



QUALITY CONTROL OF CHEMICALS

November 2017



LEARNING OUTCOMES & RESOURCES

Learning Outcomes



- Gaining knowledge on how to conduct a Quality Control Process of chemicals.

Resources

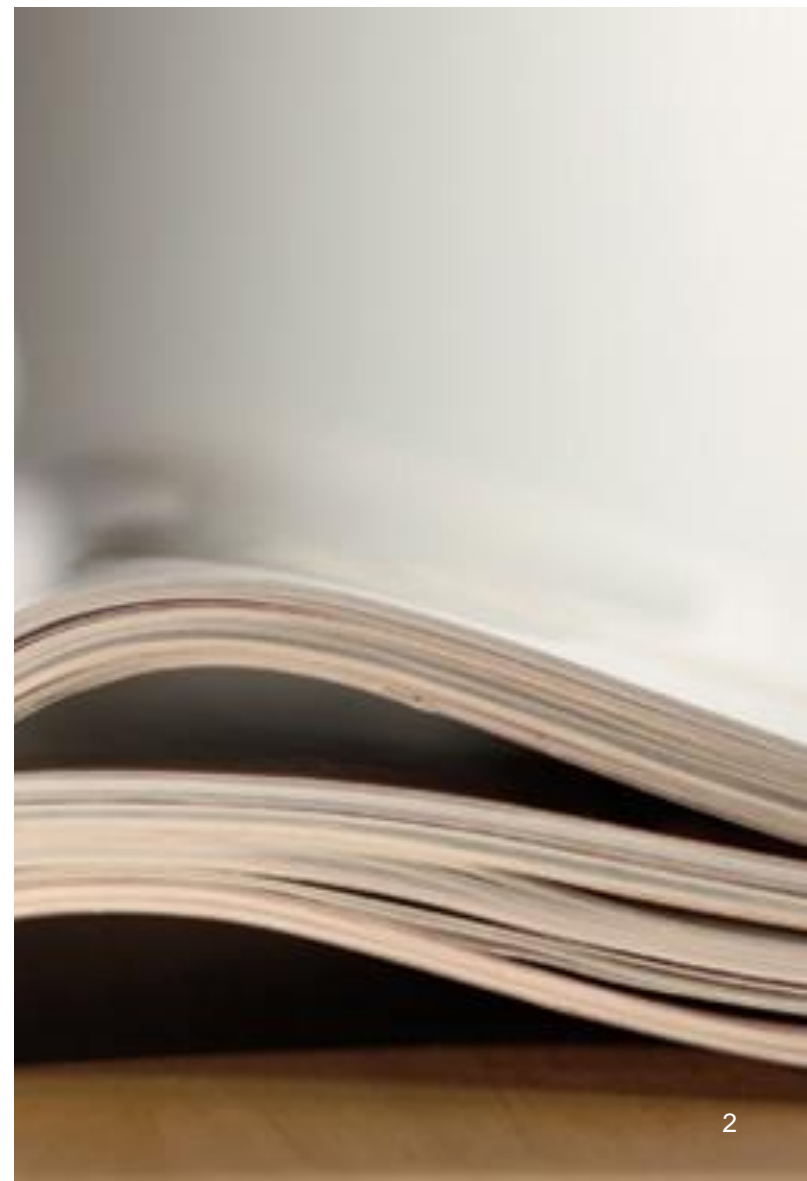


- REMC Handbook

Workbook



Refer to complimentary excercises in your workbook.





Which problems can occur if no credible quality control process of incoming chemicals takes place?

