

University of Leeds Classification of Books

Chemical Engineering

[A General]

- A-0.01 Periodicals
- A-0.02 Series
- A-0.03 General symposia
- A-0.04 Bibliography
- A-0.19 Dictionaries, encyclopaedias
- A-1 General texts
- A-2 Mathematics and computing
- A-2.3 Statistics and data analysis
- A-2.7 Optimisation techniques and economics
- A-4 Physics
- A-4.5 Thermodynamics; Properties of compounds and mixtures; Power thermodynamics; Thermodynamics of separation
General works : Mechanical Engineering E, Physics J-3
Chemical aspects: Chemistry J-1

- A-6 Kinetics; Reaction kinetics; Chemical reactor design
General works : Chemistry G

[B Momentum transfer]

General works: Mechanical Engineering F, Physics C-2

- B-1 Flow of fluids (theory)
 - Laminar flow, turbulent flow, transition flow, compressible fluids, boundary layers, boundary layer stability.
 - Non-Newtonian fluids
 - Viscometry
 - Multi-phase flow
 - Transport processes
- B-2 Flow of fluids (practice)
 - Pumps and compressors
 - Fans and Blowers
 - Ejectors
 - Pipework Fittings
 - Vacuums
- B-3 Solid-fluid systems
 - Flow through porous media and packed beds, particle size measurement
 - Fluidisation, fluidized beds

Flow of particles in suspension
Fluid-solid conveying, particle flow

C-0 Physical separation (industrial scale)

Solid-Liquid separation
Cyclones, centrifuges
Filtration, Elutriation
Thickening etc., Settling
Electrical precipitation, magnetic separation
Osmosis, desalination, reverse osmosis

[D Mass transfer: diffusion process – molecular convective]

- D-0 Membrane separation, catalytic separation
- D-1 Interphase transfer processes
 - D-1.2 Air conditioning
Humidifying psychrometry
Gas absorption
 - D-1.3 Droplet separation
 - D-1.4 Evaporator design and crystallisation
Distillation - azeotropic, extractive, batch
 - D-1.5 Colloid engineering
 - D-1.6 Liquid - Liquid extraction, emulsions, foams, solvent extraction
 - D-1.8 Absorption
 - Ion exchange
 - Leaching
 - Drying
 - Mixing and agitation
 - D-1.9 Gaseous diffusion (isotope separation)
 - Atmolysis
 - Dialysis
 - Thermal diffusion

[O Process design, development and organisation]

- O-1 General - safety, etc., e.g. industrial toxicology, fire prevention, process plant design
- O-2 Stoichiometry - heat, mass balances
- O-3 Specific design - high pressure vessels, chemical reactors, bubble columns
- O-5 Materials of construction - non-metallic, metallic, corrosion
- O-7 Process instrumentation - measurement, control, system analysis, process modelling, simulation
Theory of automatic control : Electrical Engineering Z-2

[P-0 Costing and economics (including management)]

No longer used: see Economics J-60

- [R Chemical industry]**
Pollution technology & control: see Engineering D
- R-1 The chemical industry (including inorganic chemical industry and organic chemical industry; research and development; administration; services for the chemical industry, disasters in the chemical industry)
Economics: see Economics J-60
- R-2 Plant design and layout
General engineering design, see Mechanical Engineering L-0
- R-3 Chemical processing and technology
- R-3.1 Electrochemical processing
- R-3.2 Photochemical processing
- R-3.3 Radiochemical processing
- R-3.4 Microbiological processing
- R-3.5 Aerosol technology (including plasma technology)
Theoretical works : Chemistry E-70
- R-4 Industrial chemicals
- R-4.1 General (including industrial gases)
- R-4.2 Inorganic
- R-4.21 acids
- R-4.22 bases
- R-4.23 salts
- R-4.29 elements and compounds other than above
- R-4.3 Organic
- R-4.31 petrochemicals
- R-4.34 cellulose, wood, paper and sugars
- R-4.35 oils, fats, waxes
- R-4.36 adhesives and glue
- R-4.39 other *Plastics, resins, rubbers : see Materials E*
- R-4.4 Special purpose
- R-4.41 photographic chemicals
- R-4.44 asphalts, tars, pitches
- [R-4.45 coatings: paints, varnishes, printing inks etc.]
No longer used: see Colour Chemistry
- R-4.49 other special purpose products including cosmetics and perfumery, catalysis (i.e. manufacture of catalysts)