

Effects of the merger on market concentration

Pre- and post-merger market shares

1. In order to assess the impact of the merger on market shares, we need to (1) consider what would happen to Air Products' customers, ie to what extent they might be retained by Taminco, and (2) consider how the market structure might have changed in the absence of the sale to Taminco under the counterfactual. The latter is examined in detail in the main report (see paragraphs 5.53 to 5.60). The basis for comparison in this appendix is that Air Products shuts the Billingham facility and withdraws from the production of methylamines and derivatives. Our calculations assume that producers are not capacity constrained in the medium term.
2. While Air Products will transfer its customer lists and contracts to Taminco, in all but one case, contracts will be up for renewal within months. The exception is the contract with Ciba which is due to end in [X]. Many customers have contracts with other producers as well and so can vary the source of their purchases. Taminco itself recognized in its valuation of the merger that it could only expect to retain a proportion of Air Products' customers list. On the basis of examining the customers list and considering whether it expected to be able to retain these customers, Taminco based its own evaluation of the merger on retention rates of [X] per cent by value and [X] per cent by volume. Taminco's internal documents remarked that these assumptions were conservative. Taminco indicated that it would hope to retain a greater proportion of the customer base. Air Products argued that customers displayed some loyalty provided prices remain competitive. We therefore take Taminco's assumptions to be a lower estimate of likely retention rates. If retention rates are actually higher, then the increase in Taminco's market share from the merger will be greater.
3. Other Air Products customers may be expected to agree contracts with alternative producers. There is no way of forecasting exactly which customers will go to which supplier. One assumption is that suppliers will pick up customers pro rata to their existing market share; this is usually adopted as it reflects any market power arising from existing market shares. There are no reasons to believe any other allocation of customers is more realistic, and we therefore use it as a basis for comparison, both to allocate Air Products customers who do not go to Taminco following the acquisition, and to allocate all Air Products customers in the counterfactual case where the acquisition does not occur.
4. We recognize that reality may be different, in particular because a small number of customers account for a very high proportion of demand in some products. Therefore market shares will vary substantially depending on who wins the contracts, though we note that customers often split their purchases between two or more suppliers. However, we have no basis for predicting the outcome of individual contractual negotiations.
5. Table 1 provides for each of the relevant markets, based on estimated sales in 2003, estimated sales and market shares pre-merger, post-merger (assuming that Taminco retains [X] per cent of Air Products' sales), and the counterfactual where Air Products customers are allocated pro rata to existing market share.

TABLE 1 Market shares of methylamine and derivative producers before and after acquisition and under the counterfactual

Producer	Pre-acquisition		Assuming [X] Air Products customer retention by Taminco		Assuming Air Products customers distributed pro rata to market share		Increment from merger over the counterfactual		
	Sales kt	Market share %	Sales kt	Market share %	Sales kt	Market share %	Increment to sales kt	Increment to market share %	
Methylamines, EEA									
Taminco	[X]	[30–40]	[X]	[<2]	
Air Products	[X]	[10–20]							
BASF									
Akzo						X			
Ertisa									
Total									
AAAs, worldwide									
Taminco	[X]	[5–10]	[X]	[2–10]	
Air Products (Europe)	[X]	[10–20]							
BASF									
Dow									
Ineos									
Huntsman									
Atofina						X			
Amines & Plasticizers									
Nippon Nyukasai									
Mitsubishi Gas									
Total									
DMF, worldwide									
Taminco	[X]	[5–10]	[X]	[<2]	
Air Products	[X]	[0–5]							
BASF									
Akzo									
AK KIM									
Celanese									
Dupont									
Chinook									
Samsung (Korea)						X			
Mitsubishi Gas (Japan)									
Mitsubishi Rayon (Japan)									
FCFC (Taiwan)									
Russian producers									
Chinese producers									
Total									
Choline chloride, worldwide									
Taminco	[X]	[10–20]	[X]	[<2]	
Air Products	[X]	[0–5]							
Akzo									
BASF									
Kolin (Korea)									
Samsung (Korea)									
Bioproducts (USA)									
Chinook									
BCP (Balchem) (USA)						X			
MGC + Yok Gosei (Japan)									
Local China Producers									
Jubilant Organosys (India)									
Balaji Amines (India)									
Celanese + Niasa (Mexico)									
Total									

Source: CC calculations.

Note: Where a range is shown in square brackets in this table, this replaces the actual figure in the report for reasons of commercial confidentiality.

6. The difference in the increase in market share arising from the acquisition over the counterfactual is small. This is because either Air Products' share of the relevant market is very low, or in the case of methylamines, Taminco could anyway have expected to pick up a large proportion of Air Products' customers following closure of the Air Products business. The one exception is AAAs where Air Products is a large producer. Consequently the transfer of business produces a substantial market share increment. Nonetheless, for AAAs the post-merger market share remains below 20 per cent. In the narrower EEA market for methylamines, Taminco's share post-merger is over 40 per cent but the increment attributable to the merger is only [X] per cent.
7. Another way to examine the overall structure of the industry is to look at the HHI,¹ which provides in one figure a measure of the number of competitors and disparities in their size. These are shown in Table 2 for each product market. As a point of reference, the OFT guidelines (reproduced in the CC's own merger guidelines) consider a market with an HHI over 1,800 as highly concentrated and any increment over 50 could give rise to potential competition concerns.
8. In these cases, the difference in HHI arising from the acquisition as compared with the counterfactual is always below 50. In the case of AAAs and DMF, it is negative. This is because other large producers, not party to the merger, pick up more business under the counterfactual, and so the increase in market concentration is greater under the counterfactual. This effect may be exaggerated for DMF as Chinese producers, and Russian producers, have been aggregated together whereas in fact they could be in competition with their compatriots.

