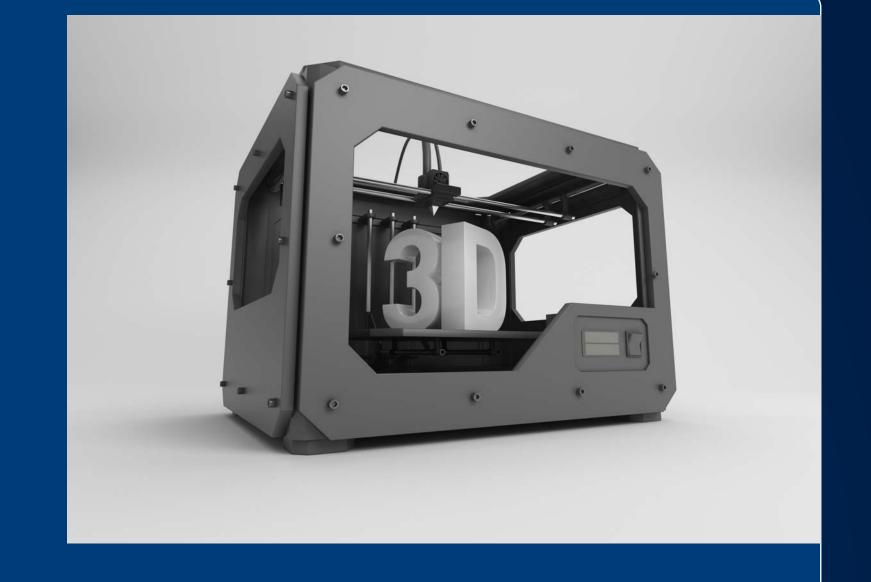
# **3D Printing Hazards Enjoy Operating 3D Printers In a Safe and Environmentally Friendly Way!**

**3D** 

## **Common Types of 3D Printers**

30

- Polymer Filaments, Powders
  - UV Light Cure Stereolithography, Inkjet
  - Melt Fused Deposition, Laser Sintering



31

**PRIN1** 

• Metal - Powder, Wire

3D

- Powder Bed Laser Sintering, Melting
- Electron Beam Direct Manufacturing

### **Potential Hazards - Use Safeguards**

- Before the Print
  - Handling of resins
- During the Print
  - High temps
  - Pinching hazards
  - Fume/Vapor
  - Combustible Dust
- After the Print
  - Post-prosessing
  - Support Material Removal

- Lasers/UV
- Noise
- Particulate (nano)



- Waste Disposal (caustic, solvent)

#### Safety! Talk with your ESH rep.

- Do not circumvent safeguards
- Beware of moving parts
- Wear protection appropriate to the hazards
- Use ventilation
- Store supplies properly
- Responsibly manage waste products



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