

# **PHTHALATES • OXO ALCOHOLS**

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## **MARKET HIGHLIGHTS**

- **No significant upturn expected in US phthalates through H2 2001**
- **Quiet August phthalates market reported in Europe**
- **No improvement noted in Asian phthalates pricing**
- **US 2-EH exporter revises Q3 contract target to \$540/ton cfr Taiwan**
- **European 2-EH producers still seek \$530/ton plus cfr Asia/Taiwan numbers**
- **Spot 2-EH prices in Asia fall below the \$500/ton cfr level**

### **Phthalates**

Despite some promising signs in the US phthalates business, there is no serious indication yet of any second-half year recovery in a slow market. Despite occasional erosion, price levels are holding fairly steady with large DOP accounts in the northeast now paying 37-38 c/lb and smaller customers at 40 c/lb plus. Imports of DINP (from West Europe) and of DOP (from West Europe and Asia) add to some pressure on the East Coast.

August has, as always, seen a quiet phthalates market in West Europe, although DOP prices have basically held at DM1250/ton plus with up to DM1300-1320/ton mentioned at the upper end. Limitations on DINP availability mean that a DM50/ton premium over DOP is beginning to emerge. Prices in Asian export markets remain low, with DINP at \$600/ton plus cfr Hong Kong mentioned.

In Asia, export business for DOP out of Japan has been very quiet in August, with prices remaining at around \$570-580/ton cfr. Due to these depressed prices, Japanese producers are not actively participating in exports.

### **2-Ethylhexanol**

With no settlement for Q3 export contract business to Taiwan/Asia reached as yet (one West European producer did \$535/ton cfr Taiwan business for July), the major US 2-ethylhexanol producer reduced his \$580/ton cfr Taiwan target to \$540/ton cfr earlier in August. However, Asian DOP buyer ideas are now at below \$500/ton cfr Taiwan in view of weak local DOP markets. Domestic US pricing for 2-EH shows little change, with perhaps some spotty erosion being occasionally met from competition with Saudi imports.

West European 2-EH producer sources still seek a \$530-540/ton cfr Taiwan/Asia range for contract/spot exports (reports now heard of below \$500/ton cfr Asia spot business done). Within West Europe, tanktruck non-vinyl business prices are holding fairly steady at up to DM1200/ton plus or minus.

In Asia, export business for 2-EH out of Japan has been depressed during August with very few transactions with China, and export deals, if any are done, have been in the low \$500's/ton cfr. (Taiwanese sources report spot offers at \$470-480/ton cfr Asia).

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## PHTHALIC ANHYDRIDE

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### United States

There are still no signs of any upturn in the US phthalic market, following a first half-year where demand is estimated to have been considerably down on first-half 2000. Meanwhile, US phthalic producers continue to retain market balance by temporarily idling some capacity.

Looking at pricing, August numbers have been down 2.0 c/lb following the orthoxylene contract price drop from 23.25 c/lb in June to 21.25 c/lb in July. Currently medium sized accounts at 10-15 mmlbs/year are paying about 32 c/lb, larger accounts at around 20-25 mmlbs/year pay maybe 30 c/lb and really large accounts, at up to 40 mmlbs/year plus, can be in the high twenties cents range. Smaller customers, below 5 mmlbs/year, are paying 35-36 c/lb. Flake is now selling at around 29-30 c/lb, with US origin material tending to meet import price levels as product continues to come in from Latin America and Korea (recent offers of Israeli and Turkish flake have also been noted).

### West Europe

As always, West Europe has seen a very quiet August phthalic anhydride market with very little free market (spot) liquid business being reported. Consequently, price levels basically held at a roll-over from July and, while free market liquid prices in northwest/central Europe have continued to be reported at around Euro 660-670/ton, those in southern Europe have similarly rolled over at up to Euro 700/ton plus at the top end. As regards flake, producers have managed to retain around Euro 630/ton plus type numbers.

### Asia

Reports are that phthalic import interests from China are not strong as prices continue to weaken. Numbers as low as \$420-440/ton cfr have been heard, although at the higher end \$460-470/ton cfr Asia has also been noted for July and August delivery.

Domestic Taiwanese phthalic pieces have remained more or less stable for three months, and from June through to August have been broadly in a NT\$16.3-16.5/kg (\$471-477/ton) range for flake and at NT\$15.8-16.0/kg (\$457-463/ton) for molten product.

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## PHTHALATES

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### United States

Following a significant fall off in US phthalates demand during first-half 2001 (estimates vary over 10-20% depending on plasticizer type, with speciality products at the higher end), some promising signs have been noted in DOP/commodity phthalates markets since the July holiday period. It

can not be certain as yet, however, how much of this may indicate a real improvement in demand or is simply attributable to stockbuilding ahead of, or after, holiday absences.

Nevertheless, pricing remains fairly steady with perhaps some occasional pressure being noted in the northeast area (New York/New Jersey/Philadelphia) as traders offer material at 1-2 c/lb below US origin product – or at the same level but to smaller accounts. DINP comes in from West Europe and DOP from West Europe and Asia (Korea and Indonesia mentioned), but in the latter case apparently to a lesser extent of late.

At present, large DOP accounts in the northeast are paying about 37-38 c/lb with DINP now at only around a cent over DOP (pressure for EPA SARA 3-13 listing, see comments below). Medium sized DOP accounts (3-5 mmlbs/year) can fetch 41-42 c/lb, but smaller (1 mmlbs/year) customers in the northeast can also pay these price levels on occasions - as well as up to the mid-forties cents range on others. DIDP sells at 5-6 c/lb above DINP, while DBP on average sells at 60 c/lb plus.

Premium for sales into the southeast and southwest tend to be at 1-2 c/lb over those in the northeast. Similarly on the West Coast, competition (partly at times from imported Asian material) means that product can sell at almost the same levels as in the northeast (competition from European, and also on occasions Asian, imports etc.) – or maybe a couple of cents above. Price levels in the midwest, however, tend to be at around 2-3 c/lb above those in the northeast.

Regarding linear phthalates, the commodity product, C79, sells at up to around 2-4 c/lb above DINP, while C711 sells at maybe 5-6 c/lb plus above. More speciality type linear products can, however, fetch a premium of 10-15 c/lb over DOP.

While the EPA is currently deliberating the possibility of listing DINP as a SARA 3-13 hazardous chemical (see recent newsletters), it appears that a statement is expected this autumn. Should the EPA decide to list DINP, the relevant producers can then petition against its decision. Furthermore, if the EPA decides against classifying DINP as a hazardous chemical, there may be some move on the part of the DOP producers to have DOP also removed from the SARA 3-13 list.

