

TODAY IN THE MARKET

Propylene: RGP's implied alkylate value was up 0.6 cpg Wednesday to 38.7 cpg. Spot RGP markets were thin. Feb rail RGP was bid at a 5 cpg premium to index pricing. Feb pipeline RGP last traded at 23 cpg. Feb MtB-EPC PGP was offered at 33.5 cpg against no bids, holding at its last assessment at 32 cpg. Mar MtB-EPC PGP was offered at 35 cpg. Mar last traded Tuesday at 32.5 cpg.

Benzene: Feb benzene was unchanged at 200 cpg (\$598/mt). Feb was neither bid nor offered. Mar traded at 200 cpg (\$598/mt) DDP HTP and 2H Mar traded at 202 cpg (\$604/mt) DDP HTC. Mar ended the day bid at 198 cpg and offered at 202 cpg DDP HTC, Apr was 202-206 cpg DDP HTC and May was 204-209 cpg DDP HTC. The calendar average for Feb was 196.8 cpg. Global values were up. Asia was up \$5/mt to \$599/mt (200 cpg) FOB Korea, and Europe was higher by \$30/mt at \$625/mt (209 cpg) CIF ARA.

Downstream Chemicals: The implied cumene price was off 0.5 cpg at 28.7 cpg. Styrene was off 0.1 cpg at 44.9 cpg (\$990/mt).

Aromatics & Blendstocks: Feb toluene was flat at 220 cpg, 20 cents above benzene. Toluene's blend value was off by 3.9 cpg at 211.8 cpg. Feb MX was flat at 262 cpg. The MX blend value was lower by 6.2 cpg at 220.8 cpg. Blendstocks were lower. Alkylate (92 octane, 5.5 RVP) was off 1 cpg at M4 gasoline plus 28 cpg (188.44 cpg), raffinate was lower by 1 cpg at gasoline minus 12 cpg (148.44 cpg) and reformate was down 2 cpg at gasoline plus 48 cpg (208.44 cpg).

Operations: Valero will take down a 14,500 b/d reformer at its 225,000 b/d refinery in Texas City, TX at the end of Mar; repairs will be completed by the end of Apr.

Gasoline: Apr NYMEX RBOB futures settled at 176.44 cpg, 3.43 cpg above Tuesday (the gasoline market is now trading off the Apr NYMEX, which is about 17 cpg over Mar). Prompt Colonial Pipeline Gulf Coast gasoline differentials were lower. CBOB 87 regular was off 17.75 cpg at 20 cpg under the Apr NYMEX RBOB settle. The regrade to D4 CBOB 93 premium was off 2.75 cpg at 13.25 cpg. M4 was off 18.75 cpg at 16 cpg under the screen. The regrade to V4 premium was off 0.5 cpg at 15.75 cpg. The 3-2-1 crack in the Gulf Coast was \$8.58/bbl, \$7.50/bbl under the screen.

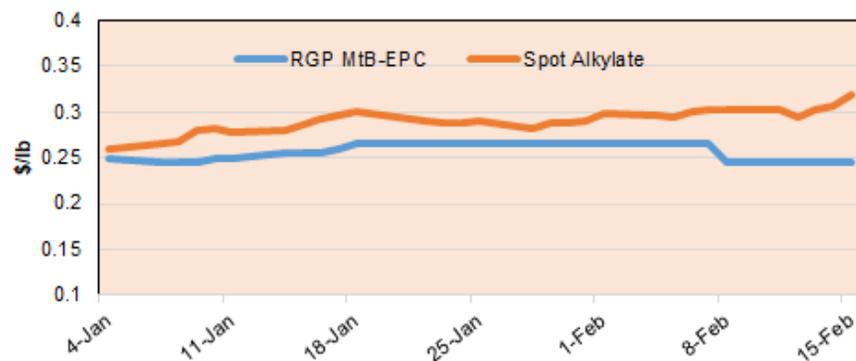
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CLOSING SPOT PRICES

	Price	Change	30-day avg	MTD avg
RGP implied alky value \$/lb	0.38818	0.00778	0.33855	0.35238
RGP \$/lb	0.23000	-0.01500	0.25667	0.25154
PGP \$/lb	0.32000	0.00000	0.36167	0.35212
Alkylate \$/lb	0.31981	0.00115	0.29828	0.30471
Benzene \$/gal	2.00000	0.00000	1.94905	1.96846
Toluene \$/gal	2.20000	0.00000	2.15238	2.16615
Mixed xylenes \$/gal	2.62000	0.00000	2.26619	2.36231
Styrene \$/lb	0.44900	-0.00100	0.45072	0.45435
Implied cumene \$/lb	0.28737	-0.00544	0.29243	0.29215
NYMEX WTI \$/bbl	56.92	0.83	53.70	54.10
ICE Brent \$/bbl	67.08	0.63	62.58	63.41
RBOB \$/gal	1.59810	0.03430	1.43688	1.47548
Ethylene \$/lb	0.15250	0.00000	0.16815	0.16260

