Loki's DMT Extraction Guide

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Introduction

In this guide I am stripping it back to basics. As a result, I won't bother making any effort about safety information, it is assumed that you are aware of the dangers of the materials involved in or produced by the procedure laid out in this guide. I am doing this to reduce the mass of this document and increase its accessibility. **But nevertheless don't forget to learn about how you can maim and kill yourself if you do the wrong things with these materials.**

I have now added a fuel names section which should allow people all over the world to locate the appropriate solvents.

I won't put in any acknowledgements save for this: Thanks to everyone who has been involved with DMT World and interacted directly with me, and to the people out there on the web who put together the information which lead to this work (the hive, synthetikal, wetdreams).

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How Long Does It Take?

initial extraction: 1 hour

reducing: 30 mins (500ml) to 3 hours (4L)

defatting: 30 mins

neutralising, basifying and extracting: 30 minutes

reducing volume to about 100ml per expected gram: 30 mins

freeze precipitation: 2 hours (or slow evap for 3-7 days)

total for average freeze precipitated batch: 6 hours

longer times for longer initial extractions (perhaps due to inadequate pulverisation) and higher water volumes

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Equipment

The key equipment in this process is the separating device, which can be a baster/pipette, syringe, separatory funnel etc.Other than that one will need a lot of jars/flasks (pyrex is preferable for laboratory work) possibly a couple of cooking pots, heating device, and filtration equipment (thrift shops and coffee making devices are a good source for this), and an electric fan. An adequately ventilated space to work in is essential, this can be augmented with an electric fan.

<- A selection of suitable glassware and apparatus. Note the separatory funnel on the right is made of polypropylene, and the baster is too. A nice selection of suitably sized pyrex beakers and flasks are very useful.

<- Filter funnels especially for coffee filters - these are easy to find at thrift shops, they have the proper shape support and little ridges in the retainer surface to assist drainage.

<- An electric fan for ventilation.

<- L si co fi

This machine cost me AUD$7 at a thrift shop, it is a drip/filter coffee maker, the most useful thing about it is the wee hotplate which is just hot enough to bring naptha to a nice boil and water just stays perfectly hot at 70ish degrees, and the nice big pyrex flask. Uses for the drip/filter device shall be investigated.

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Chemicals

The following is a list of chemicals you will need:

Lye
Sodium hydroxide or potassium hydroxide, solution with either and water at about 120g/L (about 6 teaspoons per 250ml) NaOH or 170g/L KOH (potassium hydroxide solutions can be found at hydroponic stores).
DANGER: CORROSIVE, BURNS TO EYES CAN CAUSE BLINDNESS

Carbonate Salt
Sodium carbonate or sodium bicarbonate would both work here, as would calcium carbonate, this is used for neutralisation because you can see neutrality by the lack of frothing. Sodium carbonate should be ground up before using it.

Calcium Ascorbate
this is used to precipitate tannins and while there is alternatives (other calcium salts, in particular), this should be available to anyone.

Alternatives:

- can be made from calcium hydroxide:ascorbic acid 74:176 weight ratio or 100:176 using calcium carbonate instead.
- calcium acetate: make the solution with 500ml white vinegar, 30g of calcium carbonate (or about 22g of calcium hydroxide) and 500ml of water
- calcium phosphate monobasic, which is 74:98 with calcium hydroxide and 100:98 with calcium carbonate, calculate weight of phosphoric acid in the phosphoric acid solution (% translate to the number times 10 in grams per litre, sometimes it is shown in weight/volume, grams/L) and mix the two appropriately to produce a solution with 30g $CaCO_3$ (or 22g $Ca[OH]_2$) per litre of solution.

Naptha/Shellite/Coleman Fuel/Heptane/Hexane
For ***extraction***. Any of these should be fine, if hexane is used, you can probably halve the quantities specified as these are all adjusted to average naptha type mixtures. See Appendix: International Solvent Names to locate a local equivalent.

If that doesn't help, a few clues - it is also a lighter fluid (zippo is much the same) and used for liquid fuel camp stoves. If you know fire twirling freaks they will be able to tell you about the different fuels that can go into a fire blend, naptha is commonly added to mixes to increase how hot it burns.
DANGER: HIGHLY FLAMMABLE NO FLAMES OR SPARKS

Toluene/Xylene/Hexane
For ***defatting***, a more strong general solvent is required. Naptha/heptane type mixes can be used but expect to need 2-3x as much.
DANGER: HIGHLY FLAMMABLE NO FLAMES OR SPARKS

Anhydrous Epsom Salts
Can be made by sitting Epsom Salts (magnesium sulphate: MgSO4) in 250 degree C oven for about 1 hour or if impatient, a thin layer on a pyrex dish in the microwave for 3 minutes, which has to be broken up in either case afterwards (*be careful not to break the glass as when it's hot it's more prone to breaking*).

