
Anticipated acquisition by Taminco N.V. of the European Methylamines and Derivatives Business of Air Products and Chemicals Inc

The OFT's decision on reference under section 33 given on 16 July 2004

Please note that square brackets indicate actual figures or text which have been deleted or replaced at the request of the parties for reasons of commercial confidentiality.

PARTIES

Taminco N.V. (Taminco) specialises in the production of methylamines and methylamine derivatives and has production facilities in Ghent (Belgium), Leuna (Germany) and Shanghai (China). It is majority owned by AlInvest Partners N.V., a Dutch private equity investor that acquired Taminco in 2003 from UCB N.V.

Air Products and Chemicals Inc, a US based company, and its subsidiary **Air Products (Chemicals) Teeside Ltd**, based in the UK, (together AP) engage in the production and supply of methylamines and methylamine derivatives. AP's **European Methylamines & Derivatives Business** (EM&D Business) produces these chemicals through production facilities at its Billingham plant in Teeside, UK, and through a toll production agreement with [] carried out at a plant at [the toll plant] (the [toll] Agreement). The UK turnover for the EM&D Business was £ [] in 2003.

TRANSACTION

Taminco is proposing to acquire certain assets relating to the commercial operations of the EM&D Business from AP. Taminco will acquire the customer contracts, stock, IP rights, business records, goodwill and know-how of AP, several product swap agreements with other producers, and the [toll] Agreement. However, Taminco will not acquire the Billingham production facility which AP has announced it intends to close irrespective of the merger. The OFT is satisfied that the assets subject to the proposed transaction form an enterprise for the purposes of the Enterprise Act 2002. The EM&D Business relates to the production and supply of methylamines and various methylamine derivatives: dimethylformamide (DMF); alkylalkanolamines (AAA); and choline chloride.

The transaction was notified in the form of a merger notice on 14 May 2004. The parties withdrew the merger notice on 9 June 2004 and requested that the OFT continue to consider the merger as an informal submission. The administrative timetable expires on 19 July 2004.

JURISDICTION

As a result of this transaction Taminco and the EM&D Business will cease to be distinct. Post-merger, the parties will account for more than 25 per cent of the supply of methylamines and methylamine derivatives in the UK. Therefore the share of supply test in section 23 of the Enterprise Act 2002 (the Act) is met. A relevant merger situation will be created if the arrangements between Taminco and AP in relation to the EM&D Business are carried into effect.

METHYLAMINES / DMF / CHOLINE CHLORIDE

Relevant market

Methylamines

Methylamines are produced by reacting methanol with ammonia. The result of this reaction is a mix of monomethylamine (MMA), dimethylamine (DMA) and trimethylamine (TMA). MMAs, DMAs and TMAs are either sold in the merchant market or are used internally, normally for conversion to derivative products.

The appropriate frame of reference is considered to be the supply and production of methylamines in Europe. Although there is limited demand side substitution, supply side substitution between the three methylamines appears to exist as the proportion of each methylamine produced can be varied by recycling unused product back into the reactor.¹ Moreover, correlation between margin information provided for the three products appears to support supply side substitutability. Third parties have indicated that the appropriate geographic frame of reference is Europe due to high transport costs and the absence of transatlantic trade. The parties confirmed that high transport costs may not make importing into Europe viable and, as a result, trade generally occurs on a regional basis (e.g. Europe).

DMF

DMF is a solvent produced by reacting DMA with carbon monoxide or methyl formate. The appropriate frame of reference is considered to be the supply and production of DMF in Europe. Third parties indicated other solvents exist which are effective substitutes for DMF, although little information on the producers of these alternative products was provided. Transport costs appear high, with worldwide transport costs representing 15 per cent of the final sales price, as opposed to 7-8 per cent for transport within the Europe. Nevertheless, evidence of imports indicated that the market may be wider than Europe. However, no firm view was reached on this issue given that the competition assessment does not differ.

