

## Petrochemical price monitor

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- Steep WoW olefins price decline continues.** The sharp decline in naphtha price caused by sinking oil price was again the key factor pulling olefins and derivatives product prices down 3.6-18.2% WoW. HDPE was the least hit on tight supply in the region, allowing its spread over naphtha to still improve 2.2% WoW while others declined across the board. Buyers remain on the sidelines, monitoring the impact of the fall in crude, naphtha and ethylene prices on product prices. This is holding back demand for olefins products as we near year's end in an attempt to avoid huge inventory loss. Spread for non-integrated PE producers also improved 4.8-25.6% WoW, as ethylene and propylene prices sank at a steeper rate than PE/PP product prices.
- Aromatics doing most poorly in 4Q14.** PX and BZ prices continued to sink, losing 8.4-18% WoW on weak demand and lower feedstock cost. Bearish sentiment caused by huge additional supply of PX and unwillingness to build up stock as the year comes to a close will continue to drag on product price and spread, among the worst performers in 4Q14.
- Integrated PET/PTA spread supported by lower feedstock cost.** PET/PTA spread was the only chain that showed improvement WoW (+7.1% WoW) to US\$337/t although PET and PTA prices also declined 2.8-7.4% WoW. This was supported by a deeper fall of feedstock cost, PX and MEG. Demand for the PET/polyester chain in Asia remains weak approaching the end of the year, as buyers expect to see continued weakness of product prices amidst lower oil price and abundant supply, especially for PTA.

**Investment view:** Weakening product price and spread pressured the Petrochemical sector index (-10.5% WoW) to underperform the market (-6.2% WoW). This was driven by the sector's two key stocks: PTTGC (-11.2% WoW) and IVL (-13.2%). The sector will continue to be hit by weaker product prices as a result of lower oil price and sluggish demand as buyers work to minimize inventory loss at the end of the year.

