

# Crystal Crusher

## Applications

- Crush macro crystals to create micro crystals

## Features

- Solid, borosilicate glass tool and handle
- Smooth, hemispherical tip, will not damage crystallization plate
- Prepare micro crystals for seed stock for Microseed Matrix Screening (MMS)

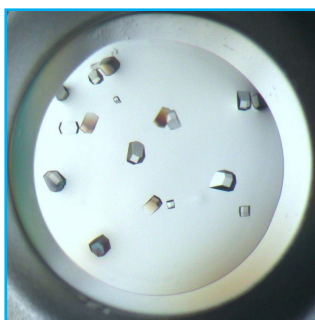
## Description

The Crystal Crusher is designed to crush macro crystals into micro crystals for seeding and other applications. The hemispherical end of the tool fits round, concave bottomed sitting drop crystallization plates for efficient crystal crushing. The Crystal Crusher is molded from solid, borosilicate glass. One end of the tool features a larger diameter, cylindrical handle, while the opposite end features a smooth, hemispherical end for crushing crystals without damaging crystallization plates. Five Crystal Crushers per pack.

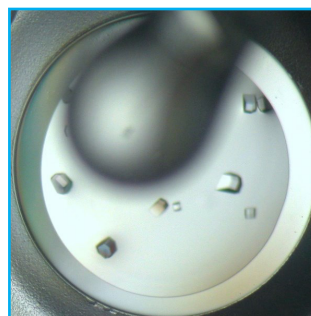


- Overall length: ~ 43 mm
- Diameter of handle: ~ 3 mm
- Diameter of hemispherical end: ~ 1 mm

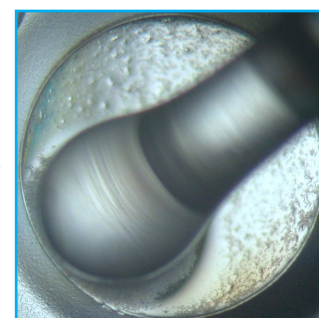
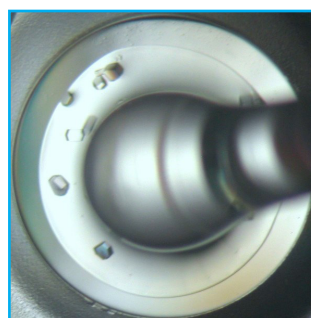
## Crushing Crystals



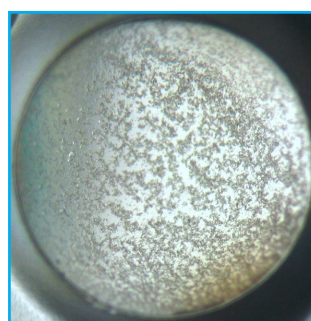
1. Position the crystallization plate and drop well containing the crystals to be crushed under the microscope. Using the HR4-124 X-Acto Gripster Knife, cut the film around the well and remove the film using a forcep.



2. Working quickly, to minimize evaporation from the drop, position the Crystal Crusher above the drop well, the hemispherical end positioned down towards the drop.



3. Lower the Crystal Crusher into the drop and begin crushing the macro crystals into micro crystals with a gentle up and down motion throughout the entire drop. Keep the Crystal Crusher in the drop, this is no time to get silly and splash or spread the drop you brute.



4. In a matter of seconds, your macro crystals will be crushed into micro crystals. Remove and set the Crystal Crusher aside. Seal the experiment using HR4-508, 0.75 inch wide Crystal Clear Mini Sealing Tape.

Use the microcrystals to create a seed stock using the HR2-320 Seed Bead kit. See the HR2-320 Seed Bead kit User Guide.

# Crystal Crusher

## Cleaning the Crystal Crusher

The Crystal Crusher can be cleaned using laboratory detergents such as Micro 90 from International Products Corporation ([www.ipcol.com](http://www.ipcol.com)) or similar. After washing, rinse the Crystal Crusher with deionized water, dry with lint free wipe and store in the supplied case.

## References

1. Seeds to crystals. Terese Bergfors. *Journal of Structural Biology* 142 (2003) 66 - 76.
2. J.R. Luft and G.T. DeTitta, *Methods in Enzymology* (1997) 276, 110 - 131.
3. An automated microseed matrix-screening method. Allan D'Arcy, Frederic Villard and May Marsh. *Acta Cryst.* (2007). D63, 550 - 554.
4. Semi-automated microseeding of nanolitre. Thomas S. Walter, Erika J. Mancini, Jan Kadlec, Stephen C. Graham, Rene´ Assenberg, Jingshan Ren, Sarah Sainsbury, Raymond J. Owens, David I. Stuart, Jonathan M. Grimes and Karl Harlos *Acta Cryst.* (2008). F64, 14 - 18.
5. Stura, E.A., Wilson, I.A., *Methods: A Companion to Methods in Enzymology* (1990) 1, 38 - 49.
6. Stura, E.A., Wilson, I.A., "Seeding Techniques" in *Crystallization of Nucleic Acids and Proteins: A Practical Approach*. Oxford University Press (1992) 99 - 126.
7. Structure of an orthorhombic form of xylanase II from *Trichoderma reesei* and analysis of thermal displacement. Watanabe et al. *Acta Cryst.* (2006). D62, 784 - 792.
8. Crystallization and preliminary crystallographic analysis of p40phox, a regulatory subunit of NADPH oxidase. K. Honbou, S. Yuzawa, N. N. Suzuki, Y. Fujioka, H. Sumimoto and F. Inagaki. *Acta Cryst.* (2006). F62, 1021 - 1023 (Used seed bead to optimize).
9. Purification, crystallization and preliminary X-ray diffraction study of human ribosomal protein L10 core domain. Yuji Kobayashi et al. *Acta Cryst.* (2007). F63, 950 - 952.

## Related Items

<b>HR2-320</b>	Seed Bead Kit - 24 tubes with Seed Beads
<b>HR4-124</b>	X-Acto Gripster Knife, Blue
<b>HR4-508</b>	0.75 inch wide Crystal Clear Mini Sealing Tape 0.75 inch x 650 inch, with cutter

## Technical Support

Inquiries regarding the Crystal Crusher and general inquiries regarding crystallization are welcome. Please e-mail, fax, or telephone your request to Hampton Research. Fax and e-mail Technical Support are available 24 hours a day. Telephone technical support is available 8:00 a.m. to 4:30 p.m. USA Pacific Standard Time.

Hampton Research  
34 Journey  
Aliso Viejo, CA 92656-3317 U.S.A.  
Tel: (949) 425-1321 • Fax: (949) 425-1611  
Technical Support e-mail: [tech@hrmail.com](mailto:tech@hrmail.com)  
Website: [www.hamptonresearch.com](http://www.hamptonresearch.com)