Choline chloride

Choline chloride, also known as vitamin B4, is produced by reacting TMA with (i) hydrochloric acid and ethylene oxide (EO); or (ii) ethylene chlorohydrin. The appropriate frame of reference is considered to be the supply and production of choline chloride in Europe. Third parties considered that imports into Europe were limited due to high

¹ The parties did note that this only applied to their production method and were unclear about other competitors' methods of production.

transport costs. In addition, restrictions on the import of genetically-modified materials further affected some potential suppliers from outside Europe. As with DMF, there was some evidence that competition occurred on a wider scope than Europe. However, no firm view was reached on this issue, given that the competition assessment does not differ.

Shares of supply

The parties' combined shares of supply in each of the above three products are given below.

Shares of supply within the EEA², 2003 by volume (weight)

Product	Volume of EEA merchant sales (tonnes)	Merchant sales by Volume		
		Air Products	Taminco	Combined
Methylamines	[]	[10-20]%	[25-35]%	[40-50]%
DMF	[]	[10-20]%	[25-35]%	[40-50]%
Choline Chloride	[]	[5-15]%	[30-40]%	[40-50]%

Within the UK, the merged entity's share of supply would be: Methylamines [80-90] per cent (increment [20-30] per cent); DMF [80-90] per cent (increment [25-35] per cent); and Choline Chloride [30-40] per cent (increment [15-25] per cent).

Counterfactual

In order to assess whether or not a post-merger substantial lessening of competition is, or may be likely, to occur, it is necessary to consider what the competitive situation would be absent the merger (referred to as the counterfactual). Methylamines, DMF and choline chloride are all produced at AP's Billingham plant in Teeside. In this instance, the parties have submitted that the appropriate counterfactual in relation to the supply of these products must be assessed on the basis that the closure of AP's Billingham plant will proceed in any event.

The parties have expressly not claimed this to be a failing firm defence, but have said instead that this change to the prevailing conditions of competition – which they consider will occur absent the merger – is nonetheless one to which the OFT must have regard when considering the appropriate counterfactual to the proposed merger situation. In order to do so, the OFT considers that sufficient compelling evidence is required to substantiate the postulated counterfactual, particularly in circumstances where the counterfactual involves the exit of one of the merging parties.

Substantial evidence was supplied by the parties about their reasons for the decision to close Billingham. Internal documents clearly evidenced that closure of the Billingham plant is imminent []. In addition, financial information provided supports the parties' view that [Billingham's] closure is preferable to its continued operation.

² In the absence of more accurate information, EEA shares of supply have been used a proxy to estimate European shares of supply.

In June 2003, AP retained [] to conduct an auction of the EM&D Business as a whole (i.e. the Billingham plant and the [toll] Agreement). [] different companies, including industrial buyers and investment companies, were approached. Ultimately, [] bids were received []. Therefore, it would appear that, despite its best efforts, AP was unable to secure a purchaser for the Billingham plant. This in turn strongly suggests that there is little, if any, prospect, that it would be able to do so in the future.

The parties have stated that the shut-down of the Billingham plant is a certainty and, in addition to providing the evidence discussed above, they have noted that:

- AP's decision to close the plant has been reported in local media and trade press releases
- the EM&D's sales force and business management has been redeployed or laid off
- AP has advised its suppliers that their contracts are to be terminated;
- employees and unions have been notified of the shut-down and an outplacement agency has been hired and
- AP has not included the EM&D Business in the deployment of a new worldwide IT system, [].

In summary, the parties were able to provide a significant amount of evidence to support the proposed counterfactual with respect to Billingham. Key aspects, such as the closure announcement and [], were verified by third parties. Based on the evidence supplied, the prospect of the continued operation of Billingham is not a realistic alternative to closure, nor is its acquisition by a third party. Therefore, in respect of the supply of methylamines, DMF and choline chloride, the appropriate counterfactual is considered to be the closure of the Billingham plant.

If the competitive effects of the merger are compared with the competitive situation that will arise if AP exits the market by closing the Billingham plant, there appears to be no material difference. It might be considered that there would be greater competition following the closure of Billingham as competitors bid for AP's customer contracts. However, the parties have argued that a number of AP's contracts []. Therefore, [], customers are in an almost identical position whether or not this merger proceeds.