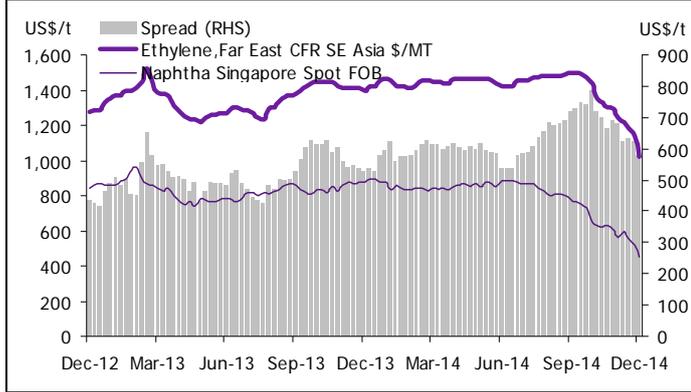
Figure 1: Petrochemical price update

	Current 12-Dec-14	52-week High/Low	-1W	-1M	-3M	-6M	-12M	4Q14 QTD	3Q14	QoQ%	YTD	Chg.	%YoY	2014F projection	
<b>Price</b>															
Naphtha Singapore Spot FOB	447	897/447	-13.4%	-20.7%	-42.4%	-49.3%	-48.9%	595	820	-27.4%	788	-42	-5.1%	842	
Ethylene, Far East CFR SE Asia \$/MT	1,025	1,495/1,025	-10.1%	-17.7%	-31.4%	-27.8%	-26.8%	1,271	1,478	-14.0%	1,415	66	4.9%	1,440	
Propylene (C), Spot CFR F/E US/MT	755	1,503/755	-18.2%	-37.1%	-45.1%	-46.8%	-49.8%	1,155	1,412	-18.2%	1,370	-24	-1.7%	1,430	
Polye HDPE Inj, South East Asia US/MT	1,350	1,620/1,350	-3.6%	-11.2%	-15.4%	-14.6%	-11.8%	1,505	1,605	-6.2%	1,559	83	5.6%	1,570	
Polye LDPE-Film, Spot S.E Asia US/MT	1,245	1,680/1,245	-7.8%	-18.1%	-22.2%	-21.9%	-25.4%	1,493	1,602	-6.8%	1,589	60	3.9%	1,640	
Polye LLDPE Film, F/E Spot SE Asia \$/MT	1,295	1,615/1,295	-4.4%	-14.2%	-18.8%	-18.6%	-16.5%	1,492	1,602	-6.8%	1,561	78	5.2%	1,580	
PP Film, Spot South East Asia US/MT	1,325	1,625/1,325	-7.0%	-12.8%	-18.0%	-16.7%	-14.0%	1,510	1,613	-6.4%	1,569	56	3.7%	1,570	
<b>Related stocks</b>															
			PTTGC (-)   IRPC (-)   SCC (-)   TPIPL (+)												
Para-Xylene CFR Chin M. Por Spot \$/MT	870	1,488/870	-8.4%	-12.0%	-31.0%	-34.2%	-39.6%	1,028	1,353	-24.0%	1,241	-260	-17.3%	1,190	
Benzene, Far East CFR Spot F/E US/MT	718	1,385/718	-18.0%	-24.7%	-41.2%	-45.6%	-46.3%	1,016	1,296	-21.6%	1,236	-81	-6.1%	1,240	
<b>Related stocks</b>															
			PTTGC (-)   TOP (-)   ESSO (-)												
MEG, Far East Spot CFR F/E US/MT	798	1,035/794	-4.3%	-6.7%	-15.4%	-18.7%	-24.8%	839	973	-13.8%	933	-122	-11.5%	1,110	
PTA CFR South East Asia	690	1,040/690	-7.4%	-13.2%	-27.4%	-30.7%	-31.7%	794	999	-20.6%	917	-162	-15.0%	900	
PET (Fibre Grade) A/P Spot CFR NEA \$/MT	1,030	1,313/1,030	-2.8%	-4.6%	-17.4%	-17.6%	-20.8%	1,100	1,268	-13.2%	1,218	-183	-13.1%	n.a.	
<b>Related stocks</b>															
			PTTGC (-)   IVL (+)												
ABS Asia Pac. India Spot CFR US/MT	1,590	1,950/1,590	-6.5%	-10.9%	-17.0%	-16.5%	-16.1%	1,800	1,925	-6.5%	1,881	-70	-3.6%	n.a.	
Polystyrene-GP, Spot Hong Kong US/MT	1,255	1,815/1,255	-4.9%	-16.3%	-24.6%	-26.8%	-30.3%	1,500	1,713	-12.4%	1,688	-159	-8.6%	n.a.	
<b>Related stocks</b>															
			IRPC (-)												
PVC, Spot South East Asia US/MT	900	1,070/900	0.0%	-6.7%	-13.0%	-14.3%	-10.0%	954	1,047	-8.9%	1,022	9	0.9%	1,070	
<b>Related stocks</b>															
			VNT (+)   TPC (Neutral)												
<b>Product spread</b>															
Ethylene - naphtha	578	786/528	-7.3%	-15.2%	-19.5%	7.6%	10.0%	676	659	2.6%	627	108	20.8%	598	
Propylene - naphtha	308	686/308	-24.2%	-51.7%	-48.6%	-42.7%	-51.0%	560	593	-5.5%	582	18	3.2%	588	
HDPE - naphtha	903	956/638	2.2%	-5.6%	10.4%	29.5%	37.8%	910	785	15.9%	771	125	19.4%	728	
LDPE - naphtha	798	956/709	-4.3%	-16.6%	-3.1%	12.0%	0.3%	897	782	14.7%	801	102	14.7%	798	
LDPE - Ethylene	220	275/93	4.8%	-20.0%	109.5%	25.7%	-18.5%	221	123	79.3%	174	-6	-3.1%	200	
LLDPE - naphtha	848	946/673	1.1%	-10.4%	3.6%	19.9%	25.6%	897	782	14.7%	773	120	18.4%	738	
PP - naphtha	878	956/658	-3.4%	-8.2%	4.7%	24.1%	32.0%	915	793	15.3%	781	98	14.3%	728	
PX - naphtha	423	612/304	-2.4%	-0.6%	-12.7%	-3.6%	-25.3%	432	533	-18.9%	453	-218	-32.5%	348	
BZ - naphtha	270	535/270	-24.6%	-30.5%	-39.0%	-38.2%	-41.3%	421	477	-11.7%	448	-39	-7.9%	398	
MEG - Ethylene	162	162/-58	28.4%	96.1%	938.5%	60.2%	-16.1%	51	57	-10.6%	56	-162	-74.4%	217	
PTA - PX	125	184/53	-2.4%	-18.2%	-4.2%	-8.5%	69.0%	126	120	4.9%	111	7	6.6%	103	
PET spread	213	253/121	13.5%	32.2%	20.4%	63.1%	51.0%	188	148	27.0%	176	-14	-7.3%	n.a.	
Integrated PET/PTA spread	337	359/190	7.1%	7.7%	10.0%	26.6%	57.2%	313	268	17.1%	286	-7	-2.4%	n.a.	
ABS spread	1,149	1,251/1,070	-3.5%	-6.4%	-5.6%	3.9%	0.2%	1,215	1,165	4.3%	1,140	-29	-2.5%	n.a.	
PS spread	391	391/214	31.1%	1.2%	46.1%	50.1%	15.2%	328	260	26.2%	301	-114	-27.4%	n.a.	
PVC - ethylene	388	388/249	17.4%	13.1%	34.8%	14.0%	29.2%	318	308	3.2%	314	-24	-7.1%	350	

