

If you test changes to this ketosoylent and they seem to work, please email them to yudkowsky@gmail.com with 'ketosoylent' included somewhere in the Subject line, or comment on this doc if you have permissions. (Currently anyone should be able to comment.)

PURPOSE:

This is a liquid, synthetic-nutrient diet. Its primary feature is that it is low-carb and gets most of its calories from medium-chain triglyceride oil (MCT), a special form of fat which bypasses usual digestive mechanisms and is transformed directly into ketones, a form of metabolic energy which the brain can use in place of 75% of usual glucose consumed. This is meant to ensure that you have actual metabolic energy available to you while on this diet, even if your malfunctioning fat cells would ordinarily Hoover up any glucose or free fatty acids that made it into your bloodstream.

So far as I know, fat cells are ultimately free to not burn fat regardless of what you try to get them to do. At least in principle, it should be possible to starve to death while your fat cells go on refusing to release fat, if the wrong metabolic failures occurred. I don't understand fat cell metabolism well enough to know if this has ever actually been the case, but no fact known to me rules it out. So I do not hope that this diet will operate as a true "silver sledgehammer" which *reliably* produces fat loss in the metabolically disprivileged. Only interventions that directly kill or remove fat cells can be expected to do that. The reasonable upper bound of good outcomes is that this diet will produce fat loss in *many* people who simply could not lose fat otherwise (at least not without tremendous debilitation that would make it impossible for them to continue earning an income). For me, it did that for around 25 pounds of weight loss and then stopped working; I am currently trying to restart it. It is also generally true that ketosis is a different standard setting on a human metabolism, and that if you're having trouble with your metabolism, switching to ketosis is an obvious thing to try just in case the new settings work better.

The diet's physical form is as 32oz of liquid, consumed as 8 or so doses of 4oz each, plus some pills for nutrients I couldn't easily get in liquid or powdered form, plus 20-40g of auxiliary protein (as a purified protein shake, low-fat cheese, or white chicken meat). Micronutrient doses are taken from the Jaminets' [Perfect Health Diet](#), the only non-horrible source I could find for, e.g., how much magnesium to take daily, without just using the utterly horrible FDA recommendations.

This set of instructions contains complete online ordering information for literally everything needed to make this diet work, including some unusually small measuring spoons and the BPA-free 32-oz sports bottles. Heavy use is made of Amazon Prime and its free shipping, but despite my having made a small test Amazon affiliate account, I have linked to the best price I

can find for bulk ingredients, regardless of whether that is at Amazon or elsewhere. Please feel free to comment with cheaper prices, especially for items ordered in combination.

In official documents, this substance should always be referred to as "Yudkowsky's Mildly Surprising Super Ketonic Dietary Replacement Fluid: Your Alternative To Healthy Eating."

WARNING 1: The primary bad side effect of this diet which must be managed is *stomach upset* and *diarrhea*. This appears to be related to the medium-chain triglyceride oil (MCT) which is its primary calorie source, since this is also a standard warning for MCT-based diets for epileptic children. I have not yet found a good explanation for exactly why this happens, and my current attempt at managing it is to not drink a whole lot of ketosoylent at once. Drinking a large amount of ketosoylent may result in a *sudden* need to use the bathroom several hours later. On a given day where you can predict in advance that it is important that this not happen, you can take one tablet of [Loperamide](#), but I have not yet found info about whether Loperamide would be safe to take on a daily basis. I currently get much less diarrhea than I used to, which is either because I added (monounsaturated) long-chain fats in the form of macadamia oil to slow down bowel progress, or because my stomach finally got used to ketosoylent at around the time I started adding macadamia oil.

WARNING 2: This version of Soy lent has been tested on ONE PERSON for FIVE MONTHS. Use at your OWN RISK for side effects and missing micronutrients. I tried to include more micronutrients in correct quantities than existing Soy lent recipes, e.g. choline. Nonetheless, if you find yourself craving salad it might be a good idea to eat some salad. I did.

WARNING 3: Considering the above, it is more than usually important that you consult with a competent physician while on this diet and get a metabolic panel done after the first month.

WARNING 4: Most credible dietary experts say "Don't try to eat purified-nutrient diets! Get your calories from healthful whole foods!" I tried this several times in earlier years and then gave up. Nonetheless, it's pretty plausible *a priori* that this Soy lent will end up being bad for you. One possible marketing slogan would be "Super Ketonic Dietary Replacement Fluid: Your Alternative to Healthy Eating".