Rock Salt
Get the stuff that's chunky, table salts usually have alumina-silicate and iodides in them which, while not in great quantities, are just plain not needed and are not present in rock salt. Sea salt and Kosher salt are both also fine.

Brine Wash Solution
Brine means concentrated salt solution. 36g of NaCl (rock salt) saturates 100ml of water. You may need to boil the water or grind the salt to get it to dissolve properly. **Make sure you use it to do the brine wash when it is at room temperature.** Add a slight excess of salt to what is required and it can be decanted off or filtered out anyway, whatever is liquid is concentrated sodium chloride solution.

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Preparing the Plant Material

First step is the plant material. The ideal treatment is for it to be bone dry and ground to powder. The less like a powder it is, the more time it will need during the initial boil to get everything out. The best tool for this is a powerful glass blender, 600-700W power ones are the best. This guide will assume one has dry powdery material to work with.

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Extracting

Extraction solution volume is worked out based on the weight of the substance being extracted from, for 500g about 4L of solution will be required. The solution is made with 50g of calcium ascorbate.

> **Why is calcium ascorbate used?** The calcium ascorbate splits, the calcium binds with the tannin and forms an insoluble precipitate and leaves behind the ascorbic acid, which has the added advantage of helping protect the solution from oxidation. The ascorbic acid this process leaves behind maintains the acidity of the solution to pretty much stay stable around 4 during the whole extraction process.

A guide to the proportions with various weights of bark:

> 100g bark, 800ml solution, 10g calcium ascorbate
> 200g bark, 1600ml solution, 20g calcium ascorbate
> 300g bark, 2400ml solution, 30g calcium ascorbate
> 500g bark, 4000ml solution, 50g calcium ascorbate
> 1000g bark, 8000ml solution, 100g calcium ascorbate

Steps:

1. Boil the solution for 20 minutes.
2. Filter through coarse cloth to catch the bulk, and press the cloth ball flat after it has been drained, get every last possible drop out.
3. Pour the solution though a fine strainer, which will catch a lot of intermediate sized particles.
4. Boil solution down to 1/10th of the original volume.
5. Refrigerate the solution (2 hours should be plenty). Decant the liquid off the top.
6. Charmin filter (see charmin filter appendix) to remove the last of the particles.

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Defatting

Defat the resulting solution 3x with 1/10th volumes of defatting solvent. Resolve emulsions using a container of hot water underneath the device/jar, and swizzling with a skewer. Defatting is a good idea because plants usually contain some fat as a critical part of their cellular membranes, and it removes essential oils that may be present as well.

Defatting can be done with the assistance of heating too, the idea of dripping the aqueous solution into the solvent on a low heat as it is being finally filtered has been tested and seems to be a nice touch (some time ago the idea of doing the extractions by dripping it through was put forward by someone and it is a good idea actually, condenses the defatting and filtration step into one.

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Basification and Extraction

First step is to neutralise the solution. By adding a carbonated base in dry powder form, one can add it slowly with stirring

and when the evolution of carbon dioxide ceases, the solution is now unable to dislodge the carbonates and thus is approximately at neutral pH. It must be added slowly because the carbon dioxide evolution from the solution can be violent if it is added too fast. Once the solution ceases to respond with frothing it is neutralised.

Next, put a quantity of naptha on top of the solution of about half the weight of the original bark, which results in the following proportion table
format: ml of naptha : g of bark (ml of aqueous extract)

30ml:50g (40ml)
60ml:100g (80ml)
120ml:200g (160ml)
180ml:300g (240ml)
300ml:500g (400ml)
600ml:1kg (800ml)

Steps:

1. Place a pyrex container containing this two phase mixture onto a sparkless heat source and slowly add the lye solution with stirring until the solution turns entirely black with no precipitate.
2. Allow the solution to heat (gentle stirring is a good idea) until the solvent layer is clearly boiling and turn off the heat and quickly separate the two layers.

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Drying

Next we dry the freebase extract in the solvent. This is done because all aqueous soluble junk from the solution that was just basified and extracted from is present in the small amount of water left, which, compared to the volume of product, is not trivial for what it can carry with it. When water is removed, most water-loving materials are removed as well, sodium hydroxide, and salts, and to a lesser degree, tannins (which are very water loving too).