Under the counterfactual that Billingham will close, the evidence suggests that the prospects for competition for methylamines, DMF and choline chloride would not be materially affected if the merger proceeds since in all three cases AP will cease to compete and customers will be able to switch to other suppliers within a short time period.

ALKYLALKANOLAMINES (AAAs)

Relevant market

Product market

AAAs are a class of chemicals which consist of alkyl components, such as methyl, ethyl or propyl groups; alkanol components, such as ethanol or propanol groups; and an amine component. Three common AAAs can be produced by reacting methylamines with ethylene oxide (EO): monomethylethanolamine (MMEA) and methyldiethanolamine

(MDEA), which is produced by reacting MMA with EO; and dimethylaminoethanol (DMAE), which is produced when DMA reacts with EO. The parties submit that in terms of production volumes, MDEA and DMAE are by far the most commercially important AAAs. Key applications for each of the three AAAs are:

- MMEA – speciality coatings and as a brightening agent
- DMAE – as a flocculant (water treatment product used for removing solids at sewage treatment plants)
- MDEA – fabric softener and for gas treatment.

On the demand side there does not appear to be any substitution among AAAs. The parties submitted that supply side substitution exists between different AAAs. In particular, the production technology used for all AAAs is the same and almost all producers of AAAs produce all three. The parties consider that producers can switch between AAAs in one and the same reactor and that this is easy, inexpensive and quick (with, at most, two or three days down time). []. Low correlation between margin information provided for each of the derivatives, however, did not appear to support the view that the products are supply side substitutes.

Overall, the evidence is mixed regarding the supply side substitutability of AAAs. It is worth noting that any competition concerns raised are very similar, regardless of whether the appropriate product frame of reference is considered to be the separate derivatives – MDEA, MMEA and DMAE – or all AAAs together. Therefore, for the purposes of examining the merger, a broader view of the market has been taken and the appropriate product frame of reference used is the supply and production of AAAs.

Geographic market

The parties submitted that the geographic market for AAAs is worldwide. This view was generally supported by competitors. However, comments from customers suggested that competition is no wider than Europe. While there is some evidence of imports into Europe, it is unclear whether they are sufficiently significant to warrant the widening of the geographic frame of reference. Therefore, a narrow view of the market has been taken and the appropriate frame of reference is considered to be the production and supply of AAAs in Europe. The potential for imports into Europe, and the constraints they may have on the merged entity, are examined further below.

Shares of supply

The parties will represent [60 -70] per cent of the total supply of AAAs in the EEA³. The merger represents a reduction in the number of European competitors from three to two, with approximately [85-95] per cent of total AAA sales in the EEA being accounted for by the two remaining players. In the UK, the parties would account for [80-90] per cent (increment [20-30] per cent) of all AAA's. The parties' and competitors' shares of supply for AAAs and MMEA, MDEA and DMAE individually in the EEA are set out in the table below.

³ In the absence of more accurate information, EEA shares of supply have been used a proxy to estimate European shares of supply.

Shares of supply for AAAs within the EEA, 2003 by volume (weight)

Producers	AAA	MMEA	MDEA	DMAE
Taminco	[20-30]%	[5-15]%	[20-30]%	[20-30]%
Air Products	[35-45]%	[55-65]%	[35-45]%	[35-45]%
Combined	[60-70]%	[65-75]%	[55-65]%	[60-70]%
BASF	[]%	[]%	[]%	[]%
Dow	[]%		[]%	[]%
Ineos	[]%		[]%	[]%
Huntsman	[]%		[]%	[]%
TOTAL (kt)	[45-50]	[less than 5]	[10-15]	[30-35]

Note: shares of supply may not add to 100 per cent due to rounding

Counterfactual

Some DMAE is produced by AP at Billingham, but the majority of AAAs are produced at [the toll plant] under the [toll] Agreement. While there is significant evidence to support the closure of Billingham in any event (as discussed above), the future of the [toll] Agreement is more uncertain. Following the closure of Billingham, DMAE production at this plant will cease and [some] DMAE capacity will exit the market. However, the [toll] facility currently accounts for the majority of AP's DMAE production (as well as all other AAA production) and, in light of recent capacity expansion at [the toll plant], [] of AP's DMAE sales could be supplied by [the toll plant]. Therefore, concerns with respect to the future of the [toll] Agreement relate to all AAAs, regardless of the closure of Billingham.