WARNING 5: There are several reasons why *almost any* diet may appear to work at first. These most notably include (a) [Seth Roberts's flavor-calorie association / set-point theory](#), and (b) the "honeymoon effect" in very-low-carb diets wherein the first 5-15lbs lost actually represent depletion of glycogen and its associated water. Not only is this diet not guaranteed to work, it is not guaranteed to be resulting in long-term fat loss even if you see the scale number dropping for the first couple of months.

WARNING 6: Undergoing any diet, but especially a low-carb diet, without taking in 100g/day of protein, will cause significant muscle loss as your body's protein stores are converted to glucose or as protein is lost without replacement. If you find yourself eating significantly less than the full daily dose of ketosoylent due to appetite loss, supplement more protein to make up for that.

WARNING 7: The ketosoylent recipe includes the Jaminets' suggested induction protocol for gradually increasing *selenium* and *iodine*, two micronutrients strongly related to thyroid and immune function. If you have the most common form of hypothyroidism, Hashimoto's, then adding more iodine may make it worse. If you have hyperthyroidism or an autoimmune disorder then adding more iodine may make it worse. In neither of these cases should you be using the recipe's specified amount of iodine or selenium - this protocol is not suitable for you. If you are *overweight* and have *never been tested for hypothyroidism*, get a TSH and free-T4 / free-T3 check because that is a very common problem.

WARNING 8: At one point, after having been back on ketosoylent for a week, I tried halving the MCT oil in the ketosoylent and being strict about eating nothing else, and then noticed my heart was palpitating (PVCs, premature ventricular contractions). It didn't go away when I stopped eating the ketosoylent and switched back to a normal diet, and I suspect that the relationship here was not causal to the ketosoylent. A nutritional panel showed no obvious electrolyte imbalances. Nonetheless, if this happens to anyone else we should all consider ourselves warned---I still have the PVCs after a month off the ketosoylent, which is both news about a probable lack of causality and also news about possible severity of damage if the relationship was causal.

WARNING 9: I lost a total of 25 pounds on the ketosoylent, but weight loss slowed, possibly to a halt, after around 5 months. I then went off the ketosoylent, and after a while, the pounds began to return. It is entirely possible that all experienced weight loss was a mixture of the low-carb honeymoon effect, and the flavor-calorie association effect. I will probably go back on ketosoylent soon, and we will see if it is possible for me to lose at least the weight I regained, or if weight loss from ketosoylent is a one-time boon only *a la* flavor-calorie association.

PRIORITY INGREDIENTS:

The ingredients which will probably take the longest to be delivered are these, which you should thus order immediately rather than procrastinating on:

- "[Tricalcium phosphate](#)" (actually hydroxyapatite, as confirmed by an email request for the factsheet) from [MySpicer.com](#). I suggest the 16oz small bottle.
- [Choline chloride](#). I ordered 2 bottles to save on shipping. Try discount code V502CV39 or check RetailMeNot.

Somewhat faster:

- [Hi-Maize resistant starch](#)
- [Gum arabic](#)

You may also want to swiftly order [32 fl. oz. MCT oil](#) from AllStarHealth.com. I recommend ordering at least 2 bottles to take advantage of their \$5.95 flat-rate shipping. AllStarHealth.com is located in California and I have found their orders to arrive in Berkeley 1-2 days after ordering (so really fast).

Immediately ordering the MCT will allow you to immediately begin acclimating to MCT by adding it to existing protein powder, to coffee, or by taking direct doses of it. Acclimating to MCT is the rate-limiting factor of this diet's induction, so it's best to get started early.

INDUCTION:

It is widely suggested online that MCT oil be introduced in gradual doses to minimize stomach upset. (Which in turn suggests that some needed enzyme is being upregulated, but unfortunately I don't know what enzyme, and I haven't yet experimented with supplemental digestive enzymes to see if that results in faster MCT tolerance. If you want to experiment with supplemental enzymes, maybe try [these](#).) As a result, induction for this diet is primarily based on gradually increasing MCT intake.

Suggested induction protocol 1: Make full 28oz doses of Soylent at a time, but consume:

3oz day 1 (two mouthfuls, obviously stop in the event of an allergic reaction or something going hugely wrong)

6oz day 2 (two mouthfuls, x2 occasions at least an hour apart)

6oz day 3

9oz day 4 (two mouthfuls, x3 occasions at least an hour apart)

9oz day 5

9oz day 6

12oz day 7-9

15oz day 10-11

18oz day 12-13

21oz day 14-15

24oz day 16-17

28oz day 18+

This protocol has never been tested yet, so I'm just guessing. My own induction was via taking slowly increasing doses of MCT with otherwise plain protein powder, which was itself slowly elaborated into a dietary replacement over time.