### West Europe

In general, DOP price levels in **northwest/central Europe** held up fairly well during August at broadly DM1250-1280/ton, plus or minus DM10/ton at either end of the range. Prices in **southern Europe** remain at the higher end of the scale at up to DM1300/ton or a little above. DOP prices in the **UK**, which had been lagging behind those in continental Europe as residual BP stocks were being used up, are now generally

believed to have caught up and are at around DM1250/ton.

There are reports that DINP is beginning to develop up to a DM30-50/ton premium over DOP (availability restricted due to limitations on iso-nonanol supply), while DIDP sells at up to DM100/ton over DOP. Target DOP/DINP price levels for September, as the market builds up after the holiday period, are at up to Euro715/ton (DM1399/ton) as producers feel the need to catch up on a backlog of poor margins.

In exports markets, DINP prices are at around \$600/ton cfr Hong Kong, and DOP numbers about \$20/ton below. For DOP export to areas other than Asia, West European producer sources would target around Euro 600/ton (DM1174/ton) plus fob Rotterdam, that is up to around Euro 610-615/ton (DM1193-1203/ton) to be competitive against sales in West Europe at delivered prices of DM1250/ton plus.

### Asia

The general economic slowdown is having a significant impact on the calendering industries of both China and Taiwan. For example, as regards exports of PVC leather/film/sheet from these two major production bases, a 10-15% reduction in demand can be noted from importing countries worldwide. This fall off is particularly worrying for China, which saw tremendous growth in demand during first-half 2000.

Growth in **China's** industrial output in July decreased significantly from earlier January to June period growth (at 11.1%) to 8.1%, while light industry output in China is also showing slower growth. (It was 7.1% in July, compared with 8.0-8.5% over the January to June period, and had been 10% in first-half 2000). **Taiwan's** industrial output in July actually decreased by as much as 10.4%. A continuously depressed economy in Taiwan this year (both internal and globally-related) has, so far, resulted in a 6.9% fall off in industrial output during the January to July period, despite 7.7% positive growth for the whole of 2000.

Meanwhile, phthalates capacity in Taiwan maintains a stable output level, and steady export volumes have

TAIWANESE DOP EXPORTS				
To	May 2001		Jan-May 01	Jan-May 00
	Tons	\$/ton	Tons	Tons
United States	220	547	220	-
Malaysia	132	648	532	640
Philippines	336	610	657	80
Vietnam	400	610	928	671
China	7,017	553	16,781	6,619
Hong Kong	2,106	564	7,964	4,398
Others	125	-	761	608
<b>Total</b>	<b>10,336</b>		<b>27,843</b>	<b>13,016</b>

\$/ton figures are calculated from customs data and may not reflect market prices

contributed a 10% increase to operating rates. However, although some seasonal strengthening in demand started to emerge at the beginning of August, **Korea's** aggressive stance on DOP exports in Asia, along with a reduction in 2-EH pricing (albeit countered to some extent by recent recovery in phthalic anhydride pricing), mean that traded DOP prices in Asia can only, at best, remain stable at around \$570-580/ton cfr.

Chinese DOP buyers have maintained stable imports from Taiwan during August. Meanwhile, domestic **Taiwanese** prices have continued on a downward trend as in July, with no sign of improvement in demand being noted by the stage when price levels are settled – usually at the end of each month. The extent of August's price reduction which is not cost-related, and is due to competition, remains small at only NT\$0.2/kg (\$6/ton). Domestic Taiwanese prices in August eroded to NT\$20.1-21.0/kg (\$581-607/ton).

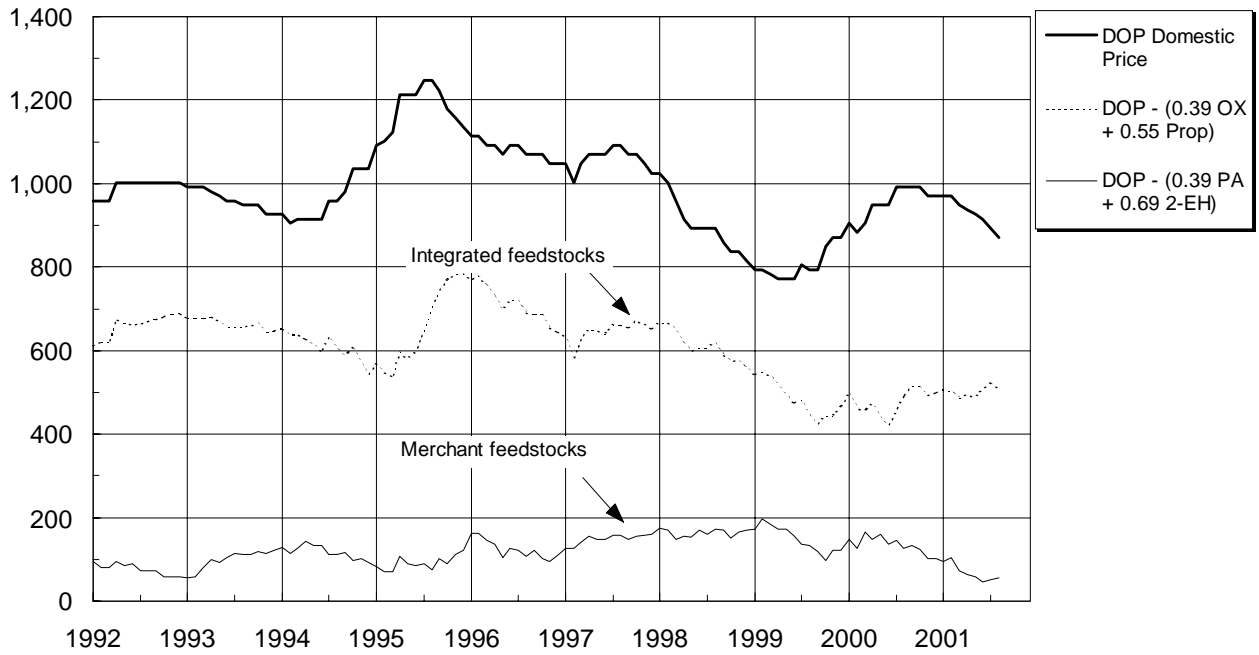
DOP/phthalates demand in **China** has improved during August, but is not as strong as had been expected. Import pressures have also prevented domestic Chinese DOP prices from recovering during August, despite low stock levels with both producers and distributors. In fact, competition for market share, and low imported feedstock prices, have encouraged one major to sell at \$10/ton below the other producers (reflecting a price reduction of Rmb200/ton). Although local Chinese producers continue to operate at 60-75% utilization rates, import pressures are preventing any recovery in domestic DOP prices which eroded to Rmb 6000-6300/ton (\$724-761/ton) during first-half August. Price levels have, at best, remained stable during the second half of the month, even though demand has improved. Neither are producers optimistic

