

**REPORT NO.267**

**INVESTIGATION INTO THE ALLEGED DUMPING OF CITRIC  
ACID ORIGINATING IN OR IMPORTED FROM THE PEOPLE'S  
REPUBLIC OF CHINA (PRC): FINAL DETERMINATION**

The International Trade Administration Commission of South Africa herewith presents its **Report No.267 : INVESTIGATION INTO THE ALLEGED DUMPING OF CITRIC ACID ORIGINATING IN OR IMPORTED FROM THE PEOPLE'S REPUBLIC OF CHINA (PRC): FINAL DETERMINATION**

  
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**CHIEF COMMISSIONER**

**PRETORIA**

20/05/2008

## 1. APPLICATION AND PROCEDURE

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- 1.1 This investigation was conducted in accordance with the International Trade Administration Act, 2002 (Act 71 of 2002) (The “ITA Act”), the World Trade Organization Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade, 1994 (the Anti-Dumping Agreement) and the International Trade Administration Commission Anti-Dumping Regulations (ADR).
- 1.2 The application was lodged by Isegen South Africa (Pty) Ltd (the Applicant), the only producer of malic acid in the SACU, and the only manufacturer of granular malic acid in the world.

The Applicant alleged that the locally produced malic acid and the imported citric acid were “like products” for purposes of comparison within the meaning of Article 2.6 of the Anti-Dumping Agreement.

- 1.3 The Applicant alleged that imports of citric acid, originating in or imported from PRC are being dumped on the SACU market, thereby causing material injury to the SACU industry. The basis of the alleged dumping was that the goods are being exported to SACU at prices less than the normal value in the country of origin.

The Applicant further alleged that as a result of the dumping of the subject product from the PRC, the SACU industry was suffering material injury in the form of:

- Price undercutting
- Price suppression
- Decrease in sales volume
- Decrease in market share
- Increase in inventories

- 1.4 The application was submitted by the Applicant on 10 November 2005. A deficiency letter was sent to the Applicant on 28 November 2005. Information submitted by the Applicant was verified on 02 February 2006. The Applicant was then requested to submit additional data, which was duly submitted on 02 May 2006 and verified on 24 May 2004. On 22 June 2006, the Commission considered the merit of the application and decided not to initiate the investigation as it concluded that the injury experienced by the Applicant was not material. The Commission's decision was conveyed to the Applicant on 28 June 2006. On 30 August 2006, the Applicant addressed the Commission on its current situation and the Commission decided that the Applicant should provide the Commission with six months additional information for the period 2003/2004 – 2005/2006. On 3 October 2006, the Applicant submitted additional information as requested by the Commission.
- 1.5 The investigation was initiated on 23 February 2007, through Notice No. 194 of Government Gazette No. 29636. The investigation period for dumping is 1 July 2005 to 31 August 2006. The injury investigation involves evaluation of data for the period 1 March 2003 to 31 August 2006.
- 1.6 The SACU industry consists of only one producer of malic acid, namely Isegen South Africa (Pty) Ltd, who submitted the information contained in this submission.
- 1.7 The following exporters responded to the Commission's exporters questionnaires:
- (a) Anhui BBKA Biochemical Co Ltd. (BBKA)
  - (b) Shangdong TTCA Biochemistry Co. Ltd (TTCA)
  - (c) RZBC



Information submitted by the exporters, BBKA, TTCA and RZBC was verified during the period 11 June 2007 to 22 June 2007. International Trade Services (ITS) represented all three exporters.

1.8 The following SACU importers were identified as interested parties:

- (a) Metmar Trading
- (b) Crest Chemicals
- (c) C J Petrow Chemicals
- (d) Protea Chemicals
- (e) Savannah Fine Chemicals

CJ Petrow Chemicals was represented by ITS.

1.9 On 31 August 2007, after considering information submitted by the interested parties and the research it conducted, the Commission made the preliminary determination that citric acid and malic acid are not like products for purposes of comparison in terms of the ADR and Article 2.6 of the WTO Anti-Dumping Agreement. The Commission's reasons for the decision were issued through Report No. 246. Comments on the preliminary determination were received on 12 October 2007 from the Applicant. Other interested parties commented that they were in agreement with the Commission's determination.

1.10 On 11 March 2008, after undertaking further research on the issue and considering comments submitted by interested parties to its preliminary report, the Commission confirmed its preliminary determination that citric acid and malic acid are not "like" products, for purposes of comparison in terms of the ADR and Article 2.6 of the WTO Anti-Dumping Agreement.