RGP vs. ALKYLATE IN \$/POUND



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BTX FORWARD CURVES

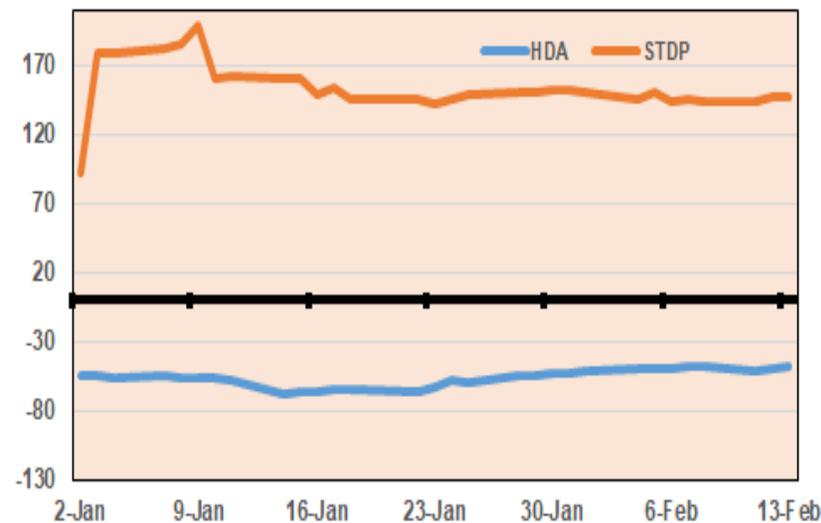
	Benzene	Toluene	MX
Feb-19	2.00000	2.20000	2.62000
Mar-19	2.00000	2.29000	2.71000
Apr-19	2.03000	2.38000	2.80000
May-19	2.05000	2.38000	2.80000
Jun-19	2.06000	2.37000	2.79000
Jul-19	2.05500	2.35000	2.77000
Aug-19	2.05000	2.33000	2.75000
Sep-19	2.04500	2.32000	2.74000
Oct-19	2.04000	2.19000	2.61000
Nov-19	2.03500	2.16000	2.58000
Dec-19	2.03000	2.14000	2.56000
Jan-20	2.02500	2.14000	2.56000
Feb-20	2.02000	2.14000	2.56000
Mar-20	2.01500	2.16000	2.58000
Apr-20	2.01000	2.36000	2.78000
May-20	2.00500	2.36000	2.78000
Jun-20	2.00000	2.36000	2.78000
Jul-20	1.99500	2.35000	2.77000
Aug-20	1.99000	2.33000	2.75000
Sep-20	1.98500	2.30000	2.72000
Oct-20	1.98000	2.17000	2.59000
Nov-20	1.97500	2.14000	2.56000
Dec-20	1.97000	2.11000	2.53000
Jan-21	1.96500	2.08000	2.50000
Feb-21	1.96000	2.05000	2.47000

BENZENE ECONOMICS

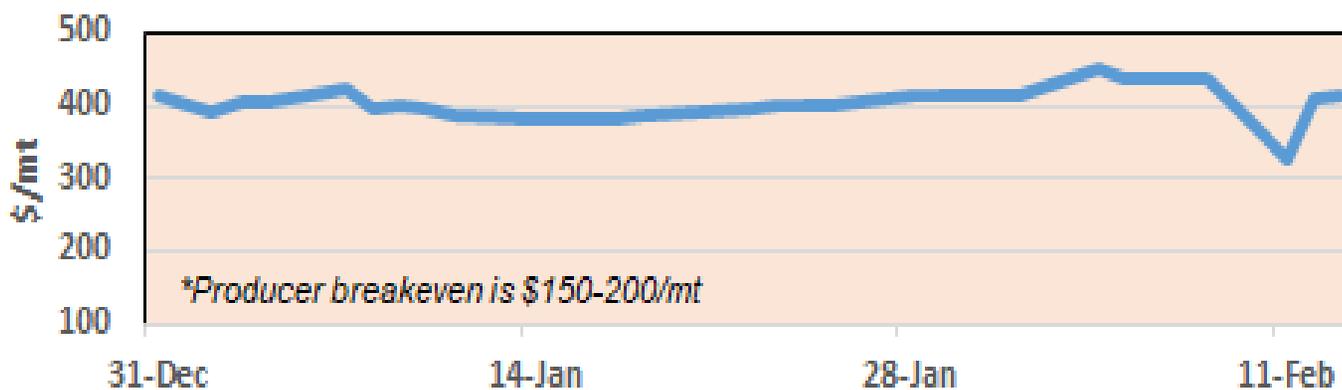
Benzene spread to:	\$/gal	Change	\$/mt
Styrene	1.31	-0.01	391.87
Toluene	-0.20	0.00	-70.14
N+A naphtha	0.53	0.00	76.52
RBOB gasoline	0.40	-0.03	19.49