SOUTH KOREAN DOP EXPORTS				
To	May 2001		Jan-May 01	Jan-May 00
	Tons	\$/ton	Tons	Tons
Canada	752	561	772	18
United States	414	576	660	259
Argentina	212	685	532	400
Netherlands	-	-	-	1,677
Nigeria	384	679	2,547	1,061
Australia	48	625	354	2,267
India	1,476	604	4,896	1,027
Myanmar	102	649	408	165
Philippines	16	624	976	2,928
Thailand	-	-	1,451	16
Vietnam	272	596	896	181
China	17,168	550	65,327	55,262
Hong Kong	2,412	544	11,494	8,657
Taiwan	-	-	-	2,099
Japan	969	598	5,779	3,233
Others	485	-	3,606	3,002
<b>Total</b>	<b>24,710</b>		<b>99,698</b>	<b>82,252</b>

\$/ton figures are calculated from customs data and may not reflect market prices

## UNITED STATES DOP PRICES and GROSS MARGINS on FEEDSTOCKS

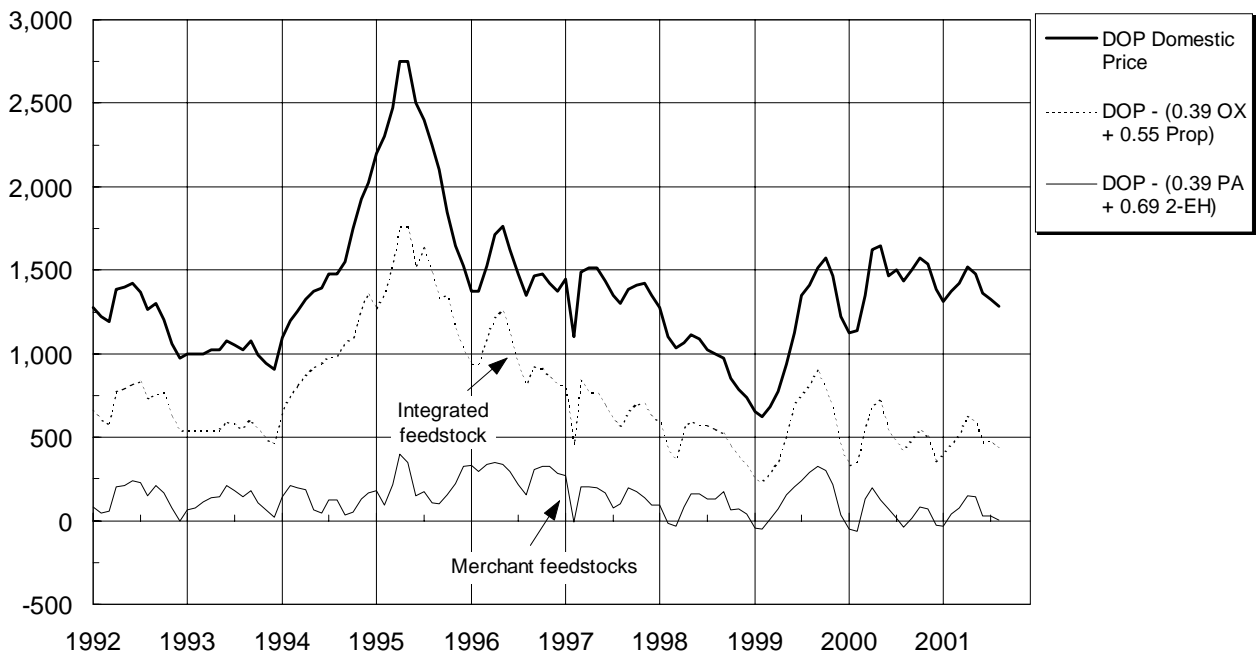
Dollars per Ton



Source: TECNON OrbiChem

## WEST EUROPEAN DOP PRICES and GROSS MARGINS on FEEDSTOCKS

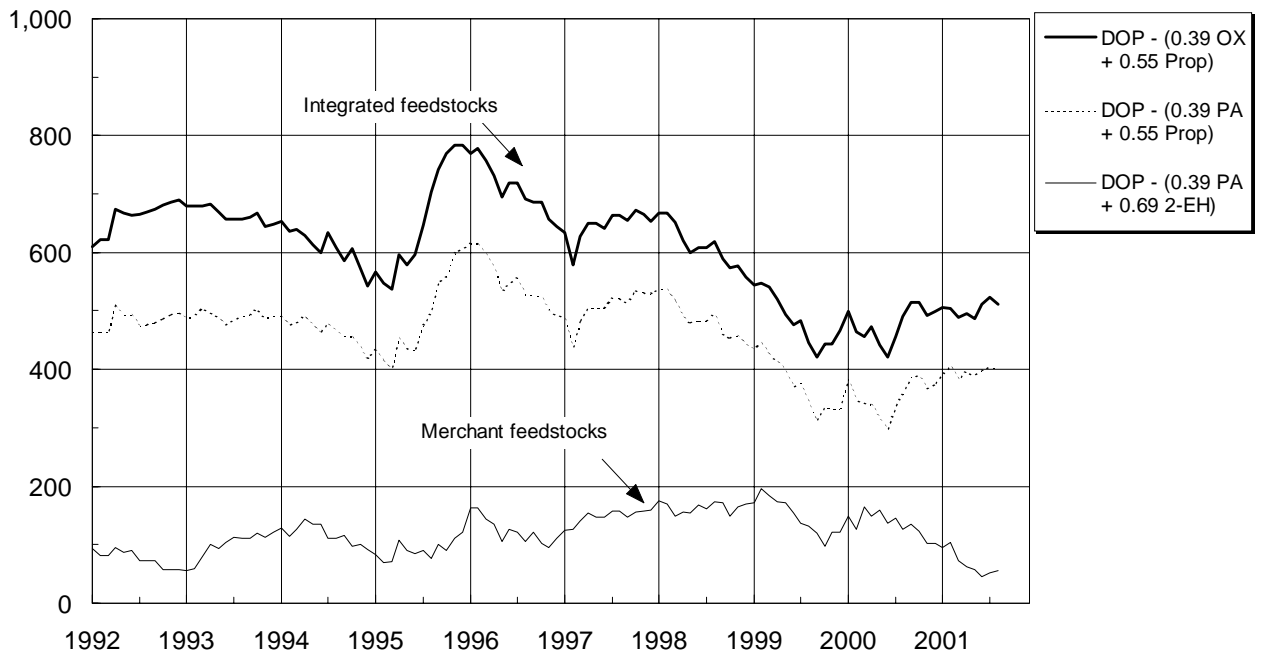
DM per Ton



Source: TECNON OrbiChem

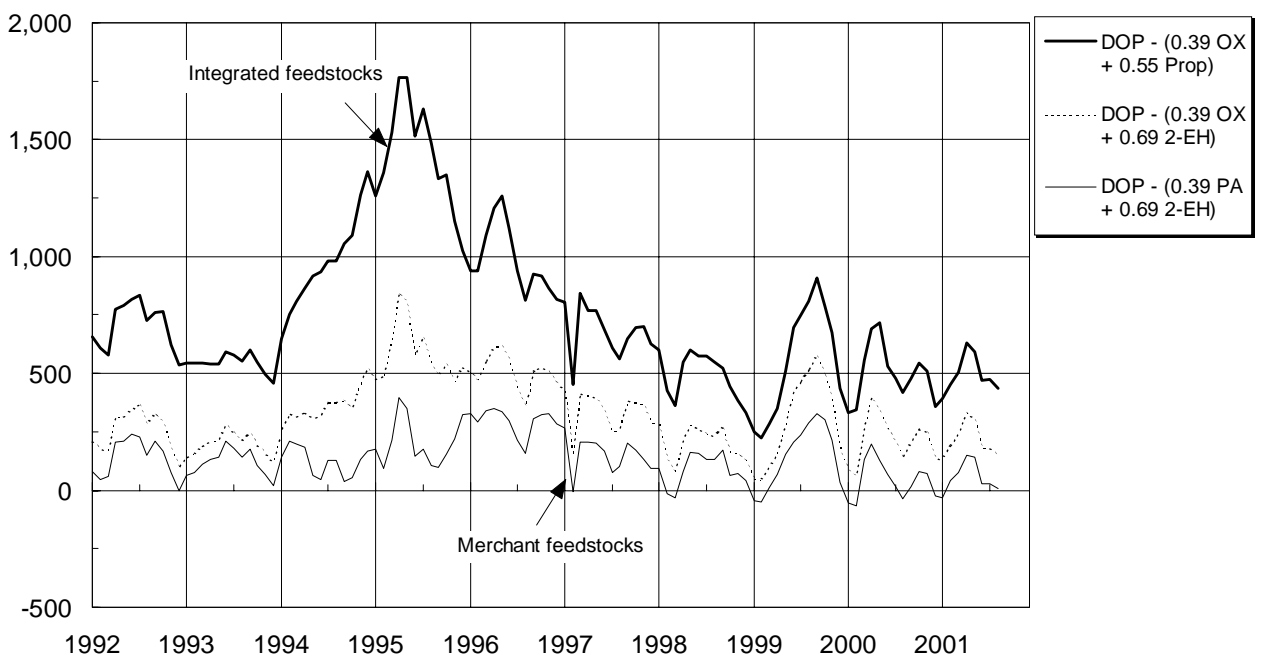
## UNITED STATES DOMESTIC DOP GROSS MARGINS on FEEDSTOCKS

Dollars per Ton



## WEST EUROPEAN DOMESTIC DOP GROSS MARGINS on FEEDSTOCKS

DM per Ton



about any price recovery in September, in view of competitive pressures, although traditionally autumn and winter are stronger demand periods than Q2.

### China DOP Imports (1,000 tons)

	1998	1999	2000	2001
January	6	11	28	17
February	12	17	30	33
March	12	22	39	33
April	17	29	24	28
May	13	29	21	19
June	11	16	21	35
July	18	20	25	19
August	7	16	25	
September	14	26	32	
October	19	29	21	
November	12	34	25	
December	29	23	15	
January to July	89	144	188	184
% change	32	62	31	-2
January to December	170	272	306	
% change	28	60	13	

As expected, the domestic phthalates market in **Japan** has deteriorated further during July and August. While domestic consumption in the first half of the year was down nearly 7% on first-half 2000, the situation has been getting worse in Q3 and current phthalates demand is understood to be down by a double-digit growth rate, say 12% or so. Demand is very weak regardless of product type. Along with declining consumption, domestic phthalates prices are under downward pressure whereas costs of raw materials (especially oxo alcohols) remain high and this means further deterioration in margins for phthalates producers. Neither can they rely on export business to relieve their difficulties, since overseas phthalates markets are also seriously depressed, and all

