II-VI

How to handle broken or burnt ZnSe Optics

Broken ZnSe Optics

Toxicity studies to determine the risks of handling or ingesting ZnSe have shown that this material is not toxic. However, long-term effects of ZnSe dust inhalation are unknown. ZnSe is normally machined or ground using wet slurries to minimize any dust which could result in inhalation. In general, good work practices should be followed, such as washing hands after handling to avoid any transfer of ZnSe dust into the mouth for example.

If a ZnSe optic is broken, II-VI recommends that large pieces be gathered and placed in an appropriate container for disposal. Small, dust-size pieces should be wiped up with a wet cloth or paper towel to avoid airborne dust. Broken or scrap ZnSe pieces should be discarded in a properly licensed industrial disposal facility.

Burnt ZnSe Optics

If a ZnSe optic is burnt or melted due to the absorption of the CO_2 laser, the ZnSe will decompose into ZnO and SeO_2. If there is a thorium coating on the lens, then a very small quantity of thorium dust could also be generated. Cleanup of the decomposed ZnSe should be conducted by ventilating the room for 15 minutes, turning off the ventilation and waiting an additional 15 minutes for any dust to settle, wearing a dust mask, and wiping the area with a wet cloth or paper towel to avoid further spreading. The decomposed ZnSe may require more abrasive cleaning to remove the ZnO and SeO_2 from surrounding lens mounts and beam delivery tubes. This should be cleaned with wet sandpaper or other like method. The resulting material should be disposed of in a properly licensed industrial waste facility.

Disposal of Used or Broken Optics

Please contact our Customer Service team at +1-888-558-1504, who will issue a Return Authorization Number for the return of used or broken optics.

WEBSITE
ii-vi.com

CONTACT
sales@ii-vi.com