Source: Datastream, SCBS Investment Research

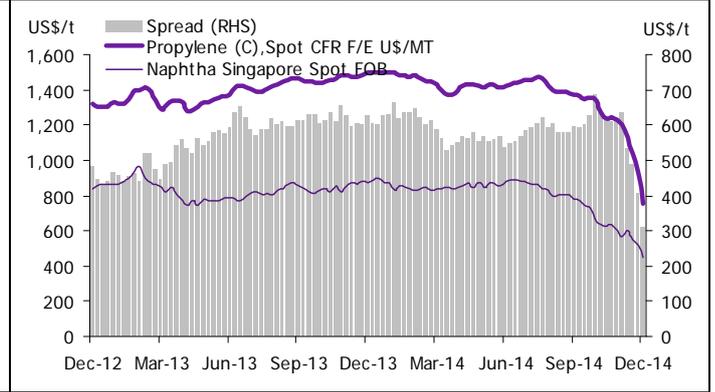
Note: Impact to related stocks is based on WoW performance

**Figure 2: Ethylene vs. Naphtha**



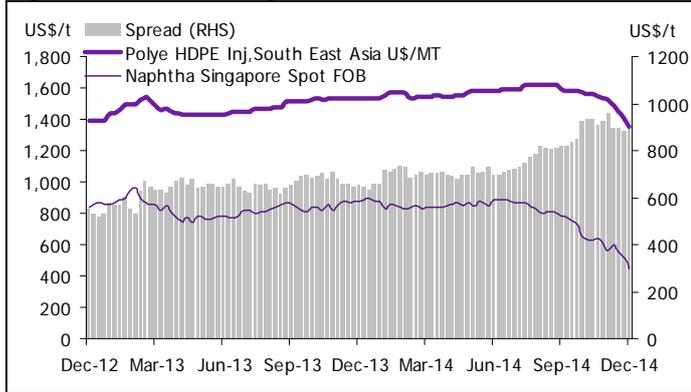
Source: Datastream, SCBS Investment Research