### JAPANESE DINP EXPORTS

To	May 2001		Jan-May 01	Jan-May 00
	Tons	\$/ton	Tons	Tons
Indonesia	298	643	896	303
Hong Kong	498	768	1,494	515
Others	-	-	65	33
<b>Total</b>	<b>796</b>		<b>2,455</b>	<b>851</b>

\$/ton figures are calculated from customs data and may not reflect market prices

### JAPANESE DOP EXPORTS

To	May 2001		Jan-May 01	Jan-May 00
	Tons	\$/ton	Tons	Tons
China	2,069	578	14,855	12,173
Hong Kong	-	-	849	2,091
Others	17	-	800	1,451
<b>Total</b>	<b>2,086</b>		<b>16,504</b>	<b>15,715</b>

\$/ton figures are calculated from customs data and may not reflect market prices

### JAPANESE DOP IMPORTS

From	May 2001		Jan-May 01	Jan-May 00
	Tons	\$/ton	Tons	Tons
South Korea	848	646	6,229	3,230
Others	40	-	520	-
<b>Total</b>	<b>888</b>		<b>6,749</b>	<b>3,230</b>

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producers have now been suffering heavy losses for the past few years. Although the Japanese phthalates producers have been trying to restructure the market for some time, by integrating their businesses through joint ventures (for instance J-Plus and CG Ester) and by scrapping some production facilities, measures taken have not proved satisfactory in reforming the market structure completely. Prospects for future phthalates demand in the Japanese domestic market remain particularly unclear due to fundamentals in the economy and, more importantly, to environmental concerns. This suggests that current difficulties could last well into the future, which would force producers to look at further restructuring strategies in the near term.

Export business for DOP out of Japan has been very quiet in August, with prices remaining at around \$570-580/ton cfr. Due to these depressed prices, Japanese producers are not actively participating in export business.