Benzene ratio to:		Change
WTI	1.48	-0.02
Brent	1.25	-0.01
RBOB	1.25	-0.03
N+A naphtha	1.52	0.17
Ethylene	1.78	0.00
Toluene	0.91	0.00
Styrene	0.60	0.00
Cumene	0.94	0.02

HDA/STDP margins (\$/mt)



STYRENE-BENZENE SPREAD



Benzene prices are basis DDP HTC.
Toluene and MX prices are basis FOB USG

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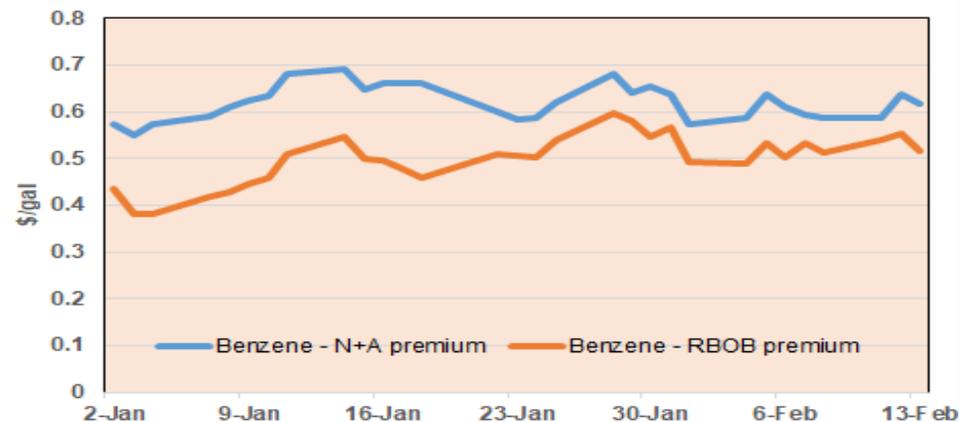
GLOBAL BENZENE PRICE SNAPSHOT

	Price	Change	MTD average
FOB Korea \$/mt	599.000	5.000	590.538
FOB Korea \$/gal	2.003	0.017	1.975
CIF ARA \$/mt	625.000	30.000	589.462
CIF ARA \$/gal	2.090	0.100	1.971
US DDP HTC \$/mt	598.000	0.000	588.570
US DDP HTC \$/gal	2.000	0.000	1.968