Suggested induction protocol 2: Seth Roberts's set-point diet, aka the [Shangri-La Diet](#), hypothesizes that eating a large number of *flavorless* calories should result in significant weight loss. This worked for 22lb/10kg of weight loss for me when I tried it several years ago, but then it stopped working and Seth Roberts himself couldn't get it working for me again. Trying to Shangri-La the MCT oil is an obvious hack to try if you're trying to adapt to MCT oil anyway. The primary obstacle might be if taking 1/4cup of MCT oil, pure, in a single dose, produces huge amounts of stomach upset regardless of attempts at acclimation.

To take calories as Shangri-La calories, they should be flavorless or nearly so, and should be consumed with a 1-hour window of exclusion, in either direction, of flavors or strong food smells. A good time to take calories as Shangri-La calories is in the morning right after waking, or in the evening just before bedtime. Start with 1tsp MCT and work your way up to the most you can take without causing stomach upset. If this produces significant weight loss all on its own, you might as well continue with that weight loss until it plateaus before jumping to the ketosoylent.

I doubt that anyone could take 1/4 cup of MCT oil in a single dose without exploding, and the daily level of MCT on the ketosoylent is 1/2 cup. But a lot of people have reported significant Shangri-La effects from 2tbsp of oil, and 2tbsp of MCT is not out of the question.

CHEATING:

It is sometimes alleged that small amounts of gluten can cause intestinal trouble once you've adjusted to a gluten-free diet; also, that when your liver has enough glycogen (made from carbs), your body tends to stop burning fat. If your liver is not depleted of glycogen then your body is also very likely to try to store any incoming fat in fat cells, which means it won't be available to your metabolism as energy. So, if you cheat, try to cheat gluten-free and low-carb. Try to avoid eating more than 50g of extra carbs when cheating. If you cheat with more than 30g of carbs then do not cheat with either carbs or fat the next day. If you feel you need a large number of calories, try to take them in as mostly fat on a day when you haven't had extra carbs on the previous day.

For maximum velocity of weight loss, cheat rarely.

That said, eating a salad full of leafy greens from Trader Joe's now and then might be a good idea. Likewise having salmon now and then, or a slice of cow liver, etc. Roughly, nutrient-dense whole foods eaten by paleo-dieters are *probably* the best ways to cheat. Even so, too much cheating is likely to get in the way of the underlying diet.

SHELF LIFE:

Ketosoylent is still apparently drinkable after 3-4 days. I have not experimented with refrigerating it longer than that, nor with freezing it - I don't know how to test for micronutrient destruction so I haven't run many risks. I (or my assistant Brienne) usually make large batches (5-7 days) of powder, each dose of powder in a separate bottle, which does not need to be refrigerated. We then add the final liquids to 2 bottles of ketosoylent at a time, making 2 days' dosage.

RECIPE:

(A fuller discussion of some interesting ingredients appears further below.)

- Tools:
 - 6x [32oz Spider Bottle](#) (optional +1 if you want to be able to use some while others are in the dishwasher) (optionally, consider getting different colors for odd and even days, plus Sundays)
 - 1x [Mini Measuring spoons](#) (optional +1 as above)
 - If you don't already have them: 3x [plain measuring spoons](#) (optional +2) and 1x [measuring cups](#) (optional +1). You might find these at a lower price in a Dollar Store.
 - If you don't already have a filtered water source, the [Clear2O CWS100AW](#) seems well-designed, uses a superior block carbon filter, and was highly recommended by Consumer Reports.
- Powders:
 - 2 & 1/2 scoops [whey protein](#)
 - 2 tbsp [Hi-Maize resistant starch](#) OR
 - 1 tbsp [cellulose](#)
 - 1/2 tsp [gum arabic](#)
 - 3/4 tsp [tricalcium phosphate](#) (hydroxyapatite)
 - 1/2 tsp [taurine](#)
 - 1/2 tsp [Vitamin C](#) (ascorbic acid, buffered as sodium ascorbate)
 - 1/2 tsp [ALCAR](#)
 - 1/2 tsp [vanilla powder](#)
 - 1/4 tsp [MSM](#)