### Phthalates Supply/Demand Balance in Japan (1,000 tons)

	H1 2000	H1 2001	% change
Production	203	187	-7.8
Inventory Change	0	-2	**
Import	6	9	62.3
Export	22	25	12.7
Consumption	187	174	-6.8
Export Ratio (%)	10.9	13.3	**

### Production of Phthalates in Japan (1,000 tons)

	Jun '01	% change	Jan-Jun '01	% change
Production	33	-6.2	187	-7.8
Shipment	36	-4.0	210	-3.2
Inventory	24	-5.5	**	**

### Phthalates Production and Shipment (H1 2001) (1,000 tons)

	Production	D. Shipment	Export	Total	% change
DOP	124	103	21	124	-3.7
DBP	4	4	--	4	-8.6
DIDP	4	4	1	6	14.5
DINP	50	51	1	52	-6.6
Others	8	8	--	8	-1.8
Total	190	170	24	194	-4.1
Adipates	11	10	--	10	-10.9

**Ethylene**

The steady weakening of downstream markets and repeated signals of slower economic growth in the **US** have resulted in a much weaker outlook for the ethylene market. In negotiations for July contract prices, many buyers had won concessions of 2.0-2.5c/lb from their suppliers. (Headline prices are thought to lie below 25.0 c/lb, but discounts and other price mechanisms would put net prices at still lower levels).

US demand for spot material is thin. Spot prices were recorded in the run-up to mid-August at around 17.0 c/lb, but few buyers can handle any more than contractual deliveries. Even prices indicated lower than 17.0 c/lb failed to arouse serious buying interest.

**West European** trade remains thin, although first-half August business at around \$375/ton cif Mediterranean, and Euro 490-500/ton delivered in the ARG pipeline, have been seized as reference points for the industry. (The Q2 ethylene contract price is at Euro 608/ton, or DM1189/ton).

Crackers in Europe have been running at relatively high rates even as olefins demand has dwindled. No producer mentions pressure on inventory and there are no reports of cracker operating rates being lowered. Still, buyers and sellers are concerned that still lower prices might emerge.

**Propylene**

A two-month agreement has been reached covering the **US** contract price for propylene in July and August. Under the terms of the agreement, the contract price fell by 1.25 c/lb in July from June and then remained flat from July through August. This resulted in a July/August contract polymer grade propylene price of 15.75 c/lb, while the contract chemical grade propylene price for July/August fell to 14.25 c/lb. Nominations for the September contract price were beginning to be announced just before mid-August; Huntsman reportedly made an initial nomination for a 3.0 c/lb increase over the August agreement (and in fact a range of price hikes covering 2.5-4.0 c/lb had emerged by the last week of August, partly due to cracker outages).

Spot market activity had been very quiet in the run up to mid-August, and nominal price ideas had increased to at least 14.5 c/lb (delivered in pipe) for polymer grade and 13.0 c/lb for chemical grade product. (In the first days of August, spot chemical grade product reportedly moved at 12.75 c/lb). On the domestic US front, most buyers have been purchasing contract material at, or below, contract minimum levels as a result of poor derivative demand. These buyers find it very difficult to buy spot material (even if the price were attractive) without violating the terms of their contracts. Spot export opportunities have largely disappeared.

**All on a stream basis, assuming 92% purity, \$/ton**

	<i>United States</i>	<i>West Europe</i>	<i>US - WE</i>
Contract	314	369	(55)
Spot	287	330	(43)

Propylene remains in surplus in **West Europe**, although there are signs of better balance returning to the market. Demand remains depressed, with buyers in many sectors unable to receive maximum volumes from contractual suppliers. Interest in spot buying is thin and trading activity is limited by the lack of demand. Producers appear to be matching production to lower demand levels, since stocks remain at manageable levels in most areas.

Around mid-August, spot prices were being assessed below \$350/ton cif West Europe for both chemical-and polymer-grade propylene, but there are few deals to report. Bids at Euro 370/ton cif West Europe (roughly \$330/ton) for chemical grade were deemed too low by most sellers during first-half August. (The Q3 propylene contract price is Euro 440/ton, or DM861/ton).

**Trimer**

In **West Europe**, confirmation has finally been obtained that Enichem has made the decision to cease oligomers production. In fact, production stopped at the end of June and the company is now talking to potential suppliers. Opinions differ as to where this leaves the market in terms of the supply/demand balance. A major supplier view is that with fewer players now offering the product (apart from Enichem, a number of traders are also said to have exited the business) there is now an imbalance in the market, that is the market is relatively tight. A buyer view, on the other hand, is that the general economic slowdown is now hitting Europe hard and that this loss of sales has more than compensated for the withdrawal of Enichem. In addition, buyers are still receiving a number of offers and, therefore, see the present market as balanced to long. The full impact of all this will be felt on fourth quarter pricing. In some cases this will be in hand by early September, but for others conclusions may not be made until the EPCA meeting in early October.

If the consequences of Enichem's withdrawal are currently debatable in terms of supply/demand so far as trimer is concerned, then the effect on the tetramer market is more clear cut. Although a much smaller market, Enichem was a major player in exports to Asia and may be difficult to replace. A European supplier sees tetramer sold within Europe as commanding a premium of \$50/ton (to give say a range of \$500-520/ton fot/cfr Rotterdam), while the situation is very different in Asia. There is now only one regional supplier, in Nippon Petrochemical (NPDC), and there are reports that a former buyer from Enichem has asked

NPDC to name its price for tetramer supply. Overall, Asian prices are in the range \$530-650/ton cfr.

In the US, there have been some specific instances of price softening but basically trimer prices remain in the range 24-26c/lb. There are no further developments in the sale of the Equilon and Motiva refineries (see recent newsletters). Chevron/Texaco's proposal that they be placed in a trust as a means of resolving their dispute with Shell is still being considered by the FTC. This is no small matter as the difference in valuations of the refineries is at \$2 billion. Shell has a right to purchase at an agreed price. Its reaction to this development is awaited.

The market for trimer in **East Asia** is fairly stable. Caltex is reported to have moved a parcel in August and to be looking at another for September. Large buyer prices remain at around \$450/ton cfr, after a fall from the second quarter level of \$480/ton cfr. However, an offer at \$430/ton cfr is heard for late Q3, though no confirmation in terms of actual business done is known.

## 2-ETHYLHEXANOL

### United States

No settlement has been reached as yet for the Q3 2-EH export contract price, but the major US exporter to Asia (contracts in Taiwan and Korea) has been moving some Q3 volumes at a provisional price of \$530/ton cfr Taiwan, that is the Q2 2-EH export number. (It might be noted that some contract business, for July only, was done by one of the German oxo alcohols producers at \$535/ton cfr Taiwan – see comments on West Europe below). While the US 2-EH producer had originally targeted a \$580/ton cfr Taiwan Q3 contract level, in order to regain lost margin, with spot prices in Asia drifting down to around \$520-530/ton cfr by late July he revised his Q3 contract target to \$540/ton cfr Taiwan earlier in August. DOP producers in Asia, however, now have Q3 2-EH contract ideas of below \$500/ton cfr Taiwan as local DOP pricing continues on a downward tendency, and spot 2-EH numbers being mentioned at below the \$500/ton cfr Asia level in late August.

