

S A L T S.

S A L T S.

ACIDUM VITRIOLICUM DILU-
TUM.

DILUTED, OR WEAK, VITRIOLIC ACID.

TAKE of vitriolic Acid one ounce by
weight.

Distilled water eight ounces by
weight.

Mix them by degrees.

R E M A R K.

This was called, in the last Dispensatory, *Spi-
ritus vitrioli tenuis*, and is supposed capable of pro-
ducing every salutary advantage expected from the
Elix. Vitrioli acidum,—now omitted. Its antiseptic
power is very considerable, and has not often been
found

found hurtful.—Whether the intoxicating *spirituous antiseptics*, brought into fashion about the middle of this century, or the *vinous*, which since succeeded, have contributed more to the preservation of mankind than the antiseptics in former use, will, perhaps, be doubted by some.

ACIDUM NITROSUM.

NITROUS ACID.

Take of purified Nitre, by weight, sixty ounces.

Vitriolic Acid, by weight, twenty-nine ounces.

Mix and distill.

The specific gravity of this is to the weight of distilled water as 1,550 to 1,000.

R E M A R K.

This was formerly called *Spiritus Nitri Glauberi*. A pound of vitriolic acid is sufficient to expel all the nitrous Acid from about two pounds of nitre, not from more; and, if equal parts of the two be employed, the produce, in either case, is in quality

quality the same; the difference, in this respect, affecting only the residuum. If less Nitre, it cannot afford Alkali enough to saturate the vitriolic acid, and the residuum will not be a neutral, but a very acid, Salt. In this last case there is one conveniency; the acid Salt being readily soluble in water, so as to be got out without breaking the retort, which the others are not. L.

The caution, given in the last Dispensatory, to make the mixture under a chimney, is very necessary to be observed; for, red corrosive fumes will rise very copiously, which are extremely pernicious, and ought to be carefully avoided by the operator.

For greater security, some employ a large receiver with two tubes, to the uppermost of which is fitted another tube, three feet long, whilst the lowermost is inserted into a smaller receiver, or bottle. The Swedish Dispensatory directs only a receiver, *large and properly tubulated*. The Nitre, dried and powdered, being put into a retort, of which it must not take up more than one-third, and the retort being placed in a sand-heat, the vitriolic acid is to be poured into it through a glass funnel, whose stem is long, and bent so as to form a right-angle with its cup; when, the apparatus
being

being adjusted, and the receiver, &c. immediately luted, the distillation is to be performed with an heat gradually raised, and continued till the recipient grows cool, and no drops fall from the retort.

ACIDUM NITROSUM DILUTUM.

DILUTED, OF WEAK, NITROUS ACID.

Take of nitrous acid,

Distilled Water, of each one pound;

Mix them.

R E M A R K.

A noxious vapour arises on mixing the nitrous acid with water, which the operator should avoid.

ACIDUM MURIATICUM.

MURIATIC ACID.

Take of dry Sea-salt ten pounds.

Vitriolic Acid six pounds.

Water five pounds.

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Add,

Add, by degrees, the vitriolic Acid, first mixed with the water, to the salt: then distill.

The specific gravity of this is to that of distilled water as 1,170 to 1,000.

R E M A R K.

This was formerly called *Spiritus Salis marini Glauberi*. The addition of water is here necessary; the marine vapours being so volatile, as scarcely to condense without some adventitious humidity. The vitriolic acid is most conveniently mixed with the water in an earthen or stone-ware vessel; for, unless the mixture is made very slowly, it grows so hot as to endanger the breaking a glass one. The mixture should be put to the salt under a chimney, as the white fumes, here arising, ought also to be avoided.

When the mixture is grown somewhat cool, it may be poured on the Salt already placed in the retort; and the distillation directly begun. Here also a tubulated receiver is proper. The heat is to be so conducted as to prevent the matter from boiling over, or the fumes rising so quick as to endanger the receiver. The Salt left in the retort, when purified, gives

gives the *Sal Catharticus Glauberi*. See Natron vitriolatum.

ACETUM DISTILLATUM.

DISTILLED VINEGAR.

Take of Vinegar five pints.

Distill with a slow fire, in glass vessels, so long as the drops fall free from empyreuma.

R E M A R K.

The Swedish Dispensatory directs the distillation from a glass retort, and by a *water-bath*:—that the fourth part, which first comes over, and is phlegm, be thrown away, and, the receiver being then changed, the distillation to be continued so long as the fluid comes over limpid. *Beaumé* says, that, though what first comes over is less acid than that which follows, it is however infinitely more grateful in smell, and has too much acidity to deserve being thrown away; and the College have thought the preparation as directed above sufficiently acid for the purposes to which it is applied.

