

April 9, 2020

Replacement of Primex Brand Hydrogenated Vegetable Shortening

In June of 2018 the FDA banned the use of trans fats in human foods. Due to the ban, Envigo was no longer able to source Primex brand hydrogenated vegetable oil (HVO) containing trans fats. Beginning on April 11th of 2018, Primex was replaced with an USP grade HVO made to a food-grade standard that has a similar texture and fatty acid profile (see table). Manufacturing tests revealed no appreciable differences in physical qualities of finished diets. Although diet numbers did not change, you may have noticed an updated diet title and ingredient description on the diet datasheet.



Depending on your research goals and desire for relevance to human diets, you may wish to use a source of HVO without trans fats such as Crisco. Crisco is a proprietary HVO with minimal trans fats (see table). Envigo also offers several popular obesity inducing diets with alternate fat sources like lard or milkfat that may be suitable for your research. Contact a nutritionist to discuss alternate options.

Comparison of the fatty acid profile of Primex, Envigo Teklad's Replacement HVO and Crisco.

Fatty Acids, %	Primex HVO ¹	Replacement HVO ²	Crisco ³
Trans fatty acids	23.9 - 36.1	26 - 35.6	0.6
Saturated fatty acids	25.3 - 27.1	22.6 - 29.3	25.8
Monounsaturated fatty acids	25.3 - 33.3	24.8 - 32.6	18.7
Polyunsaturated fatty acids	5.6 - 9.0	7.1 - 9.4	49.5
16:0 palmitic acid	14.0 - 17.4	11.0 - 14.8	16.9
18:0 stearic acid	9.1 - 11.5	10.7 - 14.2	9.6
18:1 n9T elaidic acid	22.2 - 34.7	24.4 - 32.6	0
18:1 n9C oleic acid	16.6 - 26.5	17.2 - 25.7	18.1
18:1 n7C vaccenic acid	2.2 - 2.4	2.0 - 2.2	1.2
18:1 other cis isomers	6.3 - 7.8	6.1 - 6.7	0
18:2 n6 linoleic acid	5.8 - 9.1	7.0 - 9.2	44.8
18:2 other trans isomers	3.2 - 4.0	3.5 - 5.0	0.5
18:3 n3 linolenic acid	0.3 - 0.5	0.1 - 0.3	6.1
19:0 nonadecanoic acid	0.6 - 0.7	0.4 - 0.7	0
20:0 arachidic acid	0.3 - 0.4	0.4	0.4

¹Range for Primex HVO represents the average \pm 1 standard deviation (soybean and cottonseed or palm oil; n = 4).

²Replacement Hydrogenated Vegetable Oil is USP grade partially hydrogenated vegetable oil (soybean and cottonseed). Range represents the average \pm 1 standard deviation (n= 5).

³Crisco fatty acid profile determined in 2016 (n = 1).

Contact our nutritionists at askanutritionist@envigo.com with any additional questions or for a diet consultation. Thank you for your continued support of Envigo Teklad Diets.