

**M e m o r a n d u m****440.0866**

To: Downey – Auditing (SRK)

Date: September 6, 1977

From: Headquarters – Staff Counsel (JEM)

Subject: Classification of Ammonia, Sulfuric Acid and Caustic Soda Used in Manufacturing Cracking Catalysts for the Petroleum Industry.

Your memo of August 23, 1977, to Headquarters – Principal Auditor, has been referred to this office.

The documents you sent with your memo contain the following assertions: Ammonia, sulfuric acid and caustic soda are used in the manufacture of cracking catalysts. About 2 percent of the ammonia and sulfuric acid remain in the finished catalyst as ammonium ion and sulfate, and their presence is necessary for the catalyst to be effective in cracking petroleum. The other 98 percent of these chemicals is washed out or dumped during the manufacturing process. Such large excess quantities of the ammonia solution are apparently necessary in the manufacturing process because the reaction which produces ammonium ion proceeds slowly.

With respect to the caustic soda (i.e., sodium hydroxide), Document “C” alleges that some soda remains in the finished catalyst. Document “D”, however, indicates that there is no sodium in the finished catalyst.

Tax applies to the sale of tangible personal property to persons who purchase it for use as an aid in manufacturing tangible personal property, but does not apply if the property is purchased for the purpose of incorporating it into the manufactured product. (Regulation 1525). Chemicals purchased primarily for use as manufacturing aids are taxable, even if trace amounts of the chemical will remain in the finished product. (See Annotation 440.0740 (10/10/60).) On the other hand, chemicals purchased primarily for incorporation into the finished product are not taxable, even if a portion of the chemical may be dissipated in the manufacturing process. (See Annotation 440.2380 (9/16/65).)

The documents you submitted do not explicitly state the purpose for which the chemicals in question are purchased. It appears, however, that the ammonia and sulfuric acid are purchased primarily for incorporation into the finished catalyst. Although only small percentages of those chemicals are in fact so incorporated, this is apparently a necessary consequence of the manufacturing process. Under these circumstances, the ammonia and sulphuric acid may be considered nontaxable.

With respect to the caustic soda, our research indicates that sodium detracts from the stability and activity of cracking catalysts and is usually removed during the manufacturing process. (P. Emmett, Catalysis, Vol. 7, p. 51 (1966).) It appears, therefore, that the caustic soda is purchased primarily for use as a manufacturing aid, and is not intended to be incorporated in the finished catalyst. Unless the taxpayer can establish the contrary, the caustic soda should accordingly be treated as taxable.

JEM:jw