ACIDUM ACETOSUM.

ACETOUS ACID.

Take of Verdegris, in coarse powder, two pounds.

Dry it perfectly by means of a water-bath saturated with sea-salt; then distill it in a sand-bath, and after that distill the liquor.

Its specific gravity is to that of distilled water as 1,050 to 1,000.

R E M A R K.

Vinegar distilled from Verdegris has a disagreeable smell, and turns blue on being saturated with Aq. Ammoniaë, — a manifest proof that it contains copper, (*Leonhardi Anmerk. in Macquers Chem. Worterb. Vol. 2.*) — a portion of which it retains, according to *Pörner*, even after a re-distillation with a gentle heat. — According to *Mr. Bertholet*, this acid differs essentially from the acid of vinegar. See *Mem. Ac. Sc. Ann. 1783.* — It is employed in the preparation of *Hydrargyrus acetatus*.

SAL ET OLEUM SUCCINI.

SALT AND OIL OF AMBER.

Take of Amber two pounds.

Distill

Distill in a heat of sand, gradually augmented: an acid liquor, oil, and salt fouled with oil, will ascend.

R E M A R K,

In the distillation of Amber, the fire must for some time be continued gentle, scarcely exceeding the degree at which water boils, till the aqueous phlegm and thin oil have arisen; after which it is to be slowly increased. If the fire be urged too hastily, the Amber will rise in its whole substance into the receiver, without undergoing the requisite separation of its parts. The acid liquor, formerly called *spirit*, is a mere solution of a small portion of the salt in phlegm.

The salt is usually dried between the folds of spongy paper.

The oil is given internally from five to eight or ten drops in hysterical spasms, and applied externally in the same disorder.

SAL SUCCINI PURIFICATUS.

PURIFIED SALT OF AMBER.

Take of Salt of Amber half a pound.

Distilled water one pint.

I 3

Boil

Boil the Salt in the distilled water, and set the solution aside to crystallize.

R E M A R K.

Salt of Amber, freed from as much of the oil as spongy paper will imbibe, is still of a dark brown colour: when perfectly pure it is white, and of an acid taste not ungrateful. It requires, for its solution, of cold water, in summer, about twenty times its weight; of boiling water about twice its weight; and is scarcely soluble at all, in rectified spirit, without the assistance of heat. L.

It is given as a cooling diuretic in doses of a few grains, and also in hysterical complaints.

FLORES BENZOËS.

FLOWERS OF BENJAMIN.

Take of Benjamin, in powder, one pound.

Put it into an earthen pot, placed in sand; and, with a slow fire, sublime the flowers into a paper-cone, fitted to the pot.

If the flowers are of a yellow colour, mix them with white clay, and sublime them again.

R E M A R K.

Only a small portion must be put in at a time, and the heat be very gentle. — Even a re-sublimation from tobacco-pipe clay does not so effectually purify the flowers as might be wished. L.

The Chymists have long disused the paper-cone. *Maud*, of London, and others, employed glass retorts, for the first sublimation, with the narrow part of the tubes cut off, to which they joined receivers not luted; scraping out the flowers frequently from the necks of the retorts, and using a degree of heat just sufficient to keep the Benzoin melted. For the rectification, they employed stone-ware bodies, with large glass blind-heads fitted to them, without luting. The impure flowers, after being wrapped in bibulous paper and moderately pressed, were re-sublimed into the blind heads of a pearly whiteness. Mr. Bartlett, a disciple of *Maud's*, improved the apparatus for large quantities; but the description of it is too long to be inserted here.

The flowers are given from three or four grains to fifteen in dyspnœa, &c.

KALI PRÆPARATUM.

PREPARED KALI.

Take of Pot-ash two pounds.

Boiling distilled Water three pints.

Dissolve the Pot-ash, and filtre the solution through paper: evaporate this solution till a pellicle appears on the surface; then set it aside for a night, that the neutral salts may crystallize; after which pour out the liquor, and boil away the whole of the water, constantly stirring, lest any Salt should adhere to the pot.

In like manner is purified impure Kali from the ashes of any kind of vegetable.

The same SALT may be prepared from TARTAR, burnt till it becomes of an ash colour.

R E M A R K.

This is intended to supply the place of *Sal Absinthii*. It is given from three or four grains to fifteen or more, properly diluted, as a diuretic.

AQUA

A Q U A K A L I.

W A T E R O F K A L I.

Take of Kali one pound.

Set it by in a moist place till it dissolves, and strain.

R E M A R K.

This is instead of the *Lixivium Tartari* of the last Dispensatory, and is said to contain nearly one part of alkaline salt to three of an aqueous fluid.

