

## SECTION C — CHEMISTRY; METALLURGY

**C08 ORGANIC MACROMOLECULAR COMPOUNDS; THEIR PREPARATION OR CHEMICAL WORKING-UP; COMPOSITIONS BASED THEREON**

**C08B POLYSACCHARIDES; DERIVATIVES THEREOF** (polysaccharides containing less than six saccharide radicals attached to each other by glycosidic linkages C07H; fermentation or enzyme-using processes C12P 19/00; production of cellulose D21) **[4]**

**Note(s)**

Therapeutic activity of compounds is further classified in subclass A61P.

**Subclass index****CELLULOSE AND DERIVATIVES THEREOF**

Preparatory treatment of cellulose.....	1/00
Esters.....	3/00, 5/00, 7/00, 13/00, 17/00
Ethers.....	11/00, 13/00, 17/00
Xanthates.....	9/00
Other derivatives.....	15/00
Regeneration of cellulose.....	16/00
STARCH; DEGRADED OR NON-CHEMICALLY MODIFIED STARCH; AMYLOSE; AMYLOPECTIN.....	30/00
CHEMICAL DERIVATIVES OF STARCH, OF AMYLOSE OR OF AMYLOPECTIN	
of starch.....	31/00
of amylose.....	33/00
of amylopectin.....	35/00
OTHER POLYSACCHARIDES.....	37/00

**Preparation****1/00 Preparatory treatment of cellulose for making derivatives thereof**

- 1/02 • Rendering cellulose suitable for esterification
- 1/04 • • for the preparation of cellulose nitrate
- 1/06 • Rendering cellulose suitable for etherification
- 1/08 • Alkali cellulose
- 1/10 • • Apparatus for the preparation of alkali cellulose
- 1/12 • • • Steeping devices
- 1/14 • • • Ripening devices

**3/00 Preparation of cellulose esters of organic acids**

- 3/02 • Catalysts used for the esterification
- 3/04 • Cellulose formate
- 3/06 • Cellulose acetate
- 3/08 • of monobasic organic acids with three or more carbon atoms
- 3/10 • • with five or more carbon atoms
- 3/12 • of polybasic organic acids
- 3/14 • in which the organic acid residue contains substituents, e.g. NH<sub>2</sub>, Cl
- 3/16 • Preparation of mixed organic cellulose esters
- 3/18 • • Aceto-butyrate
- 3/20 • Esterification with maintenance of the fibrous structure of the cellulose
- 3/22 • Post-esterification treatments, including purification
- 3/24 • • Hydrolysis or ripening

- 3/26 • • Isolation of the cellulose ester
- 3/28 • • • by precipitation
- 3/30 • • Stabilisation

**5/00 Preparation of cellulose esters of inorganic acids**

- 5/02 • Cellulose nitrate
- 5/04 • • Post-esterification treatments, including purification
- 5/06 • • • Isolation of the cellulose nitrate
- 5/08 • • • Stabilisation
- 5/10 • • • Reducing the viscosity
- 5/12 • • • Replacing the water by organic liquids
- 5/14 • Cellulose sulfate

**7/00 Preparation of cellulose esters of both organic and inorganic acids****9/00 Preparation of cellulose xanthate or viscose**

- 9/02 • Sulfidisers; Dissolvers
- 9/04 • Continuous processes
- 9/06 • Single-stage processes

**11/00 Preparation of cellulose ethers**

- 11/02 • Alkyl or cycloalkyl ethers
- 11/04 • • with substituted hydrocarbon radicals
- 11/06 • • • with halogen-substituted hydrocarbon radicals
- 11/08 • • • with hydroxylated hydrocarbon radicals; Esters, ethers, or acetals thereof
- 11/10 • • • substituted with acid radicals

