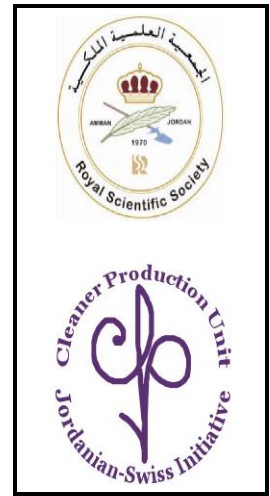


Cleaner Production in Jordan

Fact sheet: National Paints Factories Co. Ltd. (Sayegh Group - Paints Factory), Amman, Jordan



What is Cleaner Production?

Cleaner Production (CP) is the continuous application of an integrated, preventive strategy to processes, products and services to increase efficiency and reduce risks to humans and the environment.

In this fact-sheet the results achieved from the CP In-plant Assessments in National Paints Factories Co. Ltd. / Paints Factory are summarised. The information shall serve to demonstrate how CP can be implemented in industries in Jordan.

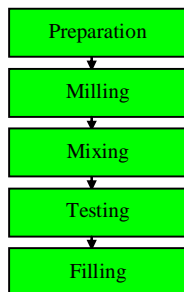
General Information



Paint production process

Company	National Paints Factories Co. Ltd., Amman, Jordan / Paints Factory
Sector	Paints manufacturing.
Products	<ul style="list-style-type: none"> • Building and decorative paints (emulsion and enamel, insulation and protection paints). • Furniture and wood finish paints (acrylic polyurethane, nitrocellulose paints and acid curing). • Industrial and protective coatings (synthetic, stoving enamel, and auxiliary products). • Automotive paints with all their kinds and systems.
Market	55 % local market, 45 % export to Arabian, African, Asian and European countries.
Employees	370 employees.
Management Systems	Certification in ISO 9001:2000 since 2000.

Production



Process Flow Diagram

Processes	The general production processes consist of: storage and preparation of raw materials, dispersing, milling, mixing (enlargement), testing and product filling.
Raw Materials	Solvents (water or chemicals), pigments, resin, fillers and additives.
Energy Sources	Electricity (961200 KWh was consumed in 2004).
Wastes and Emissions	Waste solvents and wastewater resulting from the cleaning of mixers and containers are the main wastes generated from the company in addition to empty barrels, packaging bags, empty cans, filter bags, dust and solvent emissions.

CP program The CP program comprised capacity building and in-plant application in a modular form in addition to experts mission. A joint team from RSS CP Unit and the Company worked cooperatively to implement CP assessment for the company. The work included detailed company visits, identifying and evaluating CP options, implementing a number of options and setting an action plan for the follow up of CP at the company.

Company Statement The cleaner production assessment leads us to concentrate on getting sustainable and eco-efficient solutions to optimize our production process.

Mr. Michael Sayegh, President of Sayegh Group.

Results

During the CP assessment that was done by a team of RSS CP unit and the company, 15 CP options were identified to be feasible for the company. The three most feasible options are described below:

Option	Environmental benefits	Economic savings		
		Savings [JD/yr]	Investment [JD]	Pay back [month]
<i>Option 1 - Cover Installation for mixing containers</i> Cover installation for mixing containers will reduce solvents emissions to working area and environment.	1000 kg solvent / yr (one mixer)	820 (one mixer)	110 (one mixer, fiberglass)	2
<i>Option 2 – Replacing the existing distillation unit by a new one</i> This option will increase the recovery rate of waste solvents.	105 m ³ / yr	52830	30700	7
<i>Option 3 - Controlling the mixing time by a timer</i> Turning off the mixers while getting acceptance from the QC labs will save energy.	2960 KWh / yr (one mixer)	115 (one mixer)	60 (one mixer)	6

Contacts & Partners



Royal Scientific Society, Environmental Research Centre (ERC),
Cleaner Production Unit (CPU)

P.O. Box 1438, Al Jubeiha 11941, Jordan

Tel: + 962 6 53 44 701 ext 2475, Fax: + 962 6 53 40 373

www.rss.gov.jo / www.cp.org.jo

Eng. Rafat Assi – Director of ERC / CP

rafat@rss.gov.jo



National Paints Factories Co. Ltd.

P.O. Box 533, Abu Alanda 11592, Jordan

Tel: + 962 6 47 90 790, Fax: + 962 6 47 90 799

Amman – Jordan

www.nationalpaints.com

Eng. Zeid Shawareb - Factory Manager

npfc@nationalpaints.com

Advisory services by



Financial support



www.fhnw.ch/umwelt

www.sba-int.ch

www.seco-cooperation.ch