A Q U A K A L I P U R I.

W A T E R O F P U R E K A L I.

Take of Kali four pounds.

Quick-lime six pounds.

Distilled Water four gallons.

Put four pints of water to the lime, and let them stand together for an hour; after which, add the Kali and the rest of the water; then boil for a quarter of an hour; suffer the liquor to cool, and strain. A pint of
this

this liquor ought to weigh sixteen ounces. If the liquor effervesces with any acid, add more lime.

R E M A R K.

This was formerly called *Lixivium saponarium*. The boiling should be performed in an earthen or glass vessel, and the straining be through linen.

KALI PURUM.

PURE KALI.

Take of the water of pure Kali one gallon.

Evaporate it to dryness; after which let the Salt melt on the fire, and pour it out.

R E M A R K.

This preparation, formerly called *Alkali vegetabile fixum Causticum* and *Lapis septicus*, is described, in the Ed. Disp. 1783, more particularly, viz. to evaporate the Lixivium in a very clean iron vessel upon a gentle fire, till, on the ebullition ceasing, the saline matter gently flows like oil, which happens before the vessel becomes red. Pour out the caustic, thus liquified, upon a smooth iron plate;

plate; let it be divided into small pieces before it hardens, and these are to be put into phials close stopt. It is a very powerful caustic, but too apt to liquify upon the part to which it is applied, and to spread beyond the limits in which it is intended to operate.

CALX CUM KALI PURO.

LIME WITH PURE KALI.

Take of Quick-lime five pounds and four ounces.

Water of pure Kali sixteen pounds.

Boil away the water of pure Kali to a fourth part; then sprinkle in the Lime, broken to powder by the affusion of water. Keep it in a vessel close stopped.

R E M A R K.

This preparation, the *Causticum commune fortius* of the last Dispensatory, is less apt to liquify, and hence keeps better confined within the limits intended, but at the same time is proportionably more slow in its operation. L.

NATRON

NATRON PRÆPARATUM.

PREPARED NATRON.

Take of Barilla, powdered, two pounds;
Distilled Water one gallon.

Boil the Barilla in four pints of water for half an hour, and strain. Boil the part which remains after straining with the rest of the water, and strain. Evaporate the mixed liquors to two pints, and set them by for eight days: strain this liquor again; and, after due boiling, set it by to crystallize. Dissolve the crystals in distilled water, strain the solution, boil and set it aside again to crystallize.

AMMONIA PRÆPARATA.

PREPARED AMMONIA.

Take of Sal ammoniac, powdered, one pound.

Prepared Chalk two pounds.

Mix and sublime.

REMARKS

This was in the last Dispensatory called *Sal volatilis Salis ammoniaci*. The process requires a strong fire; for, the chalk must receive some degree of calcination before it will act on the Sal ammoniac, though it is not reduced to perfect lime; (for, with lime, no solid salt can be obtained.) P.

Though chalk does not act upon Sal ammoniac till a considerable heat is applied, it must not be too great nor too suddenly raised; for, if it is, a part of the chalk (though of itself not capable of being elevated by any degree of heat) will be carried up along with the volatile salt. *Du Hamel* (*Mem. Acad. Sc.*) could not separate the chalk, thus volatilised, by the gentlest re-sublimation; it dissolved with the volatile Alkali in water, and exhaled with it in the air. L.

AQUA AMMONIÆ PURÆ.

WATER OF PURE AMMONIA.

Take of Sal ammoniac one pound.

Lime two pounds.

Water one gallon.

Add

Add to the Lime two pints of the water. Let them stand together an hour; then add the Sal ammoniac and the other six pints of water boiling, and immediately cover the vessel. Pour out the liquor when cold, and distill with a slow fire one pint.

R E M A R K.

This water is far more pungent than the *Aqua Ammoniacæ with Kali*, both in smell and taste; and, like Kali, rendered caustic by the absorption of its fixed air on the admixture of lime, raises no effervescence with acids. It is too acrid for internal use, and was omitted in the last Dispensatory, Pemberton says, lest it should be given instead of the *Aqua Ammoniacæ* made with Kali, which follows. It is chiefly used for smelling to, in faintings.

AQUA AMMONIÆ.

WATER OF AMMONIA.

Take of Sal ammoniac one pound.

Pot-ash one pound and an half.

Water four pints.

Draw

Draw off two pints, by distillation, with a flow fire.

R E M A R K.

In the preparation of this water, (named in the last Dispensatory *Spiritus Salis Ammoniaci*;) a pungent odour arises as soon as the Pot-ash and Sal ammoniac are mixed. Hence Lewis advises to mix them in the retort; dissolving first the two salts separately, in half the water, pouring in the solutions together, and immediately fitting on a receiver, to begin the distillation.

