GUIDELINE RECIPE

TOMATO KETCHUP – STARCH OPTIONS

With Clean Label or Modified Starches

- **Both functional clean label and modified starches have been used in liquid applications with the choice based on texture, functionality, labelling and cost requirements of the finished product.**
- **Empure® is the Emsland range of functional clean label starches.**
- **Emflo® 991, Emden® KVH 1840, AXA 310, AXA 306 are examples of modified starches which achieve different texture and structure.**

Starches are the ubiquitous thickener for many applications giving good texture and structure to liquid sauces, condiments, soups etc. Their universal appeal and range of raw material bases and starch types allows for a wide range of cost-effective thickeners to be available to developers and manufacturers. Here we have demonstrated two potato starches, Empure® KS 100 and Emflo® 991 in a tomato Ketchup style condiment. Both achieve the same result in taste and texture, differentiated only by labelling status and cost.

Recipe	Clean Label Starch	Modified Starch
Ingredients / Raw Materials	%	%
Water	55.83	55.83
Tomato Puree	24.00	24.00
Spirit Vinegar 12%	7.50	7.50
White Sugar	7.50	7.50
Empure® KS 100	3.00	
e.g. Emflo® 991 or AXA 310		3.00
*Saltwell***	1.50	1.50
Dried Onion	0.15	0.15
*4309 X-Tra Guard™ GF***	0.50	0.50
Ground Nutmeg	0.02	0.02
TOTAL	100.00	100.00

Processing Steps:

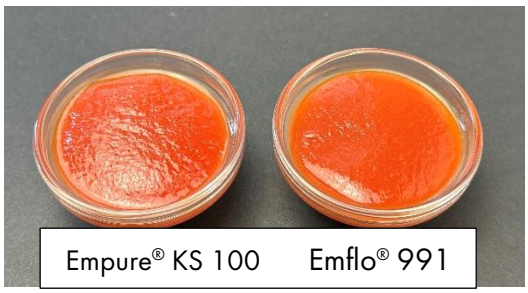
1. Add all materials into heating vessel
2. Heat until 85°C whilst stirring
3. Hold for 2 minutes
4. Decant into container
5. Cool to room temperature

Benefits and Characteristics:

The choice of starch is affected by the on texture, functionality, labelling and cost requirements.

Different raw materials and modifications can affect the texture, flavour and viscosity of the end products.

Application Photo:



Email: info@healy-group.com

This recipe is for development use only. Due to difference in materials and processing, we recommend testing in your own setting following consultation with our team.

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HEALY GROUP

Indicative Ingredient Declaration:

Ingredient Declaration – Clean Label Starch:

Water, Tomato Puree, Spirit Vinegar, Sugar, Potato Starch, Salt, Rowan Berry Extract, Dried Onion, Ground Nutmeg

Ingredient Declaration – Modified Starch:

Water, Tomato Puree, Spirit Vinegar, Sugar, Modified Starch, Sea Salt or Salt, Rowan Berry Extract, Dried Onion, Ground Nutmeg

Nutrition:

Nutritional Data: /100g (Calculated)	Clean Label Starch	Modified Starch
Energy kJ	258	258
Energy k Cal	61	61
Fat	0.1	0.1
Of which saturates	0.0	0.0
Carbohydrates	13.8	13.8
Of which Sugar	10.7	10.7
Fibre	1.2	1.2
Protein	1.1	1.1
Sodium	0.405	0.405
Equivalent as Salt	1.038	1.038
UK HFSS Score	*5*	*5*



Notes:

Healy Group offer a wide range of functional starches thus please contact us so that we can explain in more detail the range and help advise you which would be most suitable for your application / development.

** Also from The Healy Group:*
Saltwell® – naturally reduced sodium sea salt – Salt or Sea Salt
X-Tra Guard™ – natural shelf-life extender – Rowan Berry Extract
Enquire with our team for more details.

***X-Tra Guard™ is an extract of rowan berries that is naturally high in organic acids. As a result, care should be taken when determining the right level in the recipe by fully assessing the dosage. The levels in this recipe are a suggested starting point (recommended dosage from 2500 ppm to 5000 ppm on total recipe) for initial guidance only and manufacturers should satisfy themselves in their own developments to achieve the desired effects.*

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