- 1/4 tsp [sunflower lecithin](#) (suggest using separate spoon)
- 1 dash (1/12 tsp) [CoQ10](#) (try to have this not clump)
- 2 tsp [potassium citrate](#), this [source](#) may be cheaper
- 1 Drop (1/60th tsp) [sucralose powder](#) (be precise, this is powerful stuff)
- 3 packages [orange flavoring](#)
- every *even-numbered* day:
 - 1 capsule [se-methyl l-selenocysteine](#) (for selenium) (open capsule and sprinkle powder)
 - [Zinc](#)
- Sundays:
 - [Biotin](#)
 - [Pantothen](#)
- Shake powders before adding any liquid. Make sure cap is screwed on fairly tightly, check spout is closed completely. Then add water (water + powder = first ridge of bottle or a bit below, like 22 oz level). Shake again (water + powder will combine to less volume, leaving room for MCT, no need to add more water at this step)
- Add liquid ingredients. Note that many of these should be kept in the dark and not exposed to direct sunlight.
 - 1/2 tbsp [choline chloride](#)
 - [Potassium iodide](#). Start with 3 drops / day. After the first month, increase to 6 drops / day. After the the second month, increase to 9 drops / day. Continue up to 15 drops / day.
 - This gives your body time to absorb the selenium, which is important for using the iodine, before ramping up the iodine.
 - A swollen neck or neck pain around the thyroid area, or (I think) an apparent flare-up of allergies, means STOP and consult a physician for a thyroid function test. You should probably get one of those anyway after ramping up the iodine.
 - 5 drops [Biosil ch-osa](#) (silicon)
 - Not sure how important this still is - I was originally adding it back when I was trying to add [Type 1 and 3 collagen powder](#), which isn't in the current recipe. Can probably be skipped. Note that [collagen type 2](#), also not in the current diet, should allegedly be taken separately from 1 and 3 (e.g. at night).
 - 10 drops [Thorne liquid D3/K2](#)
 - 3 drops [beta carotene](#)
 - 1 drop [vanadium](#)
 - I haven't tried the exact item linked because I'm still using my leftover supply of [this](#), which contains chromium which is apparently useless and possibly very slightly bad.
 - 1/2 tsp [orange oil](#)

- 1 tbsp [lime juice](#) (I have not tried the exact item linked because lime juice is much cheaper at my local supermarket)
- 7/16 cup [MCT oil](#) (1/4 cup + 3 tablespoons)
- 1/8 cup (two tablespoons) [macadamia nut oil](#)
 - No longer cheapest Amazon source; try [here](#) [not yet tested].
- Attach cap securely. Shake well. Add water to near-top, but not actually at top; leave some room for shaking. Don't add water too quickly or it may suddenly overflow. Perform a final shake. Place in refrigerator.
- Supplements:
 - Drink 6-8 oz. water with 1/2 tsp [non-iodized salt](#) in the morning and again in the evening.
 - If you cheat with something that has enough sodium, you may want to remove the evening, or even the morning salt water. Sodium in processed food adds up rapidly.
 - If the salt stops *tasting good*, you have enough sodium in your diet - this is a nutrient which your body can detect required levels of by taste!
 - If you use *iodized* salt, you will get a lot of iodine this way. The usual amount in iodized salt is around 125mcg iodine per 1/2 tsp, so you should subtract 3 drops of the potassium iodide per 1/2 tsp of iodized salt taken.
 - Drink 1 glass of [chocolate protein powder](#), or your other preferred protein powder, or eat 35g of protein from low-fat cheese, chicken breast, or other low-fat protein sources.
 - [Krill oil omega-3](#), take 1 unless you've cheated with fish
 - [Magnesium glycinate](#), 3 tablets (600mg) before bedtime
 - [Copper tablet](#) (inorganic copper is bad, and this version says "chelated", but I haven't verified what form of chelation this is; amino acid chelation would be good).
 - [Creatine tablet](#)
 - Even-numbered days (so that you take it every other day)
 - [Vitamin E](#) (or this [cheaper form](#) with fewer tocotrienols)
 - [Molybdenum](#)
 - [Iron](#)
 - Sundays:
 - [B-Right](#)
 - [Methyl B-12](#)

INTERESTING INGREDIENTS:

This section is about difficulties I encountered in shopping, or in building the ketosoylent. It is not much about background nutritional theory and has no citations, etc.