**Figure 3: Propylene vs. Naphtha**



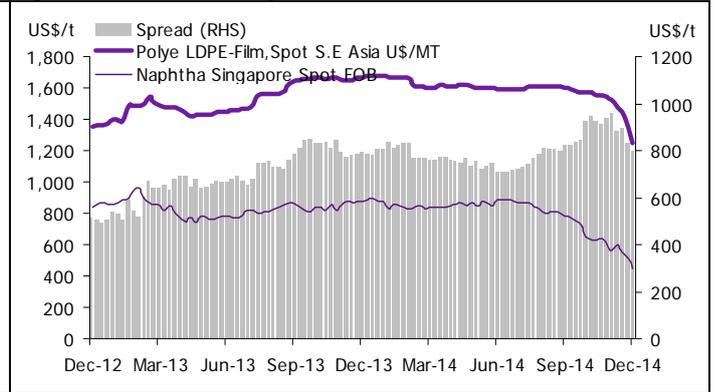
Source: Datastream, SCBS Investment Research

**Figure 4: HDPE vs. Naphtha**



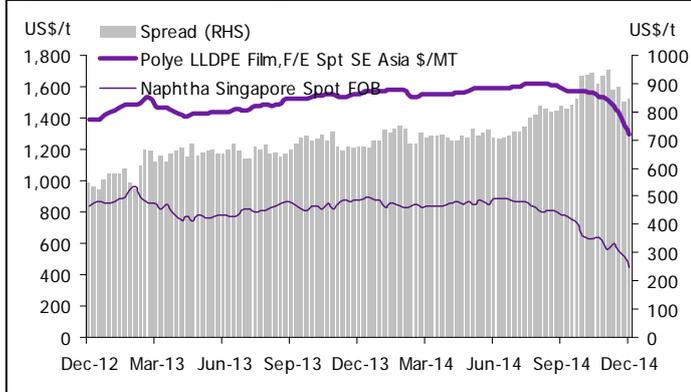
Source: Datastream, SCBS Investment Research

**Figure 5: LDPE vs. Naphtha**



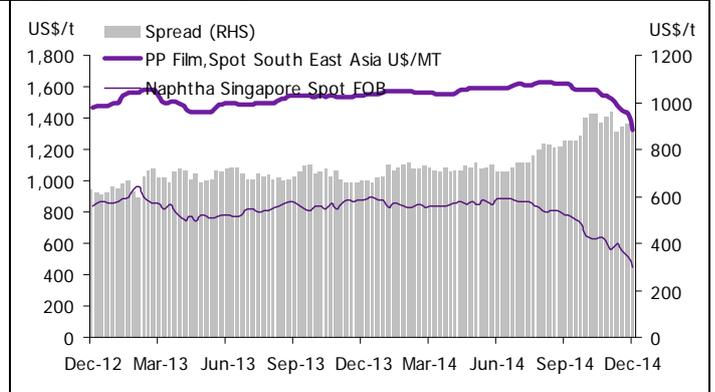
Source: Datastream, SCBS Investment Research

**Figure 6: LLDPE vs. Naphtha**



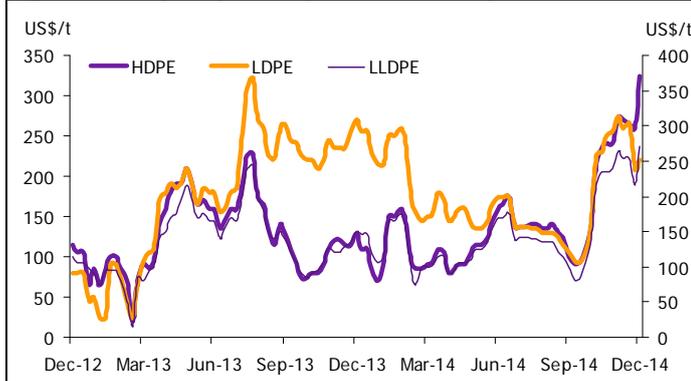
Source: Datastream, SCBS Investment Research