Steps:

1. First is a brine wash, a 10% volume quantity of concentrated salt solution is mixed with shaking with the nonpolar solvent extract (naptha/heptane) and separated.
2. Next, powdered drying agent (anhydrous epsom salts or sodium sulphate) is added to the nonpolar solvent until it ceases to take up water from the solution. The drying agent is filtered out, an ordinary coffee filter is usually enough but if you have particles still in the naptha a charmin filter may be neccessary.

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Crystallising

Next step is to get the naptha/heptane extract to yield the DMT as a solid somehow. Old methods used to say to evaporate but it is in fact better to go straight to a crystallisation. There is two ways, freezing and slow evaporation. Freezing is faster but forms smaller finer crystals, slow evaporation produces larger crystals but takes longer.

If one is freezing, the slower the process of cooling can be made to be, the bigger and purer the crystals will be. An insulated container or some kind of insulation around the crystallisation vessel is helpful for this. In my experience, the best crystallisation vessel is a squat beaker or a glazed ceramic bowl, sealed with polyethylene plastic (sarin) wrap.

The slow evaporation method takes a lot longer but will produce larger more uniformly sized crystals. Basically one just takes the solution and allows it to evaporate by giving it a very small vent. Over the process of a week the naptha/heptane will evaporate and deposit crystals. Do not let it get to dry, stop it at the point where it appears that the solvent may be getting thick of something undesirable or otherwise diminishing in ability to be decanted off, if this is done right it saves doing a second purification. *One can always repeat the crystallisation process to get better purity, which usually involves a small*

amount of losses.

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Appendix: Charmin Filters

The charmin filter is an indispensible filtration device for the clandestine chemist. Apparently it gets it's name from a particular brand of toilet paper - I have not seen this brand in Australia. Anyway, that's the reason behind the name.

1.
A funnel which is suitable for a charmin filter plug

2.
A roll of toilet paper suitable to pilfer from for making a charmin filter - this is a plain un-bleached recycled generic brand

3.
About two sheets is the average amount needed

4.
Tear two sheets off the roll

5.
fold the two sheets into one (fold on the perforations)

6.
fold in half again

7.
Fold in half again, so that the paper is longer than wide

8.
Fold again and it will not really be possible to fold it again. About 1cm wide is perfect

9.
Roll the paper into a scroll...

10.
...until it's a suitable size for the funnel (tear it if it is too big for the funnel stem)

11.

And there is your filter plug

12.

Put the plug gently into the neck of the funnel

13.

Push it in gently.

After making it, put some of the solvent being filtered with this filter plug in the funnel until it drips out the bottom. Then it is ready to use.

The length of the plug can be increased if one desires, also, I think it slows down slower with a longer plug.

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Appendix: Bulk Processing

If one is dealing with larger quantities at a time, it is advisable to pre-extract into alcohol to reduce the amount of energy required to get the solution to a workable volume. A simple way to ensure maximum efficiency is to put the plant material into a sort of cloth 'tea bag' so that one can pull the plant material out and easily press all the liquid out of it. About 20L of alcohol will be required to process about 4kg of plant material. Ethanol or methanol are both suitable, the choice will be dictated by availability and relative economics.

1. After extracting this material, one would then reduce the volume with heat and a fan in a space where ventilating a lot of alcohol will be ok and non-problematic. Methanol is somewhat less smelly but is more toxic, but will not have any denaturants.
2. Once the solution is reduced to the point it starts to thicken up, filter the solution.
3. Put the solution onto a steam bath (a pot of boiling water underneath) with a fan blowing over top to finish off the evaporation. Let it dry until it is a hard solid, some breaking up and exposing of new surface may be required to expedite the process.
4. The dry material at the end of the process can be treated just like the original plant material, although one may wish to use more calcium ascorbate if a lot of tannin comes through the alcohol extraction, due to there being more tannins in the solution.

The use of more solvent solvents for bulk extraction is highly advised also. Naptha, on average, requires about 20ml per gram to crystallise. If one was to be ending up with 50g (extracting from say 8kg), this would mean needing 1L of solvent to do the crystallisation, but if hexane or some other alternative (it is possible that things like toluene and xylene and DCM can be used), the volume of solvent required for the crystallisation goes down to about half a litre for that amount.