(As previously mentioned, for nutritional theory I took the [Perfect Health Diet](#) by the Jaminets as my point of departure, although, e.g., I'm using half as much selenium because Will Eden said so, and I've been pointed to research claiming that chromium is useless, etc. Both Scott Alexander and another trusted source have warned me not to rely too much on PHD, and I've checked a little of it but not all. Nonetheless, a lot of background ideas like "Make sure it's folate and not folic acid in the B multivitamin, also that it's methylcobalamin and not cyanocobalamin" are from the Perfect Health Diet.)

Calcium:

Calcium loss is an alleged risk of extended ketosis as the body releases calcium to make up for the acidity of ketones in the blood. Furthermore, almost all forms of supplemental calcium sold commercially have poor bioavailability and in some cases bad mortality ratios possibly due to just ending up calcifying your arteries (especially if vitamin K2 or D3 is insufficient, according to the Jaminets). Numerous experiments show that *calcium supplements* seem to be bad for you beyond a certain point, while *dietary calcium* does not seem to have the same issues.

This recipe should provide around 900mg/day of elemental calcium in the form of [hydroxyapatite](#), the form which appears in breast milk, and in bone. I figure if anything ought to be absorbed correctly, it's that. (The target page says "tricalcium phosphate", but Wikipedia says hydroxyapatite is sometimes mistakenly called that, and an email request produced a fact sheet which showed the chemical formula for hydroxyapatite.)

What we would really prefer here is *microcrystalline hydroxyapatite complex*, which is made from whole ground bone and includes some surrounding protein, but I did not find any MCHA/MCHC which was ground finely enough to not appear as tangible grit in the SoyLent or which did not have too much added zinc or manganese etc. The only likely-looking source which offered a fine enough mesh size was in New Zealand and had a minimum order of 350kg.

Protein powder:

[Whey protein isolate](#) was selected to have a minimum of lactose and other milk-related elements. Some sources assert that, rather than the isolate, you should get cold-processed intact whey for maximum... something. I haven't looked into this very hard.

Except for the calcium, the whey is the only animal-sourced, non-vegan ingredient of the ketosoylent. My attempt to replace the whey protein with allegedly complete brown rice protein (a) made me feel hungry, so possibly the protein was not complete enough, and (b) produced a cloudy gritty texture in the SoyLent, probably because the mesh size of that protein powder was not fine enough. If some combination of brown rice protein and pea protein, or unflavored

Oryzatein, could be found with a sufficiently fine mesh size, I would be interested in trying that for the sake of producing almost completely vegan Soylent. (Completely vegan, if a non-animal source of hydroxyapatite could be found, or a sufficiently convincingly bio-good-for-you alternative form of calcium.) The only source for fine-mesh Oryzatein I could find has a minimum order measured in pallets.

Resistant starch:

Resistant starch passes through the stomach undigested and is converted to butyrate in the long intestine. This is supposed to be very good for gut health and glycemic control.

The only verified form of resistant starch I could find for sale is in the form of Hi-Maize corn starch, where it comes with 4g of other carbs for each 6g of resistant starch. The stated 2tbsp should provide 16g of carbs and 24g of resistant starch, which is nearly the recommended 22g of resistant starch per day. The attached 16g of plain carbs are the main source of carbs in the ketosoylent, aside from whatever comes with the powders in capsules and tablets.

It is widely alleged on paleo blogs that unmodified potato starch is mostly resistant starch. All of these allegations seem to trace back to one commenter, "Tatertot". I was not able to find official confirmation that any commercially available potato starch is "raw" potato starch in the sense required.

The Hi-Maize tends to clump and coagulate at the bottom of the Soylent and is the primary reason why it needs to be shaken hard before each time you drink. A resistant starch source with fewer attached carbs, or a finer mesh size, would be much appreciated.

Will Eden suggested that the RS in my Soylent might be part of the reason why weight loss slowed, so in later stages I tried substituting [cellulose](#) (insoluble, indigestible fiber) for the RS.

Krill oil omega-3:

Many fish oils will spoil in their capsules before consumption, since omega-3 fats, like all polyunsaturated fats, are chemically unstable. Krill oil contains the antioxidant astaxanthin, which means that krill oil, allegedly according to some comparisons I read, spoils the least in the capsule. Nonetheless I recommend keeping the krill oil bottle in the refrigerator, or removing particular sub-collections of pills only a couple of weeks before consumption.

I did a moderate amount of research before selecting [Viva Labs](#) as apparently seeming to have some third-party endorsements, and a relatively low cost per day.