**Figure 7: PP vs. Naphtha**



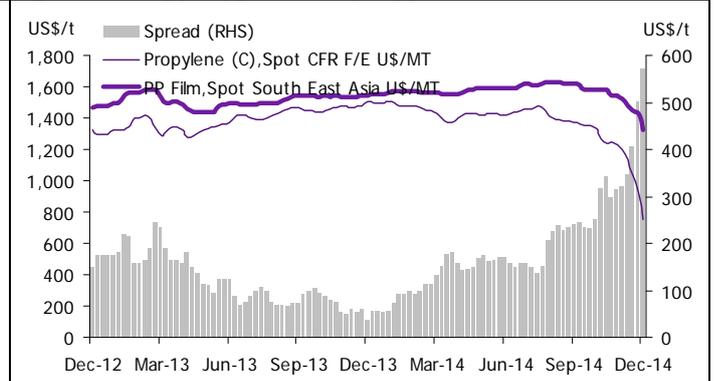
Source: Datastream, SCBS Investment Research

**Figure 8: Polyethylene spread over ethylene**



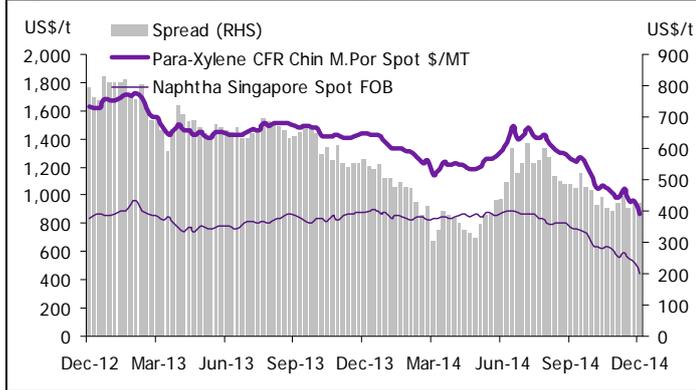
Source: Datastream, SCBS Investment Research

**Figure 9: Polypropylene vs. propylene**



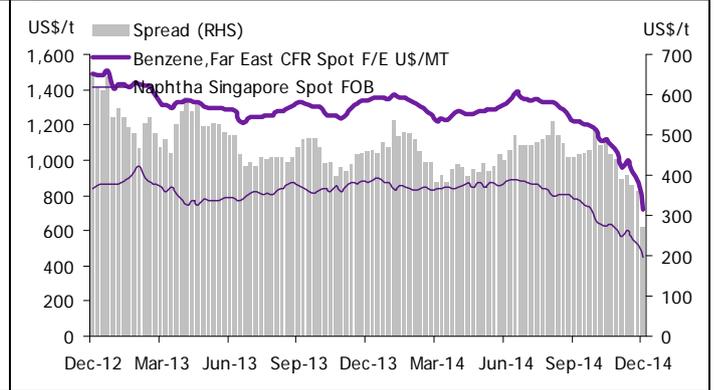
Source: Datastream, SCBS Investment Research

**Figure 10: Paraxylene vs. Naphtha**



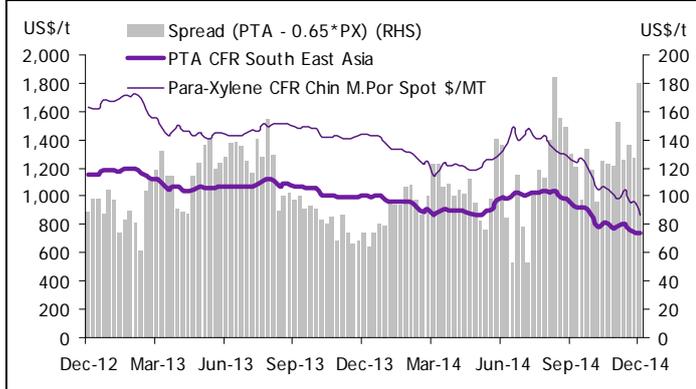
Source: Datastream, SCBS Investment Research