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Appendix: International Solvent Names

(this section stolen wholesale from http://members.iinet.net.au/~mbuckler/fuel/index.shtml)

With the exception of Coleman fuel, all commonly available fuels from petrol stations and supermarkets are blended mixtures that vary in composition depending on the brand, the country and even the time of year (winter/summer). Fuels listed in columns 1 - 3 are petroleum based. Fuels in column 4 are alcohol based.

Column 1

Decane (mostly). Kerosene/diesel is a crude cut from oil refineries, boiling point range is approximately 180° to 280° C. May have pink or blue colour added (U.K.).

Column 2

Pentane, Hexane. The same as for column 1, but a boiling point range of 25° to 200° C. Slight yellow colour. May also contain up to 20% ethanol ("ethanol blended fuel").

Column 3

60% Hexane + 40% Heptane? Usually colourless?

Column 4

95% Ethanol + 5% Methanol approx. Usually has purple colour and bad taste added. May also contain propanol and water.

Country	Fuel			
	1	2	3	4
U.S.A & Canada	kerosene	Gasoline "Gas"	White Gas Naphtha Coleman Fuel Blazo	Denatured Alcohol Solvent Alcohol
U.K.	Paraffin	Petrol	Coleman Fuel	Methylated Spirit "Meths"
Argentina (Chile, Boliva, Peru, Ecuador, Colombia, Belize and Mexico)	???	???	???	alcohol alcohol pura alcohol de quemar
Australia	Kerosene "Kero"	Petrol	Shellite White gas Mobilite	methylated spirits "Meths" "Metho"
Austria	Petroleum	Benzin Bleifrei	Reinigungsbenzin Waschbenzin White gas	Brennspiritus

			Kocherbenzin Reinbenzin Fleckbenzin	Spiritus
Belgium	Petroleum	loodvrije benzine	Wasbenzine	???
Borneo	Minyak Tanah AVTUR	Benzine	???	Spiritos
China	meiyou Huo shui ?	qi you	????	????
Czech Republic	Petrolej Parafin	Benzin	Technicky benzin	Denaturovany lih Denaturovany alkohol
Denmark	Petroleum	auto benzin	rensebenzin	Ethanol (100 %) Sprit Husholdnings sprit
Egypt	al-kayruseen zayt al-barafeen zayt al-kaaz	WAKOUD BENZEEN	GAAS ABYAD White Gas	COHOL TIBY COHOL SENAIY
Fiji	kerosene	???	White spirits Shellite	???
Finland	Valopetroli Petroli	bensiini	Kevytbensiini Puhdistusbensiini	denaturoitu sprii Sinol(tm) Marinol(tm)
France	Petrole fuel domestique	Essence	Petrol a Bruler Essence filtree Blanche sans plomb Essence C Essence a l'usage domestique	Alcool a Bruler Alcool Denature Alcool Methylique
Germany	Petroleum Paraffinol	Benzin Bleifrei	Kocherbenzin Feuerzeug Benzin Katalyt Benzin Reinigungsbenzin	Spiritus Brennspiritus

	Petrol Lampenoel	Auto-Benzin Superbenzin	Reinbenzin Fleckenbenzin Wundbenzin	Methyl Alkohol
Greece	Parafinh		"Coleman fuel" ?	mequliko oinopneuma
Greenland	Petroleum	Benzin	Rensebenzin	Denatureret Sprit
Holland	Petroleum Lampen-Olie	Benzine Super Loodvrij Normaal 16	Wasbenzine Coleman Fuel	Spiritus Brand Spiritus Alcohol
Hungary	Parafin	Olommentes benzin	Benzin	spiritus denaturált szesz
Iceland	???	???	Hreinsad Benzin	Rodsprit
India, Bhutan, Nepal and Pakistan	Kerosene	Petrol (Gasoline)		methylated spirits
Indonesia and Malaysia	MINYAK TANAH	BENSINE	???	???
Iran	NAFT	Benzin	???	???
Ireland	???	???	???	Meths
Israel	Neft	Delek 91 Delek 96 Unleaded delek	Delek lavan	???
Italy	petrolio petrolio lampante Olio di Paraffina Kerosene	Benzina per autoveicoli	benzina AVIO Benzina bianca	Alcol denaturato
Japan	Toh-yu	Gasoline	White Gas Coleman Fuel	Nen-ryo yoh Alcohol
Kenya	Paraffin kerosene	unleaded gas	???	???
Malaysia and Singapore	This is rather complicated. See the entry further on in this document.			
	kreosene	Petrol		Alcohol ethanol

