

This heading is mainly concerned with polysaccharides, oligosaccharides and functional derivatives and addition products thereof, and to processes for producing, extracting, purifying and stabilising them

Explanation of subject matter and relationship with other headings

This is the general heading for:

- . polysaccharides having an indeterminate number of saccharide residues or of modified saccharide residues
- . oligosaccharides having a determinate number of 11 or more saccharide residues
- . functional derivatives or addition products of the above

This heading is residual for:

- . compositions of the above
- . articles made from and uses