

Blue Organic Fueled Star:

Name: Chinese deep violet-blue microstars

Source: Myke Stanbridge / Rec.pyro

Chemical	Parts by weight
Potassium Perchlorate	39
Copper(II) Oxide, black	37
Sulfur	15
Hexachlorobenzene	6.5
Red Gum	2.5

Notes:

The classical 'dark blue' or more correctly a deep violet blue, was obtained using potassium perchlorate with a very high black copper oxide content, a precipitated sulfur and acacia gum fuel/binder, and HCB as chlorine donor... The trick is to minimize the hydrogen content of the composition as far as possible. I have posted such formulations here for general information; in particular, the Chinese warm pressed microstar formulation with minimal acacia gum: Chinese deep violet-blue microstars Potassium perchlorate to pass #240 Black copper oxide to pass #240 precipitated sulfur to pass #240 Hexachlorobenzene (HCB) to pass #60 Acacia gum, a top quality fine dust.

The following method was developed to duplicate what is a very nice microstar. the formulation is not balanced for stars larger than around four millimeters in diameter. This formula is blended four times through a #24 mesh screen without the HCB, this is added on a fifth screening after a spraying with distilled water and even sprinkling on of the HCB. This is done to minimize HCB dust, etc. The mix is screened a final sixth time. Making the 3 mm cylinder micro stars requires a twin-roller press and warm damp powder. A roller mill with 4" rollers works well. The arrangement has a silicone rubber mat with many 3 mm holes, which is put between two stainless steel plates. The hard rubber mat is screed filled with damp composition while laying on the bottom plate, and is covered with the top plate and put through the roller mill, etc. The dry microstars fall out easily by gentle bending, etc...

Special notes: 'The use of Acacia gum is rather special because it doesn't melt during its decomposition, whereas its hydrogen is released as water vapor with a minimal effect on color. I naturally tried the various combinations with many chlorine donors, including dechlorane, but it was not as good. Oddly the formulation is very tight, and even tiny changes make a very big difference in the final performance. Changing star size to even 5 mm leads to a marked decrease in performance over the 3 mm microstars.'