- 11/12 • • • • substituted with carboxylic radicals
- 11/14 • • • with nitrogen-containing groups
- 11/145 • • • • with basic nitrogen, e.g. aminoalkyl ethers [2]
- 11/15 • • • • with carbamoyl groups [2]
- 11/155 • • • • with cyano groups, e.g. cyanoalkyl ethers [2]
- 11/16 • Aryl or aralkyl ethers
- 11/18 • • with substituted hydrocarbon radicals
- 11/187 • with olefinic unsaturated groups [2]
- 11/193 • Mixed ethers, i.e. ethers with two or more different etherifying groups [2]
- 11/20 • Post-etherification treatments, including purification
- 11/22 • • Isolation
- 13/00 Preparation of cellulose ether-esters**
- 13/02 • Cellulose ether xanthates
- 15/00 Preparation of other cellulose derivatives or modified cellulose**
- 15/02 • Oxycellulose; Hydrocellulose; Cellulose hydrate
- 15/04 • • Carboxycellulose, e.g. prepared by oxidation with nitrogen dioxide
- 15/05 • Derivatives containing elements other than carbon, hydrogen, oxygen, halogen, or sulfur (esters of phosphorus acids C08B 5/00) [2]
- 15/06 • • containing nitrogen [2]
- 15/08 • Fractionation of cellulose, e.g. separation of cellulose crystallites [2]
- 15/10 • Crosslinking of cellulose [2]
- 16/00 Regeneration of cellulose [2]**
- 17/00 Apparatus for esterification or etherification of cellulose**
- 17/02 • for making organic esters of cellulose
- 17/04 • for making cellulose nitrate
- 17/06 • for making cellulose ethers
- 30/00 Preparation of starch, degraded or non-chemically modified starch, amylose, or amylopectin [4]**
- 30/02 • Preparatory treatment, e.g. crushing of raw materials [4]
- 30/04 • Extraction or purification [4]
- 30/06 • Drying; Forming [4]
- 30/08 • Concentration of starch suspensions [4]
- 30/10 • Working-up residues from the starch extraction, including pressing water from the starch-extracted material [4]
- 30/12 • Degraded or non-chemically modified starch; Bleaching of starch (preparation of chemical derivatives of starch C08B 31/00) [4]
- 30/14 • • Cold water dispersible or pregelatinised starch [4]
- 30/16 • • Apparatus therefor [4]
- 30/18 • • Dextrin [4]
- 30/20 • Amylose or amylopectin (chemical derivatives thereof C08B 33/00, C08B 35/00) [4]
- 31/00 Preparation of chemical derivatives of starch**  
(chemical derivatives of amylose C08B 33/00; chemical derivatives of amylopectin C08B 35/00) [2]
- 31/02 • Esters [2]
- 31/04 • • of organic acids [2]
- 31/06 • • of inorganic acids [2]
- 31/08 • Ethers [2]
- 31/10 • • Alkyl or cycloalkyl ethers [2]
- 31/12 • • having alkyl or cycloalkyl radicals substituted by hetero atoms [2]
- 31/14 • • Aryl or aralkyl ethers [2]
- 31/16 • Ether-esters [2]
- 31/18 • Oxidised starch [2]
- 33/00 Preparation of chemical derivatives of amylose [2]**
- 33/02 • Esters [2]
- 33/04 • Ethers [2]
- 33/06 • Ether-esters [2]
- 33/08 • Oxidised amylose [2]
- 35/00 Preparation of chemical derivatives of amylopectin [2]**
- 35/02 • Esters [2]
- 35/04 • Ethers [2]
- 35/06 • Ether-esters [2]
- 35/08 • Oxidised amylopectin [2]
- 37/00 Preparation of polysaccharides not provided for in groups C08B 1/00-C08B 35/00; Derivatives thereof**  
(cellulose D21) [4]
- 37/02 • Dextran; Derivatives thereof [2]
- 37/04 • Alginic acid; Derivatives thereof [2]
- 37/06 • Pectin; Derivatives thereof [2]
- 37/08 • Chitin; Chondroitin sulfate; Hyaluronic acid; Derivatives thereof [2]
- 37/10 • Heparin; Derivatives thereof [2]
- 37/12 • Agar-agar; Derivatives thereof [2]
- 37/14 • Hemicellulose; Derivatives thereof [2]
- 37/16 • Cyclodextrin; Derivatives thereof [2]
- 37/18 • Reserve carbohydrates, e.g. glycogen, inulin, laminarin; Derivatives thereof [4]