**LIQUOR VOLATILIS, SAL, ET
OLEUM, CORNU CERVI.**

**THE VOLATILE LIQUOR, SALT, AND OIL,
OF HARTSHORN.**

Take of Hartshorn ten pounds.

Distill with a fire gradually increased. A volatile Liquor, Salt, and Oil, will ascend.

The Oil and Salt being separated, distill the liquor three times.

To

To the Salt add an equal weight of prepared Chalk, and sublime thrice, or till it becomes white.

The same volatile Liquor, Salt, and Oil, may be obtained from any parts (except the fat) of any kind of animals.

R E M A R K:

Hartshorn, when the quantity is not large, is made as dry as possible, and distilled from an iron pot, to which an alembic head, of earth or iron, is fitted, set in an open fire. The receiver may be of glass, and large, with a glass or tin adopter, inserted between that and the pipe of the head. The *Swed. Disp.* directs a *tubulated* iron retort and adopter. The fire is to be first moderate, increased slowly, and at length raised almost to the highest degree. An aqueous liquor arises, succeeded by the salt and oil. The salt at first dissolves as it comes over in the phlegm; and, when this is saturated, the remainder of the salt comes over, and concretes in a solid form. When the Salt begins to arise, white fumes are seen to pass into the receiver, which increasing, yellow saline crystals form themselves on its sides. The fire is
not

not now to be hastily augmented, as these fumes come with such vehemence as would sometimes throw off or burst the receiver, if a small hole were not made in the luting, to be stopped with a wooden peg, or left open at discretion. After the Salt has all arisen, a thick Oil, of a dark red colour, comes over: the process is now to be discontinued, and the vessels, when grown cold, unluted.

The Liquor being poured out of the receiver, the Salt which remains adhering to its sides is to be washed off with a little water, and added to the rest; unless it be required to have the whole of the salt solid and undissolved, in which case the phlegm should be removed as soon as the Salt begins to arise, and the receiver till that time left unluted.

The Oil may be first separated from the volatile liquor (formerly called *Spiritus Cornu Cervi*) by the funnel, and afterwards, more perfectly, by filtration through paper *first wetted*.

The volatile liquor may be freed, from the superfluous phlegm, by distillation in a common retort, placed in a sand-furnace, if conducted with a very gentle heat. The Salt will rise first, and fix itself to the upper part of the receiver, from which it will soon be washed down by the subsequent
K phlegm.

phlegm. As soon as the Salt is almost dissolved, Lewis has advised, to raise the retort out of the sand, to stop the process directly, and, if any Oil swims on the top, to skim it off. The liquor will thus be fully saturated, and prove always equal in strength; whereas, if the process is not now stopped, the phlegm continuing to rise must render the liquor weaker. As this rectification is not sufficient to render it pure, that is, clear, and of a grateful odour, the College have directed it to be repeated a third time.

The Salt may be separated from the Liquor, and purified, in some degree, by sublimation in a tall body with a glass head; removing the vessels as soon as the phlegm begins to rise: but it requires farther depuration, by subliming it from a small portion of Alcohol, or, as the College directs, from chalk:

KALI VITRIOLATUM.

VITRIOLATED KALI.

Take of the Salt which remains after the distillation of the nitrous Acid two pounds.

Distilled

Distilled Water two gallons.

Burn out the superfluous acid, with a strong fire, in an open vessel; then boil it a little while in the water; strain and set the liquor aside to crystallize.

R E M A R K.

This neutral Salt, the *Tartarum vitriolatum* of the former Dispensatory, is of all others most difficult of solution, very little of it being taken up by cold water. It is of a taste moderately bitter, and has been given to adults, in doses of a scruple or half a dram, as a deobstruent; and, in doses of four or five drams, as a mild cathartic, which does not pass off so hastily as the *Natron vitriolatum*, and is supposed, by some, to perform its office more completely, as well as to extend its action beyond the *primæ viæ*.

NATRON VITRIOLATUM.

VITRIOLATED NATRON.

Take of the Salt which remains after the distillation of the muriatic Acid two pounds.

K 2

Distilled

Distilled Water two pints and an half.

Burn out the superfluous acid, with a strong fire, in an open vessel ; then boil it a little in the water : strain the solution, and set it by to crystallize.

R E M A R K.

This Salt, the *Sal Catharticus Glauberi* of the former Dispensatory, is in common use as a purgative, acting quickly and without griping ; and given to adults from six drams to ten.

NITRUM PURIFICATUM.

