

## ILUKA BRIEFING PAPER MARKET CHARACTERISTICS

May 2016

*This paper provides a selection of recent trends in some of Iluka's end markets, including global pigment markets and the China property market. All information is sourced from the public domain*

### PIGMENT SECTOR TRENDS

*Titanium pigment is the largest end use segment of titanium dioxide, accounting for around 90 per cent of end use demand.*

Market demand for pigment appears to be recovering, with a strong start to the 2016 year and evidence of some spot shortages in some grades of pigment. Following actions taken in 2015 to reduce capacity as part of the draw down in pigment inventory levels, amidst declining prices, several major pigment producers have also pursued price increases in early 2016. This more encouraging trend for chloride pigment was also evident in first quarter results and commentary by major Western chloride pigment producers, which indicated an improvement in pigment market conditions in all regions and a stabilisation if not possible reversal in price declines.

Characteristics in terms of price, volume and revenue, for a number of major Western pigment producers are shown below.

#### Pigment results summary

	Pigment Prices		Pigment Volume		Pigment Revenue	
	vs 1Q15	vs 4Q15	vs 1Q15	vs 4Q15	vs 1Q15	vs 4Q15
Chemours	-16%	-1%	13%	11%	-3%	-12%
Huntsman	-11%	-2%	6%	22%	-5%	20%
Tronox	-18%	-4%	8%	2%	-10%	-2%
Kronos	-14%	na	5%	na	-9%	na
<i>Average</i>	<i>-15%</i>	<i>-2%</i>	<i>8%</i>	<i>4%</i>	<i>-7%</i>	<i>2%</i>

Notes:

1. Pigment price movements are on a local currency basis (i.e. excludes FX).
2. Excludes FX and mix impact (i.e. these % differ from actual revenue achieved).
3. Huntsman figures relate to the Pigments & Additives segment.

Chloride pigment price increases have also been announced by a number of producers across the US and Europe in the first quarter in the range of US\$150-\$175/t, though some remained cautious on whether announced price increases will be accepted, and with further price increases announced from 1 April/1 May (including ISK, Cristal, Tronox, Chemours).

Commentary from pigment producers associated with first quarter results included:

- Chemours: On chloride pigment demand, "... we see the strong early start to the North American coating season and positive demand in Europe as good sign" and on chloride pigment inventory, "... on the finished product side, we like to operate somewhere around 60 days, [and] we're probably a little bit slightly under that right now". Note: Chemours in 2015 had announced that it was eliminating ~150kt of pigment capacity

by closing its Edge Moor plant and shutting down line 3 at its Johnsonville plant. The company previously stated: "As we previously said [in 4Q], we will dial back production at our other sites to offset the new Altamira volumes until our customer demand warrants additional production. Chemours announced in May that its 200,000 metric tonnes chloride pigment plant in New Mexico was commissioning.

- Huntsman: On pigment prices: "... I do fully expect to see prices increase across the board in every region of the world, not unilaterally at exactly the same pace. It'll be more in certain areas than in others. And I would say that for Huntsman, that every one of our customers will be accepting a price increase in the second quarter."
- Tronox: On chloride pigment prices: "...the first quarter marked the turning point in the long decline in TiO<sub>2</sub> prices that we have experienced over the last couple of years ... we saw an upturn during the quarter itself with March average selling prices higher than those in February" and on pigment inventory: "finished pigment products inventory ended the quarter below seasonal norms..."

As a vertically integrated producer, Tronox had previously reduced slag production reduced to ~50 per cent capacity (~200ktpa) and reduced pigment processing by ~15 per cent or 70ktpa capacity, stating: "We don't intend to bring back the full production instantaneously simply because we see the very first signs of price recovery."

Pigment producers reported demand in Europe was better than expected in the first quarter. In the US, earlier warm weather has brought an early start to the painting season combined with solid economic data including spending on durable goods up, most notably vehicle sales strongly up 6.8 per cent in February year-on-year and US market housing starts in February up 31 per cent year-on-year. All are typically indicators of demand for pigment. European demand for pigment is reported to be better than expected, with price increases announced for pigment across Europe and inventories continuing to move lower.

US retail paint company commentary, for example, Sherwin-Williams, has typically been positive with that company reporting sales growth of 10.5 per cent in the quarter "due primarily to higher architectural paint sales volume across all end market segments."

The preceding factors were amongst some underpinning Iluka's comments at its recent AGM: "We are seeing the most positive combination of factors for the pigment sector and ultimately for high grade feedstock demand ...since 2012". As Iluka indicated in its March Quarter Production Report, the company has also seen the pull forward of some volumes of high grade feedstock, as well as emerging strength in niche markets for product, such as rutile. In 2016, Iluka has most of its expected volumes in the pigment sector under contract in terms of both volumes and price.

## TITANIUM AND WELDING MARKETS

Demand for rutile in the smaller niche markets of welding and titanium metal has also shown improvement and is enabling Iluka to sell small quantities of rutile at a premium to the largely contracted prices to the pigment sector.

## CHINA PROPERTY MARKET

*Of Iluka's zircon sales into China, roughly 50 per cent is property related (e.g. tiles). A proportion of this is related to infrastructure and commercial developments, however residential housing is the major segment and represents approximately 20-25 per cent of total Iluka zircon demand. For zircon demand in China housing completions and sales may be seen as a more direct indicator for ceramic demand, and in turn that for zircon. While housing starts are an indicator, there is typically a longer lead time to the application of tiles and paint (mineral sands based products) as this typically occurs at the time of a property being sold.*

Activity in the Chinese property market has been strong in early 2016. Some of the key indicators include: property sales up by 44 per cent over the year to April, new property starts up by 26 per cent and property completions by 30 per cent. Further, floor space under construction grew by 6 per cent over the year to April.

Ceramic industry data indicates that tiles account for around 75 per cent of all floor coverings in China and that China is the world's largest manufacturer and consumer of ceramic tiles (approximately 48 per cent of global manufacturing and 40 per cent of global consumption) (Source: Ceramic World Review).

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