AP acquired the EM&D Business from ICI in 1998. At the time of the acquisition, AP entered into the [toll] Agreement with [] under which [] agreed to manufacture AAAs at [the toll plant] for AP using technology and key raw materials (e.g. methylamines and EO) supplied by AP - either sourced from Billingham or from product swaps.

The parties argue that the appropriate counterfactual in relation to the supply of AAAs is the termination of the [toll] Agreement and closure of the [toll] facilities. As discussed above, when considering the appropriate counterfactual to the proposed merger situation, sufficient compelling evidence is needed to support the belief that the postulated counterfactual is indeed going to occur. In this instance, one other potential counterfactual (in addition to the continuation of the prevailing conditions of competition and the parties contention that [the toll plant] will close) has been identified, namely the transfer of the [toll] Agreement to a third party. Each of the three possible counterfactuals is analysed below.

Continued operation of [toll] agreement by AP.

Given the [toll] Agreement is [], an incentive may exist for AP to continue to honour the agreement. The parties argue that retention of the [toll] Agreement by AP would be []. Following the closure of Billingham, AP would no longer produce its own methylamines for use at [the toll plant]. Therefore, it would have to buy them on the open market, probably from either BASF or Taminco, and at a higher price than that

paid by these integrated producers – assuming they would be prepared to supply a competitor. AP argued that this would []. The fact that [] was identified as further proof that captive supplies of methylamines are necessary []. In addition, the OFT notes that there are no non-vertically integrated companies producing AAAs in Europe, []. Lastly, AP considered AAA sales from [the toll plant] to be a [] business and therefore [].

On the basis of the evidence provided, the continued operation of the [toll] Agreement as a stand alone business [].

Transfer of the [toll] agreement to a third party

As noted earlier, AP received [] offers in respect of the [toll] Agreement. AP submitted that [] it would be better off terminating the agreement and closing the [toll] facility. [].

While the terms offered [] were certainly not as advantageous as Taminco's bid and [], it is unclear from the evidence available that termination of the [toll] agreement was a less costly option []. AP has argued that the terms proposed [] were such that AP would be better off terminating the [toll] Agreement and closing the [toll] facilities. However, no evidence was provided to substantiate this argument [] do not appear to be consistent with this assertion.

[The toll plant] ceases to operate

AP submitted that the acquisition by Taminco ensures that the [toll plant] capacity remains in the market. Without the capacity of the [toll] plant, AAA capacity in Europe would become constrained and, as a result, prices would be likely to increase. AP argued that the acquisition by Taminco is therefore beneficial for customers. However, as discussed above it is unclear whether, [], closure of the plant is necessarily the next best alternative for AP. [].

Conclusion

Overall, the continued operation of the [toll] facility by AP []. However, significant questions remain over the assertion that the closure of [the toll plant] is more economically rational than its transfer to an alternative bidder. It is considered that there is insufficient evidence available to reach the requisite level of belief that, absent the merger, the [toll] Agreement will be terminated and its facilities shutdown. Therefore, the appropriate counterfactual for analysis of the effect of the merger on the supply and production of AAA is considered to be the transfer of the [toll] Agreement to a third party.

Constraints

Existing competitors

Initially, the available information showed that Taminco had [] capacity in relation to the production of AAA ([] per cent), whilst the remaining competitors []. Third parties generally supported the view that spare capacity amongst competitors was minimal. More recently, however, revised figures from the parties show that Taminco has [] capacity [], whilst competitors have [] capacity.