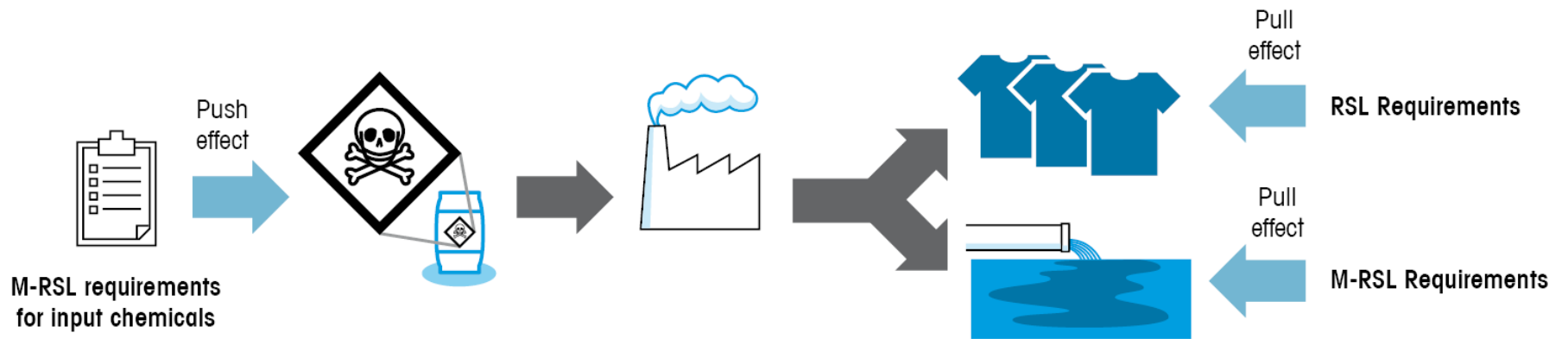


Brainstorm as a group and take notes in your workbook, exercise (10-1).