I am not sure the contents of the krill oil capsule could be safely dumped into the ketosoylent liquid while remaining chemically intact. Since omega-3 is oft spoken of as an unusually key ingredient, I decided not to risk it.

The Jaminets think you should generally keep down your total dosage of all polyunsaturated fats, so I'm not trying for larger amounts of omega-3.

Omega 6:

Omega-6 is not explicitly provided but will probably creep in, in small but sufficient quantity, from things like the sunflower lecithin.

Creatine:

I was adding creatine powder to my Soylent for a while before I discovered that creatine rapidly degrades (into creatinine) in water; although oddly enough, it seems to survive sufficiently acidic environments, like stomach acid, intact. There are no credible claims to offer a form of creatine that survives in water for a couple of hours. AFAICT this supplement must be taken as a tablet.

ALCAR:

I think that taking Acetyl-L-Carnitine means we don't have supplement regular carnitine. Preliminary research did not say otherwise. If anyone knows facts to the contrary, please let me know. Carnitine is key to cells using free fatty acids which I think is still a key part of weight loss even on a ketogenic diet.

Magnesium:

Trying to add magnesium glycinate *powder* to the ketosoylent produces a strong fish smell for reasons unknown, conjectured by Brienne's chemically literate father to be an interaction with the potassium iodide (we got that suggestion after we'd already given up experimenting with ingredient combinations). Taking the magnesium directly before bedtime will in any case be helpful for sleep. The Jaminets say to get at least 600mg of magnesium.

Magnesium glycinate is a special form of magnesium which does *not* attract additional water into the intestines. Putting *any other* tested form of magnesium into the ketosoylent, or taking magnesium citrate at night, makes the diarrhea substantially worse. Eliminating magnesium from the ketosoylent and switching to glycinate tablets was one of the key steps.

Lecithin:

Apparently soy, even soy lecithin, allegedly contains chemicals your body treats like estrogen, so I switched this ingredient to [sunflower lecithin](#).

Manganese:

I ordered this as as [capsules](#), but further reading made manganese sound so scary that I decided not to take it, and hope I was getting enough from drinking occasional water I hadn't filtered myself, etc. It's on the FDA's RDA, though, and does have a [known role](#) in at least one human enzyme I could find online.

Macadamia nut oil:

Long-chain fats are supposed to slow progress through the bowel, which is part of what we need to stop diarrhea. But saturated fats besides MCT tend to be solid at room temperature or below, and precipitate back out of the MCT if added. The Jaminets say we don't want too much polyunsaturated fat of either kind. Olive oil is mostly monounsaturated fat, but virgin olive oil tastes very strong in the Soylent, and "extra light olive oil" has been heavily processed which might result in chemical changes to the unstable omega-6 fats in it. However, macadamia nut oil is almost pure monounsaturated fat (to an even greater degree than olive oil), and it tastes acceptable in the Soylent. It's currently looking effective against diarrhea.

Iron:

I was initially not taking this at all due to a standard suspicion that as a male I had too much iron in the blood, then I started taking it once per week after a few months, just in case. I'm not sure but it's possible I might have developed an iron deficiency resulting in a canker sore - I didn't actually do any blood tests. Anyway, after 3 months of no or rare iron from supplements, I switched to taking 1 iron capsule every 2 days. That's 18mg per capsule and the FDA recommended minimum is 12mg/day for males, so I should hopefully be safe from the usual iron overdose.

Beta carotene:

I'm not sure if we need a separate source of vitamin A if beta carotene is present in adequate amounts and being taken with fat, which we now have in the form of macademia oil. Currently there's just beta carotene. It makes the Soylent taste like carrots and dyes the oils red, neither of which seem to me like a bad thing.

CHANGES SINCE 0.6:

v0.6.1: [Pure ascorbic acid](#) (Vitamin C) turns out to be too acidic. Previously used [calcium ascorbate](#). Next trying [sodium ascorbate](#).

v0.7: Replacing 1/8 cup MCT with 1/8 cup [macadamia nut oil](#) in hopes of further attacking diarrhea issue.

v0.7.1: Increased MCT, beta carotene instead of retinyl palmitate.

v0.7.2: Ionic vanadium drops---I couldn't find anything anywhere on bioavailability of vanadium types so I'm shrugging and going with this. 2->3 packages orange flavoring.

v0.7.3: Added cellulose as an RS substitute/additive, and linked to larger shaker cups.