With US 2-EH producer sources hearing spot 2-EH numbers in Asia at around \$500/ton cfr, they have little interest in participating out of the US Gulf. On-going contract volumes to Asia continue to netback to around \$485/ton fob US Gulf, which is broadly a reference number also for Latin American business. In fact, sales to Mexico, for example, can fetch \$490/ton fob US Gulf or even \$500/ton, although netbacks from some South American countries are lower at around \$470-480/ton fob US Gulf. (In general, cif South American port prices are at around \$530/ton plus or minus, netting back to say \$485/ton fob US Gulf).

In the US, all 2-EH producers are understood to be running at present but, where possible, may be temporarily idling one train to balance a quiet market. An average utilization rate, against nameplate capacity,

### UNITED STATES 2-EH EXPORTS

To	May 2001		Jan-May 01	
	Tons	\$/ton	Tons	Tons
Chile	1,000	455	2,050	1,000
Colombia	648	496	3,753	6,713
Ecuador	-	-	1,088	1,261
Guatemala	-	-	1,020	994
Mexico	999	485	7,188	10,569
Venezuela	3,336	503	6,255	2,744
Malaysia	-	-	1,949	-
South Korea	3,674	487	9,378	6,315
Taiwan	-	-	3	4,199
Others	-	-	1,112	579
<b>Total</b>	<b>9,657</b>		<b>33,796</b>	<b>34,374</b>

\$/ton figures are calculated from customs data and may not reflect market prices

### UNITED STATES 2-EH IMPORTS

From	May 2001		Jan-May 01	
	Tons	\$/ton	Tons	Tons
Germany	2,976	579	17,365	20,466
Saudi Arabia	-	-	4,788	8,387
Others	-	-	-	88
<b>Total</b>	<b>2,976</b>		<b>22,153</b>	<b>28,941</b>

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across the board for 2-EH in the US is currently thought to be at the high seventies percent.

Meanwhile, demand is thought to be down some 10-15% so far this year, with both the DOP and non-vinyl sectors impacted by the slow US economy. In the non-vinyl area, outlets related to the coatings business – acetates/glycol ethers etc. - appear to have suffered more than applications such as cetane improver/lube oil additives.

Nevertheless, price levels for non-vinyl merchant market sales have been holding fairly steady, with perhaps a cent or so coming off at some accounts when competition is met from imported Saudi product. At present, medium sized accounts (5-10 mmlbs/year) are now broadly in the lower towards mid-thirties cents range and smaller volume end-users (1-2 mmlbs/year), railcar deliveries, at maybe 36-37 c/lb. Tanktruck sales are at 39-40 c/lb plus.

In view of anticipated increases in US propylene pricing in September through Q4 (a 2.5-4.0 c/lb price hike range posted for September), indications would be that the US alcohols producers will target an October/Q4 price increase for 2-ethylhexanol (and butanols).

### West Europe

As mentioned in the last newsletter (Issue no: 235), neither West European producer sources nor Taiwanese/Asian DOP producers would appear to be in any hurry to finally settle the Q3 2-EH export contract



price. In fact, there is now some view among the West European 2-EH producers that the setting of a quarterly Taiwanese export reference number may soon be substituted by monthly business, perhaps even done only on a spot basis. (It might be noted that, from second-half 2002, iso-nonanol which is currently fairly tight on a global basis will become an increasingly important plasticizer precursor alcohol – for DINP – when Exxon in Singapore, Nan Ya in Taiwan and Oxeno in Germany will have added over 400,000 tpa to world capacity).

Meanwhile, West European 2-EH producers generally still have \$530-540/ton cfr Taiwan/Asia price ideas in mind, for any upcoming business, but spot 2-EH numbers in Asia have reportedly drifted down to around the \$500/ton cfr level, or below, amid the view that there is ample 2-EH available in Asia. Furthermore, one 1,000 ton 2-EH spot deal has been heard recently at as low as \$490/ton cfr southeast Asia (possibly Singapore) and believed, but not confirmed, to have been sourced from a non-traditional West European supplier/producer.

As regards spot business in Rotterdam, a \$480/ton fob (plus or minus) netback from the Q2 \$530/ton cfr Taiwan contract reference number continues to act as a benchmark. There have been reports of Polish product on offer recently at \$470/ton fob Rotterdam (some move in Poland away from DOP to DINP demand has reportedly led to a cutback in DOP production which is freeing up more 2-EH). Furthermore, one West European 2-EH producer reports a recent increase in enquiries from export markets, but in view of current 2-EH plant outages and an expected upturn in September post-holiday demand in West Europe, would seek at least \$480-490/ton fob Rotterdam type numbers (and feels traders would also).

Turkey has been in the market during August for spot 2-EH, but seeks a \$490/ton cif Turkish port price which nets back to around \$450/ton fob Rotterdam or below - and is considered unacceptable. Also the Spanish phthalates producer, who restarted production in the last week of August, is in the market for 2-EH (believed to be 500 tons) and smaller volumes of n-and iso-butanol for second-half September. (Any potential purchase in Rotterdam at \$470/ton fob would give a \$500/ton plus cif Bilboa price, and at \$480-490/ton fob Rotterdam a cif Bilboa price of around \$515-520/ton).

Despite a quiet August market, non-vinyl business tanktruck prices in West Europe have held fairly steady. August prices are noted at DM1150-1170/ton (say Euro 600/ton) for larger accounts at the lower end of the scale, and at up to DM1230-1240/ton for small volume spot business at the upper.

On the supply side in West Europe, while Oxeno's syngas unit at Marl (see last newsletter, Issue no: 235) came back during first-half August, problems with oxygen supply caused a three to four-day outage at the

2-ethylhexanol/butanols plant around mid-month. Meanwhile, Celanese went into turnaround at Oberhausen from the week-end 24 August, with the entire plant down for routine maintenance for two weeks and 50% of total capacity scheduled to be out for a further two weeks (system changes). Neste will also go down at Stenungsund from 3 September for a three-week planned shutdown.

#### Asia

Domestic 2-EH production in **Taiwan** remains high, due to stable captive demand. In **China**, however, although production rates for oxo alcohols generally are fairly high, the allocation to 2-EH output this year is comparatively low (details in table below) despite recent capacity increases. Expectations are that July 2-EH production in China will have been lower than in June since Jilin's 100,000 tpa 2-EH plant took a 10-14 day turnaround, while Daqing Petrochemical has been focusing more on butanols production.