PURIFIED NITRE.

Take of Nitre two pounds.

Distilled Water four pints.

Boil the Nitre in the water till it is dissolved : strain the solution, and set it by to crystallize.

R E M A R K.

The usual method of evaporating solutions of Salts, in order to their crystallization, till a pellicle appears

appears on the top, fails in Nitre. Here, when the liquor is become ready for shooting, if a little be taken up in a spoon as it cools, the Salt will begin to shew itself in small threads. P.

KALI ACETATUM.

ACETATED KALI.

Take of Kali one pound.

Boil it, with a slow fire, in four or five times its quantity of distilled vinegar; the effervescence ceasing, let there be added, at different times, more distilled vinegar, untill the first vinegar being nearly evaporated, the addition of fresh will excite no effervescence, which will happen when about twenty pounds of distilled vinegar are consumed; afterwards let it be dried slowly. An impure Salt will be left, which melt for a little while with a slow fire; then let it be dissolved in water, and filtered through paper.

If the fusion has been rightly performed, the strained liquor will be colourless; if otherwise, of a brown colour.

K 3

Lastly,

Lastly, evaporate this liquor, with a slow fire, in a very shallow glass vessel; the Salt whilst it dries being sometimes stirred, that it may sooner grow dry, which should be kept in a vessel close stopt.

The Salt ought to be of the greatest whiteness, and dissolve wholly, both in water and spirit of wine, without leaving any fæces. If the Salt, although white, should deposite any fæces in spirit of wine, that solution in the spirit should be filtered through paper, and the Salt again dried.

R E M A R K.

This is the *Sal diureticus* of the former Dispensatory. The operator must be very careful, in melting the impure Salt, not to use too great an heat, or to keep it liquified too long; a little should be occasionally taken out, and put into water; and, as soon as it begins to part freely with its black colour, the whole is to be removed from the fire. In the last drying, the heat must not be so great as to melt it; otherwise it will not prove totally soluble. L.

It is celebrated as a powerful diuretic in hydroptic cases, and proving at the same time mildly laxative.

tive. Its dose to adults is from a scruple to a dram or two.

AQUA AMMONIÆ ACETATÆ.

WATER OF ACETATED AMMONIA.

Take of Ammonia, by weight, two ounces.

Distilled Vinegar four pints; or as much as is sufficient to saturate the Ammonia.

Mix.

R E M A R K.

The strength of this medicine is not a little precarious, as depending on that of the vinegar. L.

Spielman, in his *Pharm. general*. mentions the dose as a dram. Here it is commonly given as a diaphoretic more largely; viz. from two or three drams to six.

KALI TARTARISATUM.

TARTARISED KALI.

Take of Kali one pound.

K 4

Crystals

Cryftals of Tartar three pounds.

Diffilled Water, boiling, one gallon.

To the Salt, diffolved in water, throw in gradually the cryftals of Tartar, powdered: filter the liquor, when cold, through paper; and, after due evaporation, fet it by to cryftallize.

R E M A R K.

This is the *Tartarum folubile* of the former Difpenfatory, and given to adults, from half an ounce to an ounce, as a mild purgative.

NATRON TARTARISATUM.

TARTARISED NATRON.

Take of Natron twenty ounces by weight.

Cryftals of Tartar, powdered, two pounds.

Diffilled Water, boiling, ten pints.

Diffolve the Natron in the water, and gradually add the cryftals of Tartar. Filter the liquor

liquor through paper; evaporate and set it by to crystallize.

R E M A R K.

This has been commonly called *Sal Rupellensis*, or *Rochelle Salt*. Like soluble Tartar, it is decomposed by acids, but does not, like that, liquify on exposure to the air, and its purgative quality is weaker. It is given from an ounce to an ounce and a half as a mild purgative.

ALUMINIS PURIFICATIO.

PURIFICATION OF ALUM.

Take of Alum one pound:

Chalk one dram by weight.

Distilled Water one pint.

Boil a little, strain, and set the liquor aside to crystallize.

ALUMEN USTUM.

BURNT ALUM.

Take of Alum half a pound.

Burn

Burn it in an earthen vessel so long as it bubbles.

R E M A R K.

This burning expels only the water, the acid still remaining. It is used externally to destroy what is called fungous flesh.

If the crystals of Salts are fouled with any impurities, first wash them with the liquor left, then with a little distilled water or rectified spirit of wine.

When the crystals of any kind of Salt are formed from any liquor, pour out the remainder of that liquor; and, if necessary, strain it. By repeated evaporation waste a part of it, and set aside the rest to crystallize. Repeat this so long as pure crystals are obtained.

MAGNESIA.