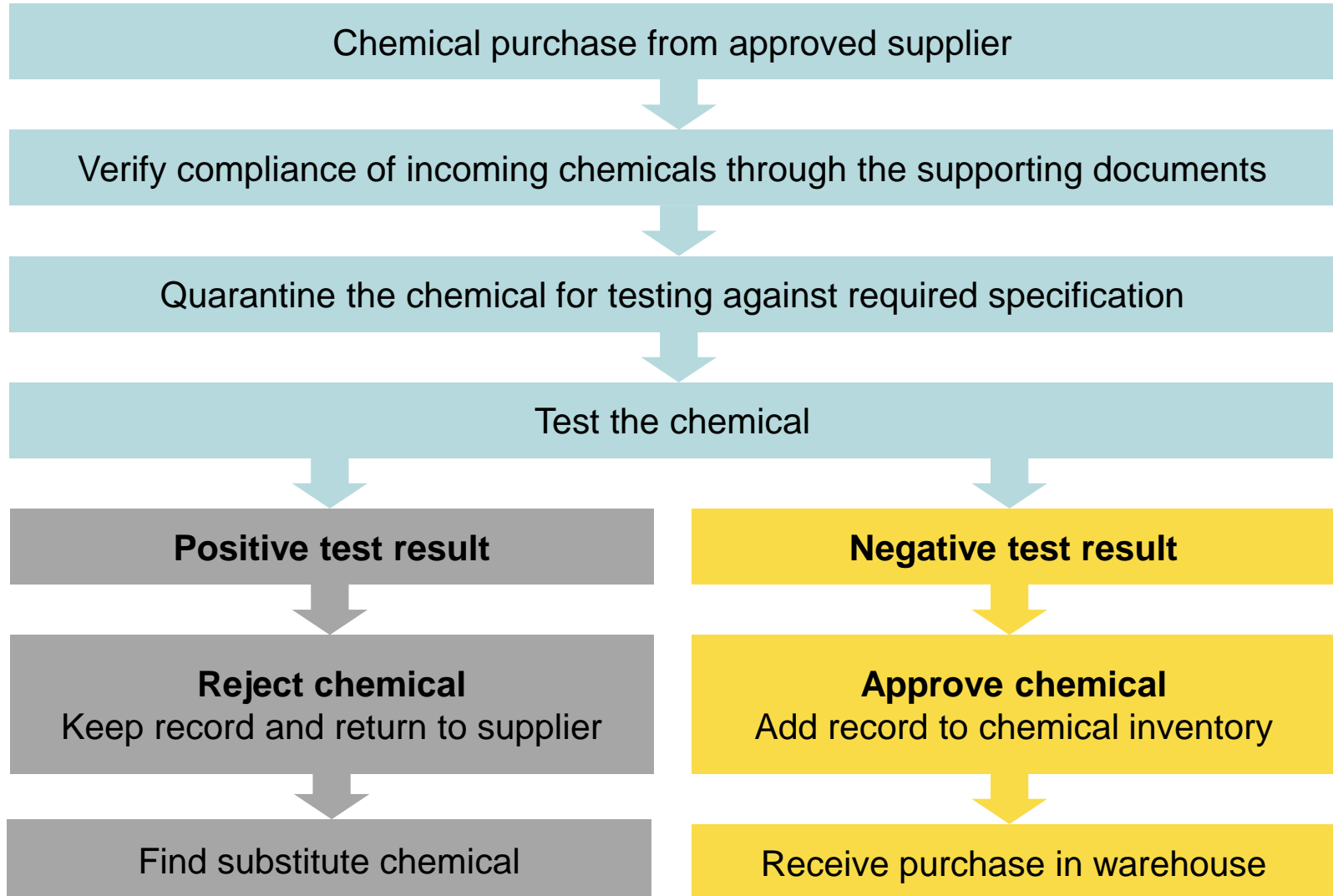
Quality Control Process



INPUT – OUTPUT MODEL



QUALITY CONTROL PROCESS OF INCOMING CHEMICALS



VERIFY COMPLIANCE OF INCOMING CHEMICALS



- Check the **SDS provided** by the chemical supplier for **completeness and correctness**.
- Ensure **SDS is following GHS** standards.
- **Cross check the chemicals for the RSL and MRSL** risk from the documentation provided such as SDS, TDS, COA, test reports and declarations.
- **Check the physical parameters** and strength of the product against a standard batch of the chemical. e.g. solid content, moisture content, ash content, melting point, boiling point, viscosity and settling behaviour.





TEST THE CHEMICAL AGAINST EXACT SPECIFICATIONS

- The received chemical should be kept in the **quarantine area (safely and protected)** until the test result is available.
- **Chemical testing** of the chemical against exact and agreed specifications.
- Wait for the **test result** before further processing the chemical.
- **Only process further if tests are passed.**
- **Reject if test was not passed.**
- **Return to the chemical supplier** with original PO no., Batch no., and date along with the reason for rejection.
- Ensure the **rejected chemicals do not come into contact with other chemicals**, and are kept separate before returning to the supplier.





Which check points for quality control of incoming chemicals can you think of?



QUALITY CONTROL CHECK POINTS

- **Check the chemical purchased** is what you have **ordered**.
- Ensure the chemical is purchased from an **approved supplier**.
- Ensure the **documentation** provided by the chemical supplier is **correct**.
- Check the **format of the MSDS** provided.
- Check the **packaging and labelling** meets all regulations.
- **Verify the batch number** against the physical drum batch number.
- Ensure the **chemical is in quarantine** until approved.
- Conduct **chemical testing**.





CHECK POINTS FOR MRSL COMPLIANCE

- **Formulations are 3rd Party Certified /evaluated /tested** and the respective certificate is provided.
 - e.g. bluesign® ,T-ChIP , GreenScreen ®, Oeko-Tex ® , GOTS , REACh etc.
- Chemical is on the **ZDHC positive list** and **ZDHC MRSL v.1.1 compliant**. Supporting documents such as test reports, MSDS, TDS are provided.

Reputable chemical suppliers hold a ZDHC positive list

ZDHC - DyStar

<https://www.dystar.com/zdhc/> ▾ [Diese Seite übersetzen](#)

The DyStar positive list: Towards Zero Discharge of Hazardous Chemicals (ZDHC) contains a listing of DyStar's global textile dyes and auxiliaries that do not ...

