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## **Purple Pain Advisory**

The Racing Medication and Testing Consortium (RMTC) was provided information regarding a substance called Purple Pain which may be used on race horses.

The product is being marketed by a number of compounding pharmacies. The marketing materials reviewed claim that Purple Pain is a powerful pain reliever in horses. The claim is based upon the allegation that Purple Pain contains the same amino acids as those present in dermorphin but because they are not linked together, the substance will not be detected by testing methods.

Purple Pain has not been approved by any state or federal agency and there are no ingredients listed on the bottle. Accordingly, different compounds could contain different substances and the contents from any single compounder could change at any time.

The University of California Davis Kenneth L. Maddy Laboratory obtained a sample of Purple Pain from one of these compounding pharmacies for investigation in conjunction with their work with the California Horse Racing Board. The sample analysis confirmed that the substance contained a variety of amino acids. The analysis also confirmed that, as claimed by the pharmacies, the amino acids were not linked. No pharmacologically active pain relieving materials could be isolated from the samples that were analyzed by the laboratory.

Furthermore, the Purple Pain obtained by UC Davis was deemed to be an impure substance; therefore, the product was not administered to horses during the investigation. Other sources of "Purple Pain" were not tested at UC Davis.

Simply put, there is nothing to show that this substance actually produces pain relief in horses. This is because its structure is crucial to its pharmacologic activity. Dermorphin is a small peptide, all small peptides and proteins are made from amino acids which are linked together in a specific order. This must then be formed into a unique 3D structure to be pharmacologically active. Absent the linking of the amino acids in the heptapeptide structure, the amino acids themselves do not alleviate pain.

As observed by one regulatory veterinarian – it is similar to comparing a bucket of hops and grains to a bucket of beer – absent the process of brewing the effects of each are not the same.

However, the administration of this – or any substance other than specifically permitted medications – on race day should be considered a serious violation of the ARCI rules. Failure to succeed when trying to cheat is not a mitigating circumstance.

Purple Pain is not classified by the ARCI and would therefore be considered a Class 1 drug with a Category A penalty under ARCI model rules.