

## **M507 – Health effects of hazardous substances – Revision questions**

### **Section 9 – Common industrial processes**

1. What are the main hazardous substances generated by arc welding of stainless steel?  
(Pages 137 to 141)
  - Metal oxide fumes – particular problem with stainless steel alloy is higher levels of chromium and nickel
  - Ozone and oxides of nitrogen from breakdown of air from ozone produced by arc
  - Potential build up of inert gas in confined area
  
2. What are the main hazardous substances encountered during electroplating processes?  
(Pages 142 to 144)
  - Chromium (hexavalent) or nickel – depending on type of electroplating
  - Strong acids and alkalis
  - Cyanide solutions
  
3. What is the main hazardous substance generated by soldering processes?  
(Pages 144 to 147)
  - Breakdown (pyrolysis) products from the solder flux – often rosin-based – potent respiratory sensitiser
  
4. How can exposure to solvents be minimised / controlled in degreasing operations?  
(Page 147 to 151)
  - Consider both inhalation and skin absorption routes of entry
  - Cold degreasing – allow sufficient drain time, avoid spraying if possible, keep containers covered, dispose of used cloths safely
  - Vapour degreasing – cooling coils and lip extraction to tank, correct stacking, ensure sufficient drying time, care needed when cleaning sludge from base of tank
  
5. What are the main hazardous substances encountered during painting operations?  
(Pages 151 to 155)
  - Organic solvents – particularly for paint spraying
  - Isocyanates – from 2-pack epoxy paints
  - Others such as additives or pesticides, pigments such as lead, cadmium and chromium