**Figure 11: Benzene vs. Naphtha**



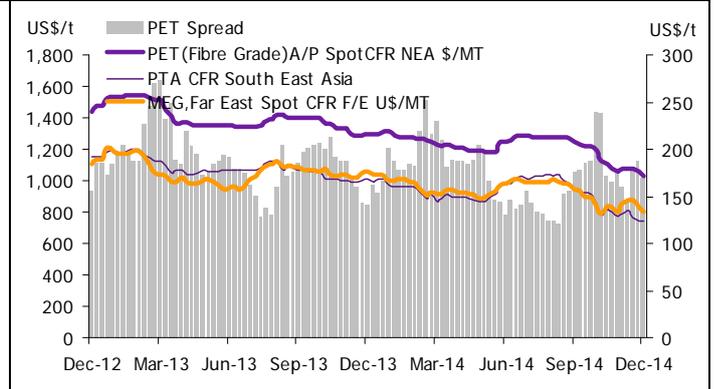
Source: Datastream, SCBS Investment Research

**Figure 12: PTA vs. Paraxylene**



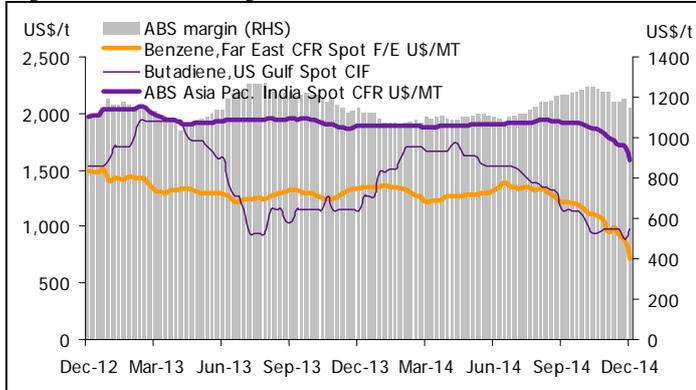
Source: Datastream, SCBS Investment Research

**Figure 13: PET vs. PTA**



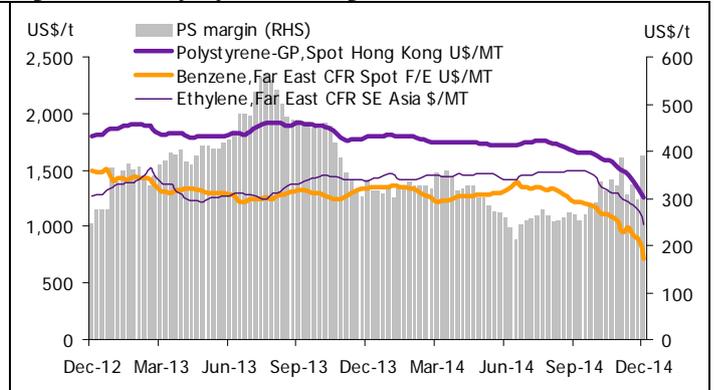
Source: Datastream, SCBS Investment Research

**Figure 14: ABS margin**



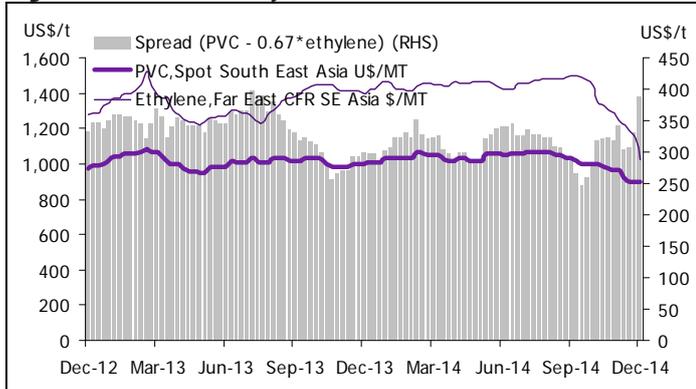
Source: Datastream, SCBS Investment Research

