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SODIUM SULPHIDE PELLET.

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This invention relates to the production of sodium sulphide in pellet form ready for shipment and for dissolving, and has for its object to reduce waste and produce this material in pellets of substatially uniform size better adapted to be quickly dissolved.

Heretofore, one way of making sodium sulphide has been by casting it into blocks for shipment to consumers but this is open to the objection of being unsatisfactory where the material is dissolved in water as such blocks are usually of a relatively large size and therefore do not dissolve readily, or else if the blocks be made small, the casting of small blocks becomes prohibitive in cost. Another way in which the material has been prepared is by grinding, rolling, cutting, hammering, and the like until in the form of finely divided particles and chips, but these particles are not all of the same size and therefore do not dissolve uniformly in water, or if the particles are all finely divided, there is waste in powder or dust which gets lost and is not satisfactory to handle.

According to this invention these objections are overcome by pouring the material while molten in small streams whereby substantially spherical pellets are formed in falling. For cooling the pellets are dropped into trichlorethylene maintained at a temperature below the melting point of the sodium sulphide.

Sodium sulphide containing less water than that required for its crystallization as $Na_2S.9H_2O$ and preferably so far dehydrated that it contains 60% or more by weight of Na_2S is fused in any suitable container and is then sprayed or poured in streams of small cross-section into a suitable liquid such as trichlorethylene which does not react with the sulphide. The fused material takes on a form having a smooth curvilinear surface and solidifies in contact with the cooling liquid. By varying the sizes of the openings through which the fusion is poured; by variation of the pressures under which it is forced out under such openings or by varying the height through which it falls before it reaches the cooling liquid I can easily regulate the sizes of the pellets. The pellets which accumulate at the bottom of the trichlorethylene may be removed either continuously or intermittently by any suitable means. If the operation is made continuous it may be advantageous to provide means for cooling the trichorethylene so as to avoid too great losses by evaporation. This may conveniently be accomplished by circulating the trichlorethylene by means of a pump thru a separate container containing cooling coils.

Among the advantages of this invention may be mentioned the attainment of the material in small particles of substantially uniform size so that all are dissolved readily and in about the same time. Another advantage resides in the freedom from waste in dust, which dust under the prior art methods became lost in handling. A further advantage lies in obtaining the foregoing benefits at small cost. Also by using the cooling liquid, no great heights are necessary and the pellets may be dropped only a few feet or less, the cooling being done by the liquid.

I claim:

1. Sodium sulphide in readilly soluble form, comprising a quantity of substantialy spherical pellets of substantially uniform size.

2. As an article of manufacture, sodium sulphide in the form of substantially spherical pellets.

3. As an article of manufacture, sodium sulphide in pellet form, containing more than 60% by weight of sodium sulphide.

Signed at New York city in the county of New York and State of New York this 28th day of October, A. D. 1924.

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