LEAD PAINT ELIMINATION EXPERIENCE
PACIFIC PAINT (BOYSEN) PHILIPPINES, INC.

Founded in 1953

Leading architectural paint manufacturer in the Philippines

45th largest paint company globally (Coatings World 2018)

17th largest in Asia-Pacific (Asia Pacific Coatings Journal 2017)

Sustainability Company of the Year - Global Responsible Business Leadership Awards 2018
Sustainable Company Award from the Asian Development Bank in 2019

Recipient of the Model of Green Technology from the UN Global Forum on Human Settlement

Member of the NOVA PAINT CLUB

Member of the PAPM

2015-2016 Turnover ~ USD 283 million

Estimated market share 60-70%
ENVIRONMENTAL INITIATIVES

First Filipino paint to:

- Phase out mercury in latex paints (1970s)
- Have an ISO 14001 certified plant in 2005
- Introduce water-based primer and epoxy (1st in SE Asia)
- Introduce low VOC paints (2006)

We realized continued use of lead in paint was completely inconsistent with our green efforts.
ADDED LEAD IN PAINT

Lead based raw materials traditionally used in oil based enamels:

• As oil drying agents: Lead Octoate 36%
• As anti-corrosive pigments: Red lead and Zinc Chromate Pigment for metal primers
• As color pigments: Lead Chromate Pigments, Chrome Yellows and Green, Molybdate Red and Orange
VOLUNTARY PHASE OUT

Majority of Decorative Paint is water based, where lead containing raw materials are not commonly used.

We realized a small component of our total sales could compromise customer trust:

- Pb driers were being used in 30% of our products
- Red Lead and Zinc Chromate pigments in ~ 1% of our products
- Chrome Yellow / Green and Molybdate Orange Pigments in ~ 0.6% of our products
In 2007, we decided to voluntary phase out our use of lead based raw materials.

Our strategy for eliminating lead in paint:

- Phase out Pb driers
- Phase out Red Lead and Zinc Chromate pigments
- Phase out Chrome Yellow / Green and Molybdate Orange Pigment

Total process took about 18 months
VOLUNTARY PHASE OUT

Pb (internal) driers are usually used in combination with Cobalt (surface) and Calcium (auxiliary) driers

Total cost component of the Pb drier is usually less than 1% of total formulation

Pb driers can be easily replaced by Zirconium drier (also Strontium)

Even if per kg price of Zr 24% is > Pb 36%, there should be NO SIGNIFICANT DIFFERENCE in total formulation cost.
VOLUNTARY PHASE OUT

Phase out Red Lead and Zinc Chromate Primers

Sales foregone ~ USD 1.2 million

Fortunately customers were willing to use Red Oxide Primer or Epoxy Primer as replacement

According to supplier of red lead pigment, our lost purchases were not compensated by other paint companies
VOLUNTARY PHASE OUT

Chrome Yellow and Molybdate Orange replacement with organic pigments were most technically challenging

We committed to maintain color and performance but had to increase selling prices:

- Lemon Yellow Enamel: 20% increase
- Lemon Yellow Colorant: 45% increase
- Orange Enamel: 75% increase

Long run trend for sales were not negatively affected
VOLUNTARY PHASE OUT

• By 2009 we completely stopped using raw materials with lead

• We started using logo \( \overline{\text{Pb}} \) in our packaging

• We also asked our tin can manufacturers to comply with RoHS requirements to ensure lead free packaging
THANK YOU VERY MUCH FOR YOUR ATTENTION

johnson@boysen.com.ph

g_fontejon@boysen.com.ph