[PDF] Huntsman positive list for ZDHC - Huntsman Corporation

www.huntsman.com/.../DDC5061F99143F02E040EBCD2B6B05... ▾ [Diese Seite übersetzen](#)

Effects has developed a list of dyes and chemicals which do not intentionally contain any of these priority chemical groups and therefore can be used to supply ...

ZDHC

www.roadmaptozero.com/ ▾ [Diese Seite übersetzen](#)

Our goal is to eliminate the use of priority chemicals by focussing on the following areas: Manufacturing Restricted Substances List (MRSL) & Conformity ...

The Importance of a Single, Unified MRSL - ZDHC

www.roadmaptozero.com/.../why-is-implementation-of-one-singl... ▾ [Diese Seite übersetzen](#)

01.07.2016 - With the release of the Chemical Registry this August, and consequently a chemical "positive formulation list", our next focus is on driving ...

ZDHC-Initiative - Rudolf GmbH

www.rudolf.de/ecology/zdhc-initiative/ ▾

09.12.2015 - Bei der ZDHC MRSL handelt es sich um eine Liste von chemischen Stoffen, deren Verwendung verboten ist, was bedeutet, dass der ...

ZDHC-initiative - Rudolf GmbH - rudolf group

www.rudolf.de/en/ecology/zdhc-initiative/ ▾ [Diese Seite übersetzen](#)

09.12.2015 - The ZDHC MRSL is a list of chemical substances subject to a usage ban, meaning that the MRSL-listed chemical substance or group of ...

[PDF] CHT ZDHC positive List MRSL - CHT.com

<https://cht.com/cht/medien.../ZDHC-positive-list-MRSL.pdf> ▾ [Diese Seite übersetzen](#)

RECOMMENDATION LIST ZDHC | EDITION 17 July 2017. CONTENT. 1. INTRODUCTION. 2. PRETREATMENT. 2.1. Enzymes. 2.2. Scouring auxiliaries. 2.3.