Subsequently, the Commission issued a letter of essential facts highlighting the essential elements being considered and inviting comments thereon. The Commission further informed interested parties that it is considering recommending to the Minister of Trade and

industry that the investigation into the alleged dumping of citric acid originating in or imported from the PRC be terminated.

- 1.11 The South African Federation of Soft Drink Manufacturers, ITS, as well as the Applicant submitted comments to the Commission's letter of essential facts.

## 2. PRODUCTS, TARIFF CLASSIFICATION AND DUTIES

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### 2.1 IMPORTED PRODUCTS

#### 2.1.1 Description

The subject product is described as citric acid, and is normally manufactured in two forms, namely anhydrous and monohydrate citric acid. They are both a white crystalline powder, except that anhydrous citric acid is water-free whereas monohydrate citric acid contains one water molecule for every molecule of citric acid.

#### 2.1.2 Country of origin/export

The subject product originates in and is exported from PRC.

#### 2.1.4 Possible tariff loopholes

The Applicant indicated that it is not aware of any.

#### 2.1.4 Tariff classification

The subject product is classifiable as follows:

Tariff subheading	Description	Statistical Unit	Rate of customs Duty		
			General	EU	SADC
2918.14	Citric acid	kg	10%	10%	Free

#### 2.1.5 Other applicable duties and rebates

Currently, rebate item 306.02/2918.14/01.06 is used to rebate duties on citric acid for use by the pharmaceutical industry. The extent of rebate is full duty.

### 2.1.6 Negligibility test

The following table shows the alleged dumped imports as a percentage of the total imports:

**Table 2.1.6: Negligibility test**

Imports	Import volumes 1 July 2005 to 31 August 2006	Volume as a percentage of total import volume
PRC	10 142 669	88.59%
Total	11 449 290	100%

The Commission found that imports from the PRC were above the negligibility level of 3 per cent.

## 2.2 SACU PRODUCT

### 2.2.1 Description

Malic acid (also known as “apple acid”) is a synthesized white odourless, free flowing granular, which occurs in nature in virtually all fruits and vegetables and forms an integral part of the Krebs Cycle in the human body. It has a refreshing mellow smooth enduring sourness, intensifying the impact of many flavours in foods and beverages. According to the Applicant, its malic acid is the only granular malic acid manufactured in the world and is therefore unique.

### 2.2.2 Tariff classification

The SACU product is classifiable as follows:

**Table 2.2.2: Tariff classification**

Tariff subheading	Description	Statistical Unit	Rate of customs Duty		
			General	EU	SADC
2918.19.10	Malic acid	kg	10%	10%	Free



### 2.3 LIKE PRODUCT ANALYSIS

The Commission's ADR stipulates that "the term like product means a product which is identical i.e. alike in all respects to the product under consideration, or in the absence of such a product, another product which, although not alike in all respects, has characteristics closely resembling those of the product under consideration".

The approach followed by the Commission in this investigation was to analyze each of the criteria as contained in ADR as well as to look at relevant WTO Panel reports, in particular one titled **"Indonesia: Certain Measures Affecting the Automobile Industry<sup>1</sup>"**. The Commission also considered the practices of other jurisdictions.

In determining whether a product has characteristics closely resembling those of the product under consideration, the Commission considered the following factors:

- (a) the raw materials and other inputs used in producing the products;
- (b) the production process;
- (c) physical characteristics and appearance of the product;
- (d) the end-use of the product;
- (e) the substitutability of the product with the product under investigation;
- (f) tariff classification; and/or
- (g) any other factor proven to the satisfaction of the Commission to be relevant

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<sup>1</sup> WT/DS54/R, WT/DS55/R, WT/DS59/R, WT/DS64/R

The following table compares the differences and similarities between the imported citric acid and the locally produced malic acid as provided by the Applicant and the exporters:

**Table 2.3: Like product** (Info from the Applicant and exporters)

Criteria	Imported product: CITRIC ACID	SACU product: MALIC ACID
Raw materials	Starch or sugar. Other sugar containing material such as molasses can also be used.	Maleic anhydride and water. The latter is produced in-house from butane received from the adjacent Sapref oil refinery. Steam and electricity are secondary inputs. All raw materials are sourced in the RSA
Physical and chemical characteristics	Colourless and odourless powder with a strong acidic taste. It is commonly available in either the hydrated form or the anhydrous form. Its scientific name is 2-hydroxy-1,2,3-propanetricarboxylic. $C_6H_8O_7$	It is a colorless granular powder with a sour taste. Scientific name L-Hydroxy butanedioic acid. $C_4H_6O_5$
Tariff classification	2918.14	2918.19.10
Production process	Fermentation of carbohydrates is the preferred process for citric acid production. Starches are first hydrolyzed to sugars and then fermented to citric acid using propriety strains of the <i>Aspergillus niger</i> mould. Extensive purification of the fermentation broth is then undertaken to yield CAM, which can be recrystallised and dehydrated to produce CAA.	Butane is catalytically oxidized to maleic anhydride in process reactors, with the generation of excess steam. The maleic anhydride is then hydrolysed to maleic acid, which is converted to malic acid by heating with steam under pressure. The final step entails the granulation, purification, drying, and packing of the malic acid.
Application or end use	Used as an acidulant in the food and beverage market. Non-food use includes pharmaceuticals and cosmetics, household detergents and cleaners, metal finishing and cleaning, and as a starting material for citrate plasticizers	Used as an acidulant in the food and beverages to provide the lingering tart taste. Used for masking the bitter/sweet after-taste of artificial sweeteners used in low calorie foods and drinks. It also finds industrial use in textile finishing, metal treatment and plating, and in detergent formulations. It is also used by the pharmaceutical industry.
Substitutability	Characteristics and functions of citric acid and malic acid are chemically different, therefore they are not substitutable in most applications Citric and malic acid need to supplement each other in certain applications, in these applications more citric acid is added in comparison to malic	The local product is chemically distinct from the imported citric acid but is regarded as a substitute product for citric acid in some applications.

	<p>acid.</p> <p>In some beverages industries, manufacturers exclusively use citric acid but never malic acid based on product formulation.</p> <p>Best performer and excellent additive when utilized as an acidulant in aquaculture feed.</p>	

#### **Raw Materials and production process:**

The Applicant stated that maleic anhydride is the preferred source of raw material in producing malic acid, but alleged that malic acid can also be produced from starch. It stated that citric acid can also be made by reacting malic acid and glycolic acid. Maleic anhydride is the preferred raw material because it can be produced in-house from butane.

The Commission found that information submitted by the Applicant and verified prior to the initiation of the investigation indicated that the SACU product is produced from maleic anhydride and not from starch. According to information obtained from Chem-Online.com and other various internet sites, DL-Malic acid (the grade manufactured by the Applicant), is prepared from maleic anhydride.

The Commission concluded that, globally, the most common or preferred method of manufacturing DL-Malic acid is the oxidation process, which is the method applied by the Applicant. Furthermore, switching of the raw material from butane to starch for the manufacturing of malic acid would require a change in technology and may not be economically viable for the Applicant.

#### **Physical Characteristics / chemical characteristics:**

The Applicant contended that the two products have a similar physical appearance. It stated that both products are a colourless, white powder or crystals.



In considering this matter, the Commission noted the recommendation by the WTO Panel in the Indonesian Automobile case referred to earlier, that an analysis of whether an imported product has characteristics closely resembling those of the domestic product logically must include, as an important element, the physical/chemical characteristic of the product in question.

The following table compares the chemical formulation of DL malic acid and citric acid:

	DL Malic	Citric
Molar mass	134.09 g/mol	192.13g/mol
Chemical Formula	C <sub>4</sub> H <sub>6</sub> O <sub>5</sub>	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>
Boiling point (decomposes)	150 <sup>0</sup> C	175 <sup>0</sup> C
Melting point	131-133 <sup>0</sup> C	153 <sup>0</sup> C
Solubility in water	78g/100ml (25 <sup>0</sup> C)	133g/100ml (20 <sup>0</sup> C)
Density	1.59g/cm <sup>3</sup>	1.665g/cm <sup>3</sup>
Appearance	White or colourless crystals	Crystalline white solid

Based on the above chemical formulations, the Commission concluded that the two products are chemically distinct.

The Commission noted that in an investigation conducted by the European Commission, concerning refractory chamottes from China, the EC found that processed and non-processed refractory chamottes were not like products due to characteristic critical temperature variations.

In a further investigation involving 'D'-tartaric acid and other acids, the EC concluded that 'D'- tartaric acid was different from other tartaric acids, because of the different physical and chemical characteristics, molecular structure, price and end uses.

**Tariff Classification:**

The Applicant stated that the only reason why malic acid is classified separately from other acids in South Africa is because when malic acid was first manufactured domestically, Butakem (the initial manufacturer) requested that malic acid be reflected under a separate code to enable details of malic acid imports to be easily recognized.

The Commission noted that the WTO Panel, in the Indonesian Automobile case referred to earlier, recommended that an analysis of tariff classification principles may be useful as it provides guidance as to which physical distinctions between products were considered significant by customs experts.

