satisfactory.	✓				
9	The material in the presentation can be applied easily in the work place.		✓			
10	The objectives of the training were met	✓				
11	The length of the presentation was appropriate	✓				

Please specify any other comments/ concerns related to the training.

Please email this form to dr.shaheen@uet.edu.pk

Thank you very much for your cooperation.

Selective feedback forms collected after training sessions in ARC

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Training feedback form

Employee name: Qaiser Shahzad Focus areas of the job: LAB

Employee's signature: [Signature]

Please Tick (✓) only one box for each statement.

		Strongly Agree	Agree	Neither agree not disagree	Disagree	Strongly Disagree
1	The contents of the presentation were useful and interesting	✓				
2	The training contents were structured, well organized, and easy to follow.		✓			
3	The content of the material was organized and easy to follow	✓				
4	The presentation materials were relevant	✓				
5	The pace of the course was appropriate to the content and attendees		✓			
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8	Answers to all the questions were received satisfactory.	✓				
9	The material in the presentation can be applied easily in the work place.		✓			
10	The objectives of the training were met	✓				
11	The length of the presentation was appropriate	✓				

Please specify any other comments/ concerns related to the training.

Please email this form to dr.shaheen@uet.edu.pk

Thank you very much for your cooperation.

Factory Feedback

UT597 TA04_ ToT on Chemical Management_ Factory Feedback

Name: Qaisar Shahzad Designation: Manager Lab

Organization: ARC Location: Khurrian wala.

Please use (✓) score the based on the services provided by the Trainer on Chemical Management in your Facility

#	Questions	SCORE				
		5 Fully Agree	4 Agree	3 Neutral	2 Partially disagree	1 Fully disagree
1	The organization is satisfied with the services of Trainer		✓			
2	We have found it useful to exercise the tools for chemical management in your facility as a result of training sessions		✓			
3	The training sessions will support our team in implementing chemical management practices as per ZDHC guidelines	✓				
4	We have prepared action plan for chemical management improvement measures.			✓		
5	We have prioritized the improvement measures.	✓				
6	We have already started working to improve management of chemicals in your facility?			✓		
7	We have allocated resources for improvement plan.			✓		

(Handwritten signature in a circle)

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