SOLID VEHICLES

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VEHICLES

Homoeopathic vehicles are material agents that are therapeutically inert, having no curative properties of its own, as well as chemically non-reactive with drug substances

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Classification of Homoeopathic Vehicles
(Based on Physical property)

- **Solid Vehicle**
- **Liquid Vehicle**
- **Semi-solid Vehicle**

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SOLID VEHICLES

- Sugar of milk
- Cane sugar
- Globules
- Cones
- Tablets

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Vehicles used in homoeopathy, which are in the solid state at room temperature, are -

- Sugar of Milk
- Cane sugar
- Globules
- Cones
- Tablets

SUGAR OF MILK

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SUGAR OF MILK

SYNONYMS:

- Saccharum Lactis
- Saccharum Lactose
- Lactose
- Sac Lac

CHEMICAL FORMULA: $\mathbf{C_{12}H_{22}O_{11}.\ H_2O}$

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SUGAR OF MILK

SOURCE

- Sugar of Milk is prepared from goat's milk, which contains lacto-albumin, lacto-globulin, caseinogen, lactose, fats, minerals, salts and water.

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PREPARATION

- Milk is allowed to stand still, preferably in a cold storage and is skimmed off after the cream has settled. This removes most of the fat content of the milk leaving behind a solid portion of proteins, salts and minerals and a fluid portion of lactose and water.
- This fat-free skimmed milk is treated with dilute hydrochloric acid to precipitate casein. Most of the protein is thus removed by filtration.
- The remaining filtrate is called as 'whey'. The reaction of this whey is adjusted to a pH of 6.2 by addition of lime. The whole filtrate is then heated to coagulate any further albuminous matter.
- This is then subjected to filtration and the liquid set aside to crystallize. These crystals are redissolved in distilled water and are treated with animal charcoal to decolourize the solution.
- This solution is recrystallized to obtain 'commercial lactose'

SUGAR OF MILK

PHYSICAL PROPERTIES

- Milky white in colour; its perfect whiteness indicates freedom from fat
- Hard crystalline mass or powder
- Odourless; taste slightly sweet
- Clarity, colour and odour of solution: Dissolve 3.0gm in 10ml of boiling water; the solution is clear, colourless and odourless.
- Sandy or gritty feel on touch
- Stable in air, but readily absorbs odours

SUGAR OF MILK

CHEMICAL PROPERTIES

- MOLECULAR WEIGHT: **360.3**
- Solubility: 1 gram of sugar of milk is soluble in 5ml of cold water and in 2.6ml of boiling water.
- It is insoluble in alcohol
- It is neutral to litmus
- Optical rotation: plus 55.30 at 200C; it is dextro-rotatory

USES

- The preservative properties of sugar of milk are superior to cane sugar and most other substances, keeping the minutest particles of triturated metals untarnished by oxidation, for an indefinite time. Even readily deflorescent substances like potassium iodide and others that are easily decomposed, are preserved by trituration with equal parts of milk sugar, even if kept in paper capsules, for a much longer time than without the milk sugar.

- Sugar of milk is devoid of all medicinal action. Its crystalline particles are very hard and gritty and hence are of great use in grinding down the particles of drugs submitted to the process of trituration.

USES

- Drug substances those are insoluble in liquid vehicles like water and alcohol are triturated with sugar of milk. Mother substances, according to class VII, class VIII and class IX are prepared with sugar of milk.
- Sugar of milk is an important solid dosage form for dispensing of homoeopathic medicines.
- Sugar of milk can also be dispensed as placebo.
- Sugar of milk is used for the preparation of tincture triturates, tablet triturates and tablets.
- It is devoid of fat and as such may be used as a temporary diet for babies who cannot tolerate milk.

