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| Title of Technology to be offered | An improved process for producing high purity copper powder from copper wastes scrap by direct electrolysis |
| Type of Technology | Know-how process |
| Area of Technology | Waste recycling |
| Details of Collaborating Agency | Copper powder producing industries |
| Uses | For manufacturing the bearings, aerospace materials, electrical contacts etc. |
| Salient Features | Abstract: The present invention relates to a process for producing copper powder from copper containing industrial wastes employing direct electrolysis. The production process can be effected using anode support system made of stainless steel (s.s.) in an electrochemical cell. The invention is useful for producing copper powder directly utilising the industrial copper wire scrap housed in the anode support system in place of conventional copper plates made from smelting of industrial copper wire scrap. Copper sulphate solution with sulphuric acid is used as electrolyte. The copper deposited during electrorefining on s.s cathode is brushed down at the regular intervals and anode current is imparted to effect the electrolysis process. |
| Scale of Development | Scale: 150 g |
| Major Raw Materials | Copper wastes scrap |
| Major Plant Equipment/Machinery | Rectifier, Electrolysis tank, Sieves of different mesh |
| Details of specification application | High purity copper powder: > 99% |
| Status of Development | The know-how process could be demonstrated on ½ kg scale |
| Ecological/Environmental Impact (if any, specify briefly) | No harmful environmental impact |
| Patenting details | An improved process for producing high purity copper powder from copper wastes scrap by direct electrolysis. [Patent No.: 0152NF2008] |
| Commercialisation Status | Ready for commercialisation |
| Techno-Economics | ROI: 80% |
| Key words | Copper wastes scrap, Copper powder, Direct electrolysis, Anode-support system |