Reports from **Taiwan** are that 2-EH import offers into Asia have now softened to \$470-480/ton cfr and that buying interests for spot cargoes are high, since important contract supplier sources are not shipping Q3 volumes to Asia before settlement of the Q3 contract price.

**Saudi** origin 2-EH would currently appear to be the main source of supply into **China**, and the Saudi 2-EH producer would appear to have a more flexible price policy than other suppliers. (During first-half 2001, 40% of China's 2-EH imports were supplied from Saudi Arabia). Reduced captive demand for Taiwan Fertilizer – 50% owner with Sabic of the SAMAD 2-EH plant in Saudi Arabia – in Taiwan (closure of 50,000 tpa DOP plant in January 2001) has freed up 30,000 tons 2-EH for sales in Asia. Despite slower overall 2-EH imports into China during July, quantities coming in from Saudi Arabia remained high.

#### China's 2-EH monthly production (1,000 tons)

	1998	1999	2000	2001
January	8.9	22.5	22.6	23.9
February	8.5	14.7	22.7	21.7
March	11.8	20.3	26.8	23.8
April	14.0	18.9	21.0	14.4
May	29.9	16.2	17.7	18.3
June	9.1	21.1	15.8	22.7
July	18.1	14.9	15.8	
August	38.1	23.8	23.7	
September	8.2	22.7	20.2	
October	14.0	16.3	19.0	
November	9.7	14.5	23.1	
December	16.7	24.6	27.3	
January to June	82.2	113.7	126.6	124.8
% change	-11	+38	+11	-1
January to December	187.0	230.5	255.7	
% change	+6	+23	+11	

**China 2-EH Imports  
(1,000 tons)**

	1998	1999	2000	2001
January	5	4	14	13
February	6	13	8	20
March	6	14	24	14
April	8	19	22	15
May	8	16	17	18
June	4	20	22	18
July	5	6	15	18
August	6	14	12	
September	9	21	18	
October	6	12	23	
November	13	15	23	
December	11	11	20	
January to July	42	92	122	116
% change	+97	+119	+33	-4
January to December	87	165	218	
% change	+65	+90	+32	

The domestic 2-EH market in **Japan** remains depressed due to slow production of both DOP and 2-ethylhexanol acrylate. DOP production in the first half of this year was down 4% plus on the comparable period in 2000, while DOP production in July and August has also remained depressed. In addition, production of 2-ethylhexyl acrylate is particularly depressed due to extremely weak demand. In fact, shipment of 2-ethylhexyl acrylate in the first half of the year was down 15% on the comparable period in 2000, mainly due to a significant decrease in exports (40% decrease in exports, 5% decrease in domestic shipment).

As in the domestic market, export business for 2-EH out of Japan has been depressed during August, with very few transactions with China. Export deals, if any are done, have been at poor prices such as the low \$500's/ton cfr. With shrinking domestic and export markets, it would appear that the Japanese 2-EH and oxo alcohols business is a state of a continuous contraction, with more and more emphasis on the domestic market.

**2-EH Supply/Demand Balance  
(1,000 tons)**

	H1 2000	H1 2001	% change
Production	134	121	-9.6
Inventory Change	-2	-2	**
Import	8	10	29.0
Export	17	15	-9.0
Consumption	126	118	-6.7
Export Ratio (%)	12.7	12.8	**

**Production of 2-EH in Japan  
(1,000 tons)**

	Jun '01	% change	Jan-Jun '01	% change
Production	19	-13.4	121	-9.6
Shipment	20	-16.1	123	-3.6
Inventory	8	-5.6	**	**

**SOUTH KOREAN 2-EH EXPORTS**

To	May 2001		Jan-May 01	
	Tons	\$/ton	Tons	Tons
Bangladesh	256	601	333	26
Thailand	-	-	957	1,939
Vietnam	-	-	1,506	5,012
China	3,955	493	18,652	24,428
Hong Kong	-	-	-	1,000
Taiwan	-	-	2,020	4,940
Japan	-	-	1,988	1,782
Others	38	-	51	-
<b>Total</b>	<b>4,249</b>		<b>25,507</b>	<b>39,127</b>

\$/ton figures are calculated from customs data and may not reflect market prices

**SOUTH KOREAN 2-EH IMPORTS**

From	May 2001		Jan-May 01	
	Tons	\$/ton	Tons	Tons
United States	3,604	568	10,606	13,812
Germany	2,000	570	5,974	8,050
Poland	1,988	402	9,939	8,997
Saudi Arabia	-	-	-	4,519
Singapore	-	-	1,998	1,994
Japan	999	504	1,003	975
Others	-	-	-	959
<b>Total</b>	<b>8,591</b>		<b>29,520</b>	<b>39,306</b>

\$/ton figures are calculated from customs data and may not reflect market prices

**TAIWANESE 2-EH IMPORTS**

From	May 2001		Jan-May 01	
	Tons	\$/ton	Tons	Tons
United States	-	-	8,918	22,855
Germany	1,952	590	16,344	20,384
Netherlands	-	-	-	1,028
Poland	-	-	1,980	2,960
Russia	-	-	-	1,042
Saudi Arabia	-	-	-	11,853
South Korea	-	-	2,020	4,978
Others	24	-	194	1,375
<b>Total</b>	<b>1,976</b>		<b>29,456</b>	<b>66,475</b>

**JAPANESE 2-EH EXPORTS**

To	May 2001		Jan-May 01	
	Tons	\$/ton	Tons	Tons
Indonesia	-	-	3,001	1,000
Malaysia	-	-	-	2,997
Singapore	-	-	-	2,696
Thailand	-	-	-	1,898
China	3,545	484	8,277	6,944
South Korea	999	489	1,002	974
Others	-	-	109	356
<b>Total</b>	<b>4,544</b>		<b>12,389</b>	<b>16,865</b>

\$/ton figures are calculated from customs data and may not reflect market prices

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## BUTANOLS

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### United States

Butanols markets remains quiet in the US, with n-butanol demand estimated to be down some 10% plus so far this year compared with the corresponding period in 2000 – linked to its widespread use in coatings applications, both directly and through derivatives. Producers continue to balance supply/demand by cutting back utilization rates (and perhaps temporarily idling one butanols / 2-ethylhexanol train where possible).

Low numbers continue to be noted for late July/August export business to Asia, with \$480-485/ton cfr main Asian port mentioned for 500/1,000 ton n-butanol parcels and even \$460/ton cfr for on-going business, out of the US Gulf, for larger 2,000 ton plus parcels. (Prices for iso-butanol remain a little higher, with just over \$500/ton cfr Asia concluded late in July). As regards export prices for September, with increases of up to 3-4 c/lb being posted for US propylene pricing, the US alcohols producers could target up to a \$20-30/ton rise in their export prices to Asia – bringing current top end n-butanol numbers, at up to \$500/ton cfr, to around \$520/ton cfr.