TABLE 2 Effects of the acquisition, and the counterfactual, on HHI

HHI	Pre-acquisition*	Post-acquisition assuming Taminco retains [X] of Air Products customers	Counterfactual—Air Products customers allocated according to pre-existing market share	Increment to HHI from acquisition over counterfactual
Methylamines, EEA	2,754	3,523	3,498	25
AAAs, worldwide	1,309	1,434	1,438	-4
DMF, worldwide	1,438	1,485	1,499	-14
Choline chloride, worldwide	1,318.1	1,377.9	1,378.0	-0.1

Source: CC calculations

*The pre-merger HHI based on estimated 2003 sales and production is given for interest to show the change in the market. However, the appropriate comparison to assess the effects of the merger is between the counterfactual and the post-acquisition figures, rather than the pre-acquisition HHI figure, as we do not expect that the pattern of sales in the market in 2003 will continue, regardless of whether or not the merger goes ahead.

Alternative case where BASF acquires Air Products' customer contracts

9. As an alternative case, we considered the impact the proposed acquisition would have on market shares and concentration compared with a situation where BASF had proceeded with an acquisition in the same way as Taminco. We have used Taminco's assumptions about customer retention rates for BASF. The effects on market share are shown in Table 3, and the effects on the HHI in Table 4.

¹The HHI is the sum of the squared market shares for all suppliers, ranging between 0 (perfectly competitive) and 10,000 (monopoly). An increase in market share for a large supplier has a greater impact on the HHI than the same increase for a small supplier. This indicates the risk that the large supplier gains market power with few alternatives open to customers, whereas market share gains to small suppliers reduce inequality between them.

10. The Taminco acquisition of Air Products produces a small increase in the HHI for choline chloride over the situation where BASF acquired Air Products. For other products, there is a small reduction in the HHI. This is because of the greater market share held by BASF prior to the merger compared with Taminco.

TABLE 3 **Market shares of methylamine and derivative producers before and after acquisition and compared to BASF making the acquisition**

Producer	Assuming [X] Air Products customer retention by Taminco, rest distributed pro rata to market share		Comparator case—assuming [X] Air Products customer retention by BASF, rest distributed pro rata to market share		Increment from merger over the comparator case			
	Pre-acquisition Sales kt	Market share %	Post-acquisition Sales kt	Market share %	Post-acquisition Sales kt	Market share %	Increment to sales Kt	Increment to market share %
Methylamines, EEA								
Taminco	[X]	[30–40]			X			[2–5]
Air Products	[X]	[10–20]						
BASF								
Akzo					X			
Ertisa								
Total								
AAAs, worldwide								
Taminco	[X]	[5–10]			X			[10–20]
Air Products (Europe)	[X]	[10–20]						
BASF								
Dow								
Ineos								
Huntsman								
Atofina					X			
Amines & Plasticizers								
Nippon Nyukasai								
Mitsubishi Gas								
Total								
DMF, worldwide								
Taminco	[X]	[5–10]			X			[<2]
Air Products	[X]	[0–5]						
BASF								
Akzo								
AK KIM								
Celanese								
Dupont								
Chinook								
Samsung (Korea)					X			
Mitsubishi Gas (Japan)								
Mitsubishi Rayon (Japan)								
FCFC (Taiwan)								
Russian producers								
Chinese producers								
Total								
Choline chloride, worldwide								
Taminco	[X]	[10–20]			X			[<2]
Air Products	[X]	[0–5]						
Akzo								
BASF								
Kolin (Korea)								
Samsung (Korea)								
Bioproducts (USA)								
Chinook								
BCP (Balchem) (USA)					X			
MGC + Yok Gosei (Japan)								
Local China Producers								
Jubilant Organosys (India)								
Balaji Amines (India)								
Celanese + Niasa (Mexico)								
Total								

Source: CC calculations.

Note: Where a range is shown in square brackets in this table, this replaces the actual figure in the report for reasons of commercial confidentiality.

TABLE 4 Effects of the acquisition, on HHI compared with where BASF made the acquisition

<i>HHI</i>	<i>Pre-acquisition</i>	<i>Post-acquisition assuming Taminco retains [X] of Air Products customers</i>	<i>Comparator case—BASF retains [X] of Air Products customers, rest allocated according to pre-existing market share</i>	<i>Increment to HHI from acquisition over the comparator case</i>
Methylamines, EEA	2,754	3,523	3,525	-1
AAAs, worldwide	1,309	1,434	1,458	-24
DMF, worldwide	1,438	1,485	1,489	-4
Choline chloride, worldwide	1,318.1	1,377.9	1,358.8	19.1

Source: CC calculations.