# CRIMSON POWDER[1]

*For rocket Parachute Ejection Charge*

Crimson Powder has certain advantages over *Black Powder*, including:

- lower combustion temperature which minimizes heat damage to the rocket
- higher impetus (i.e. more potent)
- combustion residue is odourless and cleans up readily with warm water

I have used Crimson Powder exclusively as ejection charge for my *Zeta*, *DS*, and *Xi* rockets.

Ingredients to make approximately 10 grams of *Crimson Powder*:

| | |
|---|---|
| Potassium Nitrate | 6.2 grams |
| Ascorbic acid | 4.5 grams* |
| Red iron oxide | 0.5 gram |
| Water, boiling | 30 ml |

*In the form of Vitamin C tablets, =11 tablets, 500 mg each (Vitamin C tablets are typically 83% ascorbic acid, 17% cellulose filler)

Place all constituents into a pot containing the boiling water. Stir until potassium nitrate and ascorbic acid are fully dissolved.

If Vitamin C tablets are used, it will be necessary to strain through a double layer of paper towel (or similar filter material) to remove cellulose filler.

Boil mixture in a deep fryer or electric skillet until **most** of water has evaporated and a **wet** "fluid paste" remains, being careful not dry out the mixture.

Scrape paste into a thin layer onto a shallow aluminum pan lined with aluminum foil.
Place in a desiccator** to dry thoroughly. This typically takes a few days.

Using mortar & pestle, grind up dried mixture to a **granular** consistency. *To ensure suitable combustion, do not grind to a fine powder.* Ideally, the product should be sifted using sieves, keeping solely the product screened to pass #14 mesh and retained by #60 mesh (particle size range 500-1400 microns).

**Store in a sealed jar with silica gel or in a desiccator. Crimson Powder absorbs moisture and must be kept dry to retain potency.**

**WARNING: DRY FORM IGNITES VERY EASILY & BURNS VERY FAST. WEAR PROTECTIVE GEAR (FACE SHIELD, LEATHER GLOVES, ETC.) AT ALL TIMES WHILE PREPARING & HANDLING. DO NOT MAKE MORE THAN 10 GRAMS AT A TIME.**

** A desiccator can easily be made by spreading a 2 or 3 cm. layer of Calcium Chloride (commonly available as a drying agent) over the bottom of a suitable Tupperware container. Make sure the lid is fitted snuggly.

[1] Developed by Peter Ericksson Written by Richard Nakka Rev. 1.5 2022/06/30

10 grams of Crimson Powder

Crimson Powder sample being burned

View video at

http://www.nakka-rocketry.net/video/crimson_powder.mpg