Malta	parifin pitrolju	octane	???	Methylated spirit Surgical spirit
Mexico	Petroleo	Gasolina	gasolina blanca	???
New Zealand	Kerosene	Petrol	White Spirit Shellite Callite Britolite Pegasol Fuelite	Methylated Spirit
Norway	Parafin	Bensin	Renset bensin Heptan Katlyt bensin	Rod-Sprit
Philippines	kerosene	gasoline	Coleman fuel	denatured alcohol
Poland	nafta	"benzyna bezolowiowa"	benzyna rektyfikowana	Denaturat alkohol metylowy
Portugal	Petroleo	Gasolina sem chumbo	Benzina de desengorduramento	"Alcool 95%"
ex-USSR (Russia)	kerosene	benzine	???	Methyl Alcohol (metilovy spirt)
South Africa + Zimbabwe	paraffin	petrol	Benzine	Methylated Spirits "Meths"
Spain	Parafina Petroleo Keroseno Petroli	Gasolina sim plomo	Becina, Blanca Solvente Gasolina domestica Benzina pura	Alcohol Metilico Alcohol de quemar (M
Sweden	Fotogen T-Gul Taendvaetska Lysfotogen	Blyfri bensin	Rengoerings bensin Industribensin Kemiskt Ren Bensin Statoil miljø	T-Sprit/Roedsprit T-Roed Metanol T-br=E4nsle
Switzerland	Petrol	Bleifrei	Reinbenzin Wundbenzin	Brennsprit

Switzerland (German speaking part)	Petroleum	Bleifrei	Reinbenzin Wundbenzin Feuerzeug Benzin	Brennsprit
Switzerland (German/Italian speaking part)	???	???	Benzin Gereinigt	???
Thailand	NAUM MAUN GAS	NAUM MAUN REI SARN	BENZENE KAOW White benzene "COMFORT"	Alcohol
Turkey	Gazyagi Parafin	Kursunsuz benzin	White Gas Benzin	Ispirto
Venezuela	kerosen	gasolina	Gasolina blanca	alcohol para quemar alcohol luz

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Appendix: Extraction report

400g of dry acacia maideni bark simmered for 3 hours in about 4L of water. (3h)

boiled down for 2 hours in microwave at which point it reached 350ml volume. (2h)

placed in the refrigerator to settle and cool overnight.

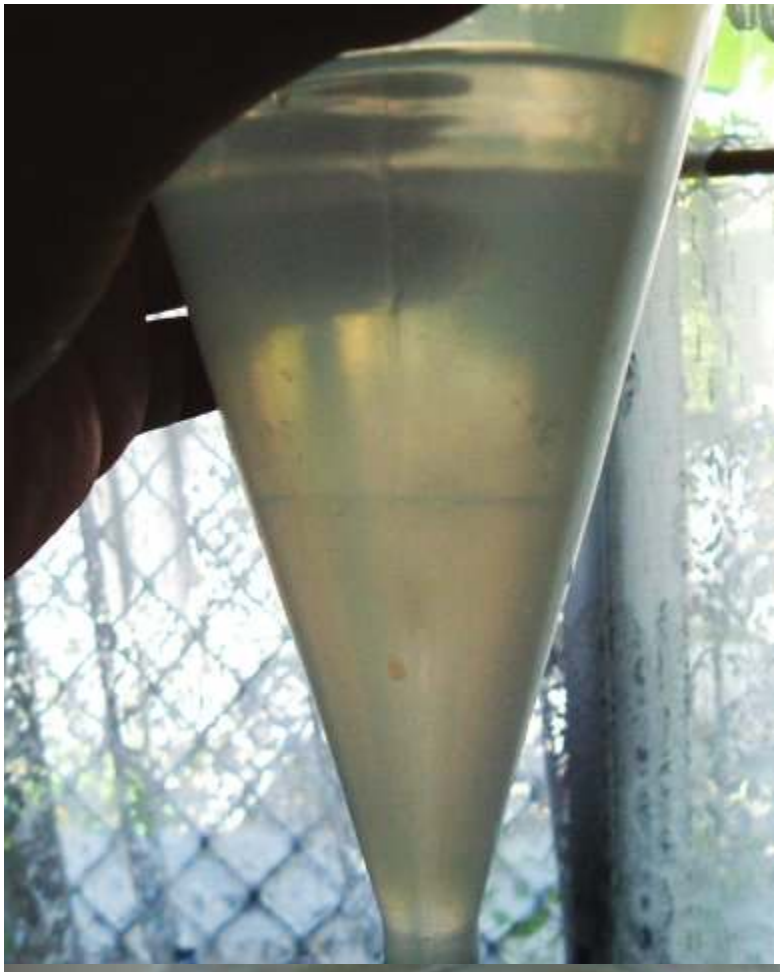
filtered in a coffee filter sitting over a charmin filter over a steam bath. Added 30g of rock salt to the solution. filtered into defatting solution. separated. (note the 'mirror surface' of the solvent/water boundary, that means perfect separation, well, fairly perfect anyway.) (2h)