In the International Harmonised Commodity Description and Coding System followed by the South African customs authorities, malic acid is classifiable under tariff-subheading 2918.19 and citric acid under tariff-subheading 2918.14. The tariff codes of malic acid and citric acid are similar at the 4 digit level, because they are both carboxylic acids. However, at the 6-digit level, which is at the subheading level and the level describing and defining the distinct nature of the acid, the classification is separate and distinct.

The Commission concluded that the different classification is indicative of the fact that the customs authorities consider the products to be clearly distinguishable from each other.

**Application or end use:**

The Commission found that the application and end-use of the two products are similar, as both products find their use in the same industries, namely, the food, beverages and pharmaceutical industries. However, citric acid and malic acid impart different characteristics to the different end products manufactured by these industries.

The Commission noted that in the pharmaceutical industry, any change to the formulation will require a new application with the Medicine Control Council of



South Africa for approval, suggesting that the products may not be interchangeable within the pharmaceutical industry.

**Substitutability:**

The Applicant refuted that the two products are distinctly different. It stated that this was demonstrated to the members of the Commission with numerous samples of end products available in the market place. The Applicant alleged that one manufacturer supplying the high-end market converted from malic to citric acid because of the significant price differential between citric acid and malic acid, the former being significantly cheaper.

The Applicant refuted that citric and malic acid are not interchangeable in pharmaceuticals because they currently supply major pharmaceutical companies in Germany and Poland.

However, according to independent academics and food scientists interviewed, malic and citric acid cannot be used interchangeably in the food, beverages as well as in the pharmaceutical industries, as their chemical structures are different, and as the resultant products will be chemically different. The Commission established that the two acids can be mixed but can never directly replace each other, since their flavour profiles are different.

The Commission contacted a reputable manufacturer and leader in the beverages industry that manufactures a range of beverages, and as a result purchases both malic acid and citric acid for use in its formulations, to comment about usage of these acids. The Commission established that malic acid would not be used in a formulation to produce a pure citrus juice as it is apple-based, and that citric acid would not be used in a formulation to produce a pure apple juice, as it is citrus-based. The Commission further established that in formulations where a blended juice is produced, the manufacturer would either use citric acid or malic acid or both of them in combination, depending on the combination of fruits in the blend as well as the taste profile.

The Commission concluded that, although the two products have similar applications or end-use in that they both find their use in the food and beverages markets, they are rarely used as substitutes in those markets, indicating that the degree of substitutability is not as high as it is alleged by the Applicant.

It was found that there are quite a number of acids utilized in beverages such as fumaric, tartaric, lactic, citric and malic acid. All these acids have different flavour/ taste profiles and they have different usages within the food and beverage industry. Their usage/selection depends on the flavour that the product developers desire to achieve. As a result, in the production of certain products, the acids are even utilised as a combination and the acids therefore complement each other. The exclusive use of an acid is greatly influenced by the taste/flavour profile of the acid.

**Difference in production costs and selling prices:**

The WTO Panel in the Indonesian Automobile case recommended that an analysis of the cost of production as well as the differences in prices between different brands should be considered as part of determining resemblance. This approach was also followed by the European Commission in the case concerning refractory chamottes from China.

The Commission's research conducted indicates that the market price of malic acid in the PRC is 286% per cent higher than the price of citric acid.

The Commission also noted that the production cost of malic acid was 208% higher than the production cost of citric acid.

**Domestic Law:**

On 07 November 1980, the then Department of Agriculture and Fisheries published regulations relating to the classification, packing and marking of fruit juice and drink intended for sale in the Republic of South Africa.

**In terms of Regulation 5**, there are six classes of apple juice and drink, namely, Fresh Apple Juice, Apple Juice, Apple Nectar, Apple Squash, Apple Drink and Imitation Apple Drink. The specifications are prescribed in sub-regulations (2),(3),(4) and (5).

**Sub-Regulation (3)** prescribes that Apple juice shall consist of natural juice extracted from apples of good quality and which contains no additives other than permitted preservatives, natural apple essence, ascorbic acid, **malic acid** and carbon dioxide.

Apple nectar, apple squash, apple drink and imitation apple drink shall consist of apple juice which complies with the requirements of sub-regulation 3, but by virtue of the addition of water or permitted substances contains less than 100 per cent apple juice at standard strength in the ready-to-drink form.

**In terms of Regulation 13**, there are seven classes of citrus juice and drink, namely, Fresh Citrus Juice, Unsweetened Citrus Juice, Sweetened Citrus Juice, Citrus Nectar, Citrus Squash, Citrus Drink and Imitation Citrus Drink, of which the requirements are prescribed in sub-regulation (2),(3),(4), (5) and (6).