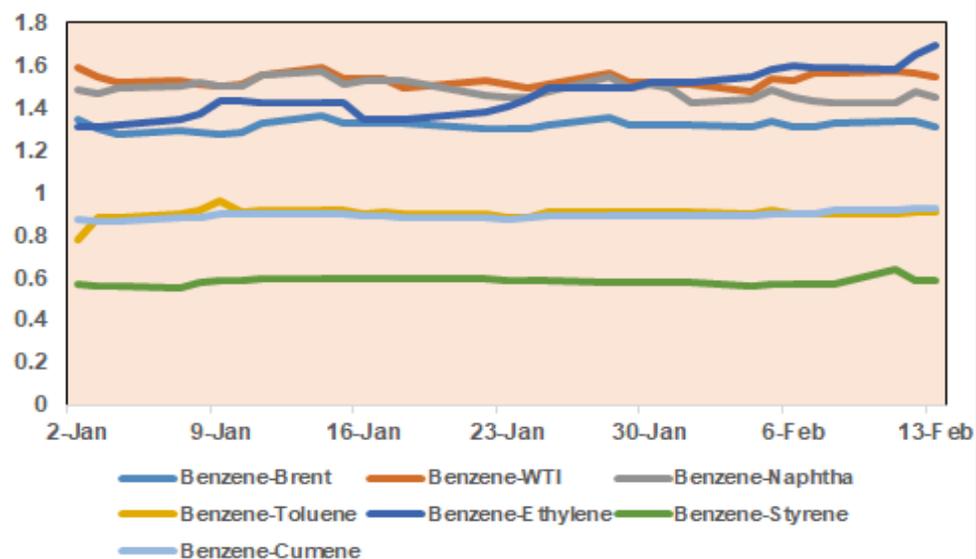
GLOBAL OUTAGES

Company	Unit(s)	Location	Capacity	Timing	Duration
EUROPE					
Synthos	SM	Kralupy	170,000 mt	2H 2018	30-45 days
ASIA					
Sinopec ZRCC	BTX/NGT/MX	Zhejiang	700,000 mt	Mid-Oct	45 days
Taiyo Oil	SM	Ube	370,000 mt	18-Aug	30-40 days
Idemitsu Kosan	SM	Tokuyama	330,000 mt	18-Sep	30-45 days
Lotte Chemical	BTX	Yeosu	240,000 mt	18-Sep	30-45 days
SECCO Petrochemical	SM	Shanghai	650,000 mt	18-Oct	45-60 days
Sinopec Guangzhou	SM	Guangzhou	80,000 mt	18-Oct	30 days
CNOOC Ningbo Daxie	BTX	Ningbo	78,000 mt	18-Oct	45-60 days
Formosa Chemicals & Fibre	BTX	Mailiao	420,000 mt	3Q 2018	2 months
Sinopec Maoming	SM	Maoming	100,000	18-Nov	50-60 days
MIDDLE EAST					
EQUATE	SM	Shuiaba	450,000 mt	4Q	30-45 days

BENZENE PREMIUMS



BENZENE RATIOS



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BLENDSTOCK VALUES (\$/GAL)

	Differential	Change	Outright	Change	MTD avg
Alkylate	0.2800	-0.0100	1.8881	0.0068	1.7990
Raffinate	-0.1200	0.0100	1.4881	0.0268	1.3044
Reformate	0.4800	-0.0200	2.0881	-0.0032	2.0205
Toluene blend value	0.5539	-0.0632	2.1220	-0.0339	2.0021
Mixed xylenes blend value	0.6422	-0.0816	2.2103	-0.0523	2.1010
Alkylate blend value	0.2529	-0.0194	1.8210	0.0099	1.6838
Reformate blend value	0.5097	-0.0541	2.0778	-0.0248	1.9527

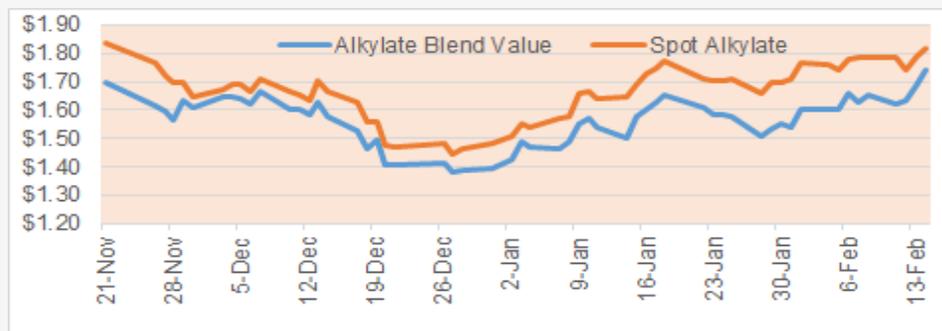
DONE DEALS

	20-Feb	19-Feb	15-Feb	14-Feb	13-Feb	12-Feb
RGP MtB		.23 Feb MtB-E				
RGP non MtB		.3 Mar TX-O*, .05 Feb index (non-TX del.)				
PGP Mt B		.325 Feb MtB-E, .325 Mar MtB-E, .33 Apr MtB-E, .3425 Mar-Sep ppr	-.03 Mar CP	.005 ctg Feb/Mar (x2), .36125 2Q ppr (x3), .39 2H ppr (x2), .3975 Jan ppr	.345 MtB-E	.345 MtB-E
Benzene DDP LMR						
Benzene FOB HTC				199 Feb 21-25		
Benzene DDP HTC	200 Mar, 202 2H Mar					