There are a number of difficulties with this second dataset which prevent the OFT relying upon it. First, it is inconsistent with third party estimates. Second, the parties' estimates of competitor capacity are based on publicly available information in relation to nameplate capacity⁴. This measure takes no account of any planned or unplanned stoppages during the course of the year (such as downtime for switching between production of different chemicals and maintenance) and therefore is likely to understate the utilisation of competitors' plants. Third, since different measures have been used in relation to Taminco's capacity and that of its competitors, it is not possible to be sufficiently certain that any meaningful comparison can be made. More generally, difficulties in identifying clear and consistent capacity data affect the weight that can be placed on this evidence.

In view of the inconclusive and contradictory evidence on the spare capacity of Taminco and its competitors in relation to the production of AAAs, the OFT has not been able to rule out the possibility that Taminco may be the only AAA producer in Europe with material spare capacity.

If that were so, the remaining competitors would be unlikely to provide any real constraint on Taminco's pricing behaviour post-merger. On the other hand, if the merger did not go ahead and the [toll] Agreement were to be acquired instead by one of Taminco's rivals, there could be at least two competitors in the sector holding spare capacity. While such a purchaser [] could give rise to comparably high levels of concentration, competition would be expected to arise from the existence of two competitors with spare capacity. An acquisition in such circumstances may represent a less anti-competitive outcome than an acquisition by Taminco.

On the basis of the available evidence, the OFT has been unable to rule out the possibility that a sale of the [toll] Agreement to an alternative purchaser is a feasible option and that such a purchaser would be able to provide greater rivalry than if the sale to Taminco proceeded. On this basis, it is considered that it may be the case that the merger may be expected to result in a substantial lessening of competition in the supply and production of AAAs in the absence of any sufficient competitive constraint arising from entry and expansion, imports and/or buyer power.

Entry and expansion

Estimates of the capital cost of capacity expansion vary immensely. The parties contend that it would take a producer around [] months to double its AAA capacity from 15kt to 30kt per annum and would cost a maximum of [] million Euros investment. One third party considered that such an expansion would involve much higher costs, estimating that a similar expansion of DMAE production would take 2-6 months and would cost between 5 and 10 million Euros. In particular, they were uncertain whether a 5-10 per cent price rise would prompt such an investment.

Evidence was provided by the parties to demonstrate that capacity expansion of around 3.6kt⁵ per annum could be achieved with reasonably minimal investment ([]) through

⁴ Nameplate capacity is calculated by multiplying the maximum daily output of a plant (in tonnes/day) by 365 days. Where a plant produces more than one chemical, capacity from the product most commonly made using the plant is used.

⁵ Based on an estimated increase in capacity of 10 tonnes per day multiplied by 365. Given that this estimate related to either DMAE or MDEA produced using a swing plant, the figure of 3.6kt

de-bottlenecking and optimisation. However, the information supplied was in relation to the expansion of the individual capacity for DMAE or MDEA produced using a swing plant. Therefore, access to this additional capacity could only be achieved during part of the year when that particular derivative was in production.⁶ [].

The ability for new entry to act as a significant constraint appears doubtful. Firstly, the cost of new entry, by its nature, would be expected to exceed the costs for capacity expansion which are estimated above. In addition, if new entry is to constrain any attempt to exploit market power, it must be likely and be of sufficient scope. Given the scale of concentration in this industry, any new entrant would need to be substantial. A new entrant would need to obtain a secure supply of methylamines (which is itself a vertically integrated and concentrated industry) and achieve volumes large enough to justify the initial investment. The parties also noted that considerable exit costs are associated with chemicals plants due to environmental liabilities and that in future these are likely to be more onerous.

In short, small increments of capacity may be achieved at a relatively low cost. However, barriers to larger scale expansion appear to be significant. This is particularly important, given that customers are generally very large and significant expansion would probably be necessary to meet the additional volumes demanded by a new contract (although this may be mitigated to some degree by dual sourcing). New entry or significant expansion would therefore appear to entail substantial risks. Consequently, the threat of new entry or expansion is not considered to be sufficiently strong to constrain the parties' behaviour post-merger.