**Sub-Regulation (3)** prescribes that Unsweetened Citrus Juice shall consist of natural juice prepared from citrus fruit of good quality and which contains no additives other than permitted preservatives, **citric acid**, ascorbic acid, carbon dioxide and in the case of reconstituted orange juice from concentrates, natural citrus oil and natural citrus essence.

Citrus nectar, citrus squash and citrus drink shall consist of citrus juice which complies with the requirements of sub-regulation (3) or (4), but by virtue of the addition of water or permitted substances contains less than 90 per cent in the case of orange and naartjie juice, 70 per cent in the case of grapefruit and lemon juice at standard strength in the ready-to-drink form.



In terms of the Regulations, all fruit juices and drinks (including apple and citrus) may contain ascorbic acid and carbon dioxide. However, citric acid is permitted only in citrus fruit juices and drinks and malic acid is permitted only in apple juices and drinks.

The South African Association of the Flavour and Fragrance Industry recommends that citric acid be used when flavourings are of the Berry type, i.e. apricot, peach and plums or when flavourings are of tropical fruits, especially Granadilla and Kiwi. The reason for the recommendation is that all these fruits contain citric acid in their natural state.

In its comments to the Commission's letter of essential facts the Applicant reiterated that citric acid and malic acid are like products. It based its arguments inter alia on the BTT Report No. 4165 and Commission's Report No. 91, where the Commission, after considering the interchangeability of citric acid and malic acid, concluded that the application for a reduction of duty be rejected owing to the fact that a suitable substitute product is manufactured in SACU, i.e. malic acid was a suitable substitute for citric acid.

The Commission noted that the reports referred to by the Applicant were for tariff investigations and not trade remedies, and that the decision that malic acid was a suitable substitute for citric acid was based on the required standard of determining likeness in a tariff investigation. The Commission also noted that the tests for determining likeness vary depending on the trade policy instrument being considered by the Commission, and that in a tariff investigation, the fact that a particular product is a suitable substitute to the product under consideration is sufficient to warrant a determination of likeness. However, when dealing with instruments of unfair trade practices i.e. Anti-dumping and countervailing duty protection, the standard is higher.

The Applicant stated that the regulations published by the Department of Agriculture and Fisheries apply to 100% citrus juices only and according to an industry expert whom the Applicant consulted, this constitutes less than 2% of the South African market.

The Commission noted that the regulations published by the Department of Agriculture and Fisheries stipulate that Apple nectar, apple squash, apple drink and imitation apple drink shall consist of apple juice which complies with the requirements of sub-regulation 3, but by virtue of the addition of water or permitted substances contains less than 100 per cent apple juice at standard strength in the ready-to-drink form.

The Commission also noted that the regulations provide that Citrus nectar, citrus squash and citrus drink shall consist of citrus juice which complies with the requirements of sub-regulation (3) or (4), but by virtue of the addition of water or permitted substances contains less than 90 per cent in the case of orange and naartjie juice, 70 per cent in the case of grapefruit and lemon juice at standard strength in the ready-to-drink form.

The Commission therefore found that the regulations do not only apply to 100 per cent citrus or apple juices, but they also apply to all citrus and apple juices that are diluted with water or other permitted substances.

The Commission therefore concluded that there are strict legal requirements for the use of food acids in formulations, in terms of the Department of Agriculture and Fisheries Regulation No.R286. Consequently, it would be unlawful for manufacturers to substitute malic acid with citric acid in apple juice or drinks or to substitute citric acid with malic acid when producing a citrus juice or drink. This supported the statement by the academics interviewed that, substituting malic acid by citric acid or vice-versa would result in products that are different as far as their chemical structure is concerned.

**Conclusion:**

Based on all of the above, the Commission made a final determination that citric acid and malic acid are not “like” products, for purposes of comparison in terms of the ADR and Article 2.6 of the WTO Anti-Dumping Agreement.



### **3. INDUSTRY STANDING, DUMPING, MATERIAL INJURY AND CAUSAL LINK**

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Since the Commission made a final determination that citric acid and malic acid are not “like” products, for purposes of comparison in terms of ADR and Article 2.6 of the WTO Anti-Dumping Agreement, it did not consider the matters of industry standing, dumping, material injury and causal link.

#### 4. FINAL DETERMINATION

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The Commission made a final determination that:

- The imported product and the SACU product are not “like” products for purposes of comparison, in terms of article 2.6 of the Anti-Dumping Agreement.

The Commission, therefore, decided to recommend to the Minister of Trade and Industry that the investigation into the alleged dumping of citric acid originating in or imported from the PRC be terminated.