INERT NATURE OF SUGAR OF MILK

Hahnemann, in 'Chronic Diseases ', comments -

There were some anxious purists, who were afraid that even the pure sugar of milk, either in itself or changed by long trituration, might have medicinal effects. But this is a vain, utterly unfounded fear, as I have determined by very exact experiments. We may use the crude, pure sugar of milk as a food, and partake of considerable quantities of it, without any change in the health, and so also the triturated sugar. But to destroy at the same time the fear to which utterance has been given by some hypochondriacs, that through a long trituration of the sugar of milk alone, or in the potentizing of medicines, something might rub off from the porcelain mortar (silica), which being potentized by this same trituration would be bound to become strongly acting Silicea; I took a new porcelain triturating bowl in which the glazing had been rubbed off, with a new porcelain pestle, and had one hundred grains of pure sugar of milk, divided into portions of thirty-three grains, triturated eighteen times for six minutes at a time and as frequently scraped for four minutes with a porcelain spatula, in order to develop by this three hours' strong trituration a medicinal power either of the sugar of milk or of the silica or of both. But my preparation remained as indifferent and unmedicinal as the crude, merely nutritive sugar of milk, of which I convinced myself by experiments on very sensitive persons.

CANE SUGAR

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CANE SUGAR

CHEMICAL FORMULA : $\mathbf{C_{12}H_{22}O_{11}}$

MOLECULAR WEIGHT : 342.3

SOURCE

Sucrose is a sugar obtained from

- Saccharum officinarum (family - Graminae): sugarcane:- (-D-glucopyranoside
- Beta vulgaris (family - Chenopodiaceae): beet sugar:- (-D-fructofuranosyl

PROPERTIES

- Colourless or white crystals, crystalline masses or blocks or a white crystalline powder
- Odourless; sweet taste
- Stable in air
- Solution neutral to litmus
- Neutral to litmus
- Sweeter than Sac Lac
- Specific gravity: 1.57

GLOBULES

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GLOBULES

SOURCE

- Globules are prepared from pure cane sugar (pharmaceutical grade of cane sugar / sucrose). It is sometimes made with 80 Pecent sucrose and 20 Pecent lactose.

PREPARATION

- Granulated cane sugar is placed in a rotating stainless steel globule-making pan or pill tubes and rolled until the granules are formed into spherical shape.
- Purified water is injected as the tube rotates. The size of the globule depends on the water spray. The size of the globule will be bigger if the water spray is more.
- When the required size globules are formed, they are removed to a hot chamber, where they become dry.
- After drying is complete, the globules are made to pass through sieves having various size meshes.

GLOBULES

- Hahnemann, as we learn from his writings, used globules of various sizes. Those for administration by the mouth he usually describes as the size of a poppy seed. He states them to be of the weight of 300 or 200 to the grain and says that 300 of them are sufficiently moistened by one drop of alcohol. Those for olfaction, he usually states to be of the size of a mustard seed.

- Hahnemann, in the 6th edition of Organon of Medicine, aphorism number 270, under the new method of developing the medicinal power, advises the use of the small sugar globules for medication - they are prepared under supervision by the confectioner from starch and sugar and the small globules freed from fine dusty parts by passing them through a sieve; then they are put through a strainer that will permit only 100 to pass through weighing one grain, the most serviceable size for the needs of a homoeopathic physician.

CONES

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CONES

SOURCE

- Cones are made of cane sugar and rendered more absorbent with the addition of a small quantity of egg albumin, which makes them very light and porous.

TABLETS

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TABLETS

Tablets are solid masses that are made by the compaction of a suitably made medicament by a tablet machine. Although tablets may be manufactured in wide range of shapes, officially tablets are unit forms of solid medicinal substances and defined as circular discoids with either flat or convex faces.

SOURCE

- Tablets are prepared from pure refined sugar of milk.

QUALITIES OF A TABLET

A satisfactory tablet should have the following properties

- It should contain the correct dose of the drug.
- It should not contain any unnecessary excipients.
- It should be capable of being handled and transported without crumbling.
- It should possess a smooth and uniform surface.
- It should disintegrate readily after administration.
- It should have a reasonable shape and size for convenient administration.

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