Imports

As discussed above, the parties submitted that imports into Europe, particularly from the US, would provide a significant constraint on the parties' pricing behaviour post-merger. Based on the information supplied, it appears that substantial excess AAA production capacity exists in the US. The parties consider that US producers seeking to maximise capacity utilisation have an incentive to export to Europe (provided they can achieve a positive gross margin). On average, imports of MDEA from the US into Europe have accounted for between 5 per cent and 20 per cent of EEA sales. There appear to have been no imports of DMAE into Europe since 2001, prior to this, imports of DMAE represented less than 1 per cent of sales.

The third parties contacted did not consider importing from outside Europe to be a viable option. Importing from or exporting to the US was not considered financially feasible, given the relative proportion of costs that transport represents and the increased risk of water contaminating and ruining the product over a longer journey. In response, the parties submitted that the risk of contamination could be successfully dealt with through the use of storage facilities and the selection of proper container materials and loading/unloading procedures. One third party noted that while it was currently feasible to import due to the weaker US dollar, in the previous year, when exchange rates were substantially different, it would have not been feasible to import

over estimates the annual capacity increase as DMAE and MDEA cannot both be produced year round. Rather each can only be produced for a proportion of the year.

⁶ Additional capacity utilisation may also be lost during the downtime for cleaning the plant, which is necessary before switching to the production of another AAA.

even in the event of a 5 per cent increase in price. Moreover, a third party indicated that imports are still limited and that US suppliers are refusing to quote.

Given the above concerns, particularly regarding third parties comments on the viability of importing, the OFT considers that on the basis of the evidence presented to it, that imports would not provide a sufficient constraint on the parties' behaviour post-merger.

Buyer power

The parties submitted that customers have significant countervailing buyer power. In the case of DMAE, it is estimated that the two main customers account for well above 50 per cent of demand in Europe. The parties consider the threat of switching by customers would act as a significant competitive constraint on the merged entity's behaviour.

The presence of a small number of large customers in an industry would tend to indicate that buyer power exists. One customer noted that recent negotiations had resulted in a small decrease in price. However, in order for a customer to threaten credibly to switch, there must be an available alternative. This would not be the case if, as some evidence suggests, competitors are capacity constrained. Certainly, customers were generally concerned that the merger would limit their ability to switch, given that alternative producers were considered to be capacity constrained. Therefore, in the light of findings set above, the OFT is not satisfied that buyer power will represent a significant constraint on the parties' behaviour post merger.

VERTICAL ISSUES

No significant vertical concerns are raised as a consequence of this acquisition.

THIRD PARTY VIEWS

Competitors were generally unconcerned, while customers' views were more split on the transaction's impact on competition. Almost all the concerns raised by third parties were in relation to AAAs and the limited ability to switch suppliers following the merger. In general, it was considered that this loss of choice would result in a reduction in competition for the supply and production of AAAs.

ASSESSMENT

The relevant counterfactual for examining this merger is considered to be the closure of the Billingham plant and the transfer of the [toll] Agreement to a third party. The parties provided substantial evidence to support the belief that the decision to close the Billingham plant was irreversible and would occur regardless of whether the proposed merger with Taminco went ahead. With respect to the [toll] Agreement, based on the information provided, it was not possible to accept the parties' argument that termination of the [toll] Agreement would be a more viable option than its transfer to a third party. In light of the counterfactual, the merger is not considered to give rise to competition concerns in relation to the supply and production of methylamines, DMF and choline chloride. However, concerns do arise in relation to AAAs.

The parties' combined share of supply for AAAs is [60-70] per cent and the merger results in a reduction of the number of European players from three to two. There is some evidence that the remaining competitors are capacity constrained, which would give the merged entity the ability to increase price unilaterally post acquisition. Barriers to entry and expansion are considered to be significant due to the risks associated with such a significant investment. On the basis of the available evidence, imports are not considered to constrain the parties sufficiently, due to the costs and difficulties of transportation. In addition, while the industry is characterised by a small number of large customers, the ability of these customers to switch may be limited if there is an absence of spare capacity amongst competitors.

Consequently, the OFT believes that it may be the case that the merger may be expected to result in a substantial lessening of competition within a market or markets in the United Kingdom.

DECISION

This merger will therefore **be referred** to the Competition Commission under section 33(1) of the Act.