QUALITY TRACKING RECORD

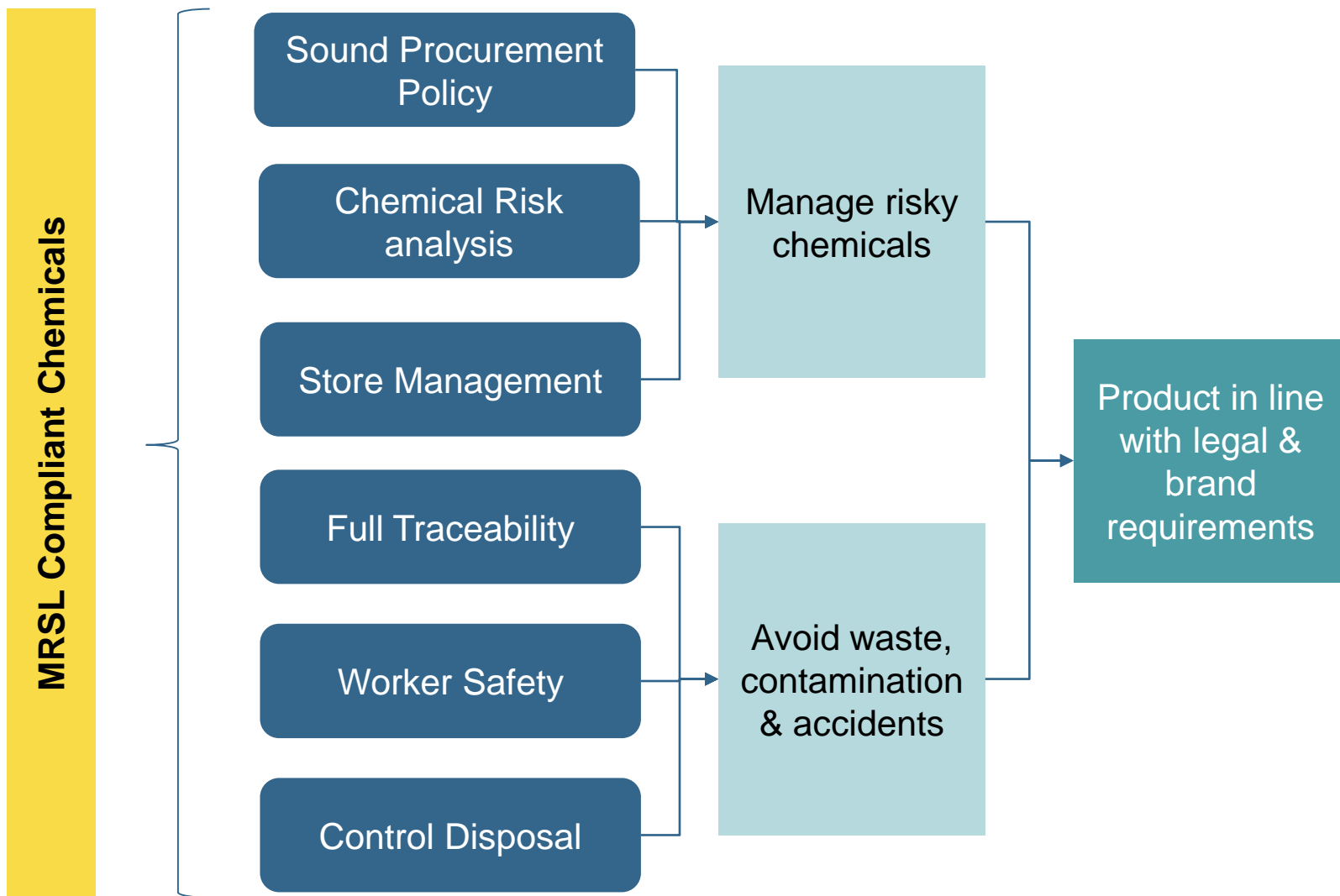
- Identify quality control check points, identify / state specific chemical requirements and check whether received material is in accordance with specifications provided.
- This should be followed in a systematic way.
- Factory should have a standard laboratory with relevant related testing facilities available and should be operated by technically qualified personnel.
- The testing report observed should be documented with the proper identification e.g. batch no., lot no, date, name of chemical etc.
- If received chemical does not match quality specifications during testing, it should be sent back to supplier and properly documented in factory records.
- The documented data will be helpful in analysing chemical product quality problems.
- Keep a track record.

EXAMPLE TEST METHODS FOR QUALITY CONTROL OF CHEMICALS



Character	Test Method
Softeners	ASTM – D5237-05
Silicones	ASTM D5237-05
Sequestering agents Ca Cv	AATCC-149-2007
Sequestering agents Cu Cv	AATCC- 168 2007
Wetting agents	AATCC 17-2005
Electrolyte stability of Reactive dyes	ISO 105 Z08
Dispensability of disperse dyes	AATCC 146-2006
Shade change due to metal for disperse dyes	AATCC 161-2007
Estimation of amount of silica in water	ASTM D859-10
Standard method for Ammonia Nitrogen in Water	ASTM D 1426-08
Standard method for Chromium in water	ASTM D 1687-02(2007)e1
Standard method for total Mercury in water	ASTM D 3223-02(2007)e1

RELATIONSHIP BETWEEN GOOD QUALITY CHEMICAL MANAGEMENT AND PRODUCT SAFETY





ROLE PLAY

Take Notes.
Workbook, exercise
(10-2).

Your facility experiences a 4% chemical failure rate in final product from Heavy Metals. This means high financial losses for your facility.

Explain to your Factory Manager how the failure rate can be improved by installing a credible Quality Control Process and which steps are necessary.

Open To Questions

SUMMARY



Each participant to feedback with one key learning from the session.



Take notes in your workbook, exercise (10-3).