BI-CARB
SODA
(BAKING SODA)

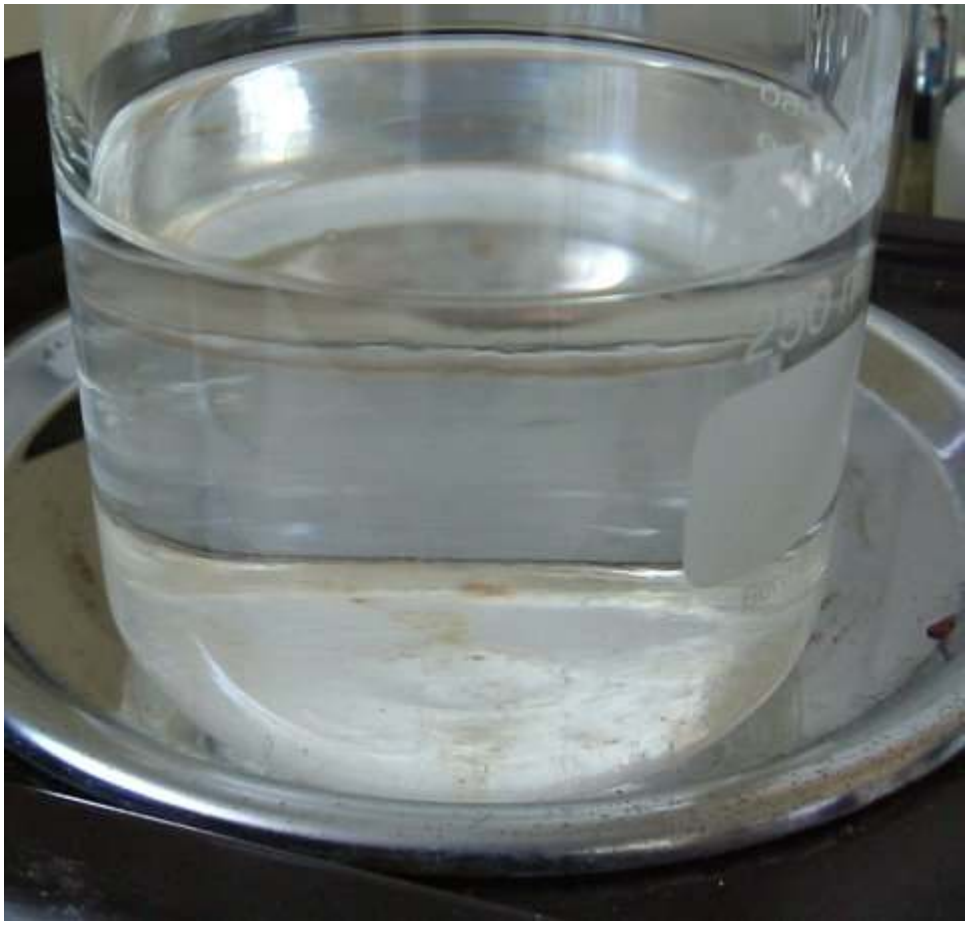
neutralised with sodium bicarbonate. solution was a bit thick and did not immediately fizz (may have been due to the salt)

added naptha and 200ml of 100g/L NaOH solution (solution did not turn black, but turned dark with a mostly cloudy brown appearance which differentiated layers gradually), heated for 20 minutes at about 80 degrees.

separated naptha and basified aqueous layer.



brine washed naptha layer, dried with anhydrous MgSO4 (very little was needed, brine appeared to do most of the job)




PYREX

solvent reduced to 100ml and placed in a small 100ml beaker, covered loosely with an aluminium foil cover and left to sit in a quiet spot until the solution had reduced to 15ml (the sequence above shows what the solution did after it sat there for an hour), at which point the liquid was poured off the crystals, and the liquid poured off was put in the freezer to squeeze out the last bit of crystals from it.

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