*not pipeline

CASH GASOLINE / REGRADE PRICES

	Price	Change	MTD avg
US Gulf Coast gasoline (\$/gal)			
CBOB 87	1.5681	0.0293	1.4336
CBOB 93	1.7006	0.0018	1.5818
CBOB Regrade Value	0.1325	-0.0275	0.1483
M grade	1.6081	0.0168	1.4851
NY Harbor gasoline (\$/gal)			
CBOB 87	1.5931	0.0343	1.4662
CBOB 93	1.7981	0.0593	1.6426
CBOB Regrade Value	0.2050	0.0250	0.1763
Group 3 gasoline (\$/gal)			
CBOB 87	1.6181	0.0443	1.4574
CBOB 93	1.7981	0.0343	1.6295
CBOB Regrade Value	0.1800	-0.0100	0.1721
3-2-1 Crack (\$/bbl)			
NYMEX	16.08	0.46	14.1815
USG	8.58	0.32	52.6646
NYH	9.40	0.43	8.3185
Group 3	16.57	0.81	13.9892
Ultra low sulfur diesel			
US Gulf Coast \$/gal	1.9633	0.0237	1.8802



NAPHTHA / VACUUM GASOIL PRICES

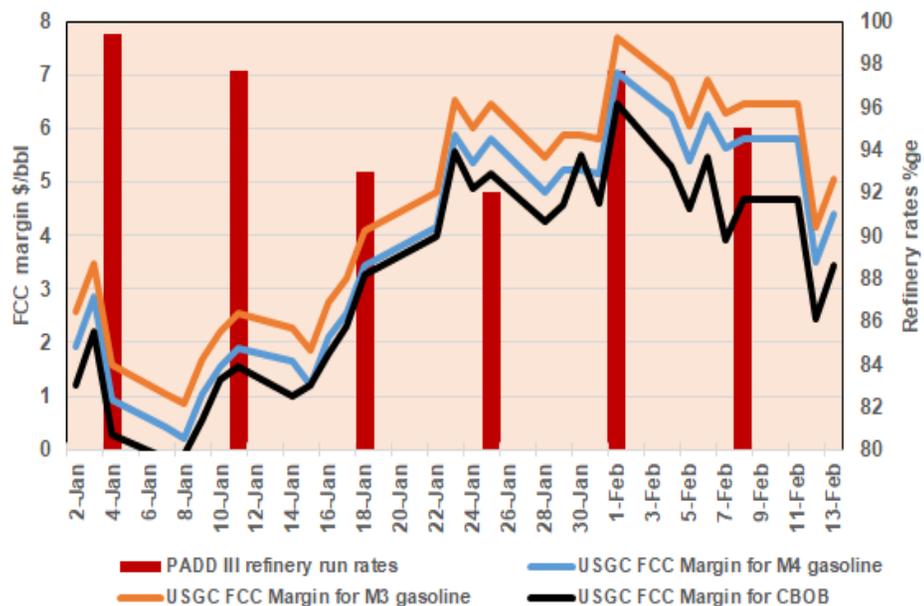
	Differential	Change	Outright	Change	MTD avg
N+A naphtha \$/gal	-0.135	-0.020	1.473	-0.003	1.387
Light naphtha \$/gal	0.080	0.030	1.285	0.043	1.189
LS Vacuum Gasoil cargoes \$/bbl	15.25	0.00	72.17	0.83	64.08
HS Vacuum Gasoil cargoes \$/bbl	15.50	0.00	72.42	0.83	67.68
LS Vacuum Gasoil barges \$/bbl	15.25	0.00	72.17	0.83	67.66
HS Vacuum Gasoil barges \$/bbl	15.50	0.00	72.42	0.83	67.68

TODAY IN THE MARKETS

Naphtha: The N+A naphtha (62 API) differential was lower by 2 cpg at M4 gasoline less 13.5 cpg (or an equivalent price of 146.94 cpg or \$540.74/mt). Heavy naphtha was off 1.5 cpg at gasoline minus 11 cpg (149.44 cpg). Light naphtha was up 3 cpg at 8 cpg over natural gasoline (or the equivalent price of 128.5 cpg or \$480.59/mt). Light naphtha suitable for gasoline blending (low sulfur) was up 2.5 at natural gasoline plus 10 cpg (130.5 cpg).

Vacuum Gasoil: VGO barge differentials were unchanged. Low sulfur was at Mar WTI plus \$15.25/bbl (\$72.17/bbl) and high sulfur was at crude plus \$15.50/bbl (\$72.42/bbl). The FCC margin was \$6.93/bbl; one year ago it was \$7.65/bbl.

FCC MARGINS



3-2-1 CRACK SPREADS