**Figure 15: Polystyrene margin**



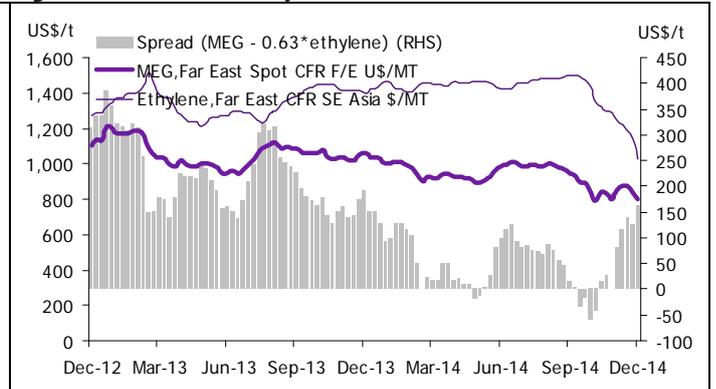
Source: Datastream, SCBS Investment Research

**Figure 16: PVC vs. ethylene**



Source: Datastream, SCBS Investment Research

**Figure 17: MEG vs. ethylene**



Source: Datastream, SCBS Investment Research

**Figure 18: Selected product price/spread of listed companies**

Company	Key products	% of total	Product price/spread	4Q14 QTD	3Q14	QoQ%	YTD	12MMA	2014F projection	Momentum
PTTGC	Ethylene/Propylene	21%	Ethylene, Far East CFR SE Asia \$/MT	1,271	1,478	-14%	1,415	1,415	1,440	↘
			Propylene (C), Spot CFR F/E US/MT	1,155	1,412	-18%	1,370	1,375	1,430	↘
	HDPE	19%	Polye HDPE Inj, South East Asia US/MT	1,505	1,605	-6%	1,559	1,558	1,570	↘
	LLDPE	7%	Polye LLDPE Film, F/E Spot SE Asia \$/MT	1,492	1,602	-7%	1,561	1,561	1,580	↘
	LDPE	4%	Polye LDPE-Film, Spot S.E Asia US/MT	1,493	1,602	-7%	1,589	1,592	1,640	↘
	MEG	6%	MEG, Far East Spot CFR F/E US/MT	839	973	-14%	933	937	1,110	↘
	PX	28%	PX - naphtha	432	533	-19%	453	456	348	↘
	BZ	15%	BZ - naphtha	421	477	-12%	448	448	398	↘
IRPC	Ethylene/Propylene	15%	Ethylene - naphtha	676	659	3%	627	623	598	↘
			Propylene - naphtha	560	593	-5%	582	582	588	↘
	HDPE	12%	HDPE - naphtha	910	785	16%	771	766	728	→
	PP	28%	PP - naphtha	915	793	15%	781	776	728	→
	ABS	7%	ABS spread	1,215	1,165	4%	1,140	1,139	n.a.	↘
	BTX	23%	BZ - naphtha	421	477	-12%	448	448	398	↘
	PS	12%	PS spread	328	260	26%	301	302	n.a.	↗
SCC	HDPE	40%	HDPE - naphtha	910	785	16%	771	766	728	→
	LDPE	3%	LDPE - naphtha	897	782	15%	801	800	798	↘
	LLDPE	3%	LLDPE - naphtha	897	782	15%	773	769	738	→
	PP	25%	PP - naphtha	915	793	15%	781	776	728	→
	PVC	28%	PVC - Ethylene/EDC	407	428	-5%	415	390	n.a.	↗
	LDPE	60%	LDPE - Ethylene	221	123	79%	174	177	200	→
TPIPL	PX	60%	PX - naphtha	432	533	-19%	453	456	348	↘
	BZ	21%	BZ - naphtha	421	477	-12%	448	448	398	↘
IVL	PTA	25%	PTA - PX	126	120	5%	111	109	103	↘
	PET/Polyester	67%	PET spread	188	148	27%	176	175	n.a.	↗
	MEG - NA	8%								
VNT	PVC	63%	PVC - ethylene	318	308	3%	314	313	350	↗
TPC	PVC	100%	PVC - Ethylene/EDC	407	428	-5%	415	390	n.a.	↗

Source: Datastream, SCBS Investment Research

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