

This leads to a higher yield stress  
 & a harder material; e.g. steel vs. iron  
 where the impurity is carbon in steel.

e) Point defects

Vacancy

Interstitial Atom (Carbon in steel)

Substitutional Atom (Zn in Cu)  
 (small or large)

Frenkel defect

Schottky defect

Screw Dislocation

Edge Dislocation

Mixed Dislocation

Twining Surface defect

Grain Boundary

Small angle or large angle