Meanwhile, sales to Latin American destinations (typically 500/1,000 ton parcels to Mexico and Brazil and smaller 200/300 ton lots to other South American countries) can achieve over \$500/ton cif, maybe up to \$520/ton plus, netting back to say \$460/ton plus fob US Gulf.

Looking at domestic pricing in the US, no attempt was made to pass any price increase through on alcohols for July/Q3 and, if anything, a quiet market has been seeing some erosion of a cent or so at some accounts. At present, n-butanol industrial accounts at around 4-5 mmlbs/year are paying about 31 c/lb and smaller customers, taking say 1-2 mmlbs/year, at the lower to mid-thirties cents level. iso-Butanol often sells at the same price as n-butanol, but can be at maybe a cent below.

In view of expectations of an increase in propylene pricing during September/Q4, recently prompted by cracker outages, indications would be that the US alcohols producers will seek an increase in butanols (and 2-ethylhexanol) pricing for October/Q4.

### West Europe

Some limitations on butanols supply in northwest Europe during August has meant price stabilization for n-butanol, and even an increase in some cases for iso-butanol. Meanwhile, markets in Italy/Spain and southern France have remained very quiet through into the last week of August.

While Oxeno's plant at Marl suffered an outage in one of the syngas units back in July into early August, further problems were experienced with oxygen supply around mid-month and 2-ethylhexanol / butanols capacity went down again for three to four days. In addition, Celanese started a scheduled outage at Oberhausen from the week-end 24 August, while Neste will be down for a planned turnaround at Stenungsund throughout September.

As regards prices, n-butanol has held at around DM1200/ton, tanktruck delivered basis, during August (some discounting to maybe DM1180-1190/ton at larger accounts, but up to DM1240-1250/ton noted at the upper end of the scale). Meanwhile, increased requests for iso-butanol, in what was already a fairly tight market, have led to producer reports of DM1250/ton plus numbers, with even DM1300/ton achieved.

With the supply position also being kept in check by the absence of Russian material, both n-and iso-butanol, on offer on the West European market, some effort may be made to increase prices in September. However, with the exception of business into the UK where prices have been lagging, producers are tending to wait and see how the 2-ethylhexanol market develops over late August into September before posting a potential price increase across a range of products, but could target a DM50/ton increase in a tighter butanols market. For the UK, where prices have been generally lagging behind those in continental Europe at below DM1200/ton for n-butanol, a 10% September increase is being targeted.

As regards butanols exports to Asia, European producer sources would envisage an upward trend in pricing in view of delays in the arrival of new capacity there (start-up of the former Union Carbide plant in Malaysia delayed from mid-2001 to Q1 2002) and increased feedstock costs (propylene) for US suppliers. n-Butanol numbers are mentioned at around \$500-520/ton cfr main Asian port, netting back to say \$450/ton fob Rotterdam – but without confirmation of recent parcels done.

## PRICE MONITOR

### US PRICES

		<i>Q1 2001 ¢/pound</i>	<i>Q2 2001 ¢/pound</i>	<i>26 July 2001 ¢/pound</i>	<i>31 August 2001 ¢/pound</i>		<i>31 August 2001 \$/ton</i>
<b>DOP</b>	Contract						
	•Northeast	41-46	40-44	39-42	38-41	DEL	838-904
	•West	42-47	41-45	40-43	40-42	DEL	882-926
	•Midwest	43-47	42-45	42-43	41-42	DEL	904-926
	•South/Southwest	42-47	41-45	40-43	40-42	DEL	882-926
<b>2-EH</b>	Domestic						
	•Bulk	36-40	34-40	33-38	33-37	DEL	728-816
	•Tanktrucks	41-44	40-44	39-42	39-41	DEL	860-904
	Export	22.0-23.6	21.5-22.7	21.3-22.2	21.3-22.2	FOB	470-490
<b>n-Butanol</b>	Industrial Accounts	34-37	33-36	32-34	31-33	DEL	683-728
	Export	20.6-22.7	20.2-22.0	20.0-21.1	19.3-20.9	FOB	425-460

### WEST EUROPEAN PRICES

		<i>DM/ton</i>	<i>DM/ton</i>	<i>DM/ton</i>	<i>DM/ton</i>		<i>€/ton</i>	<i>\$/ton</i>
<b>DOP</b>	Domestic, bulk	1330-1410	1390-1510	1270-1380	1250-1320	DEL	639-675	582-614
	Export, bulk	1143-1224	1205-1282	1186-1197	1139-1160	FOB	582-593	530-540
<b>DINP</b>	Domestic, bulk	1340-1440	1405-1525	1285-1400	1280-1350	DEL	654-690	596-628
<b>DIDP</b>	Domestic, bulk	1400-1540	1475-1585	1350-1475	1330-1425	DEL	680-729	619-663
<b>2-EH</b>	Bulk parcels <sup>(1)</sup>	1175-1225	1137-1185	1105-1119	1075-1117§	DEL	550-571§	500-520§
	Domestic, tanktrucks	1270-1400	1240-1350	1170-1240	1150-1230	DEL	588-629	535-572
	Export <sup>(1)</sup>	1016-1089	1052-1134	1051-1063	1010-1042	FOB	516-533	470-485
<b>n-Butanol</b>	Domestic, tanktrucks	1180-1325	1230-1300	1180-1240	1180-1240	DEL	603-634	549-577
	Export Asia	1005-1067	989-1053	No market	N.A.	FOB	N.A.	N.A.

### ASIAN PRICES

		<i>\$/ton</i>	<i>\$/ton</i>	<i>\$/ton</i>	<i>\$/ton</i>	
<b>DOP</b>	Taiwan Domestic <sup>(2)</sup>	610-650	600-640	580-610	580-605	DEL
	Import Spot	585-630	580-610	575-585	570-580	CFR
<b>2-EH</b>	Import Contract	510	530	535	N.A.	CFR
<b>n-Butanol</b>	Import	505-540	500-525	480-490	460-500	CFR

<sup>(1)</sup> Spot business

<sup>(2)</sup> US dollar equivalent of local currency price § See text

Current one US dollar equivalent (29th August 2001)

€: 1.099 DM: 2.149 £: 0.689 (1/1.452) FFr: 7.206 Lire: 2127 NT\$: 34.57

Current one € equivalent (29th August 2001)

US\$: 0.910 DM: 1.956 £: 0.627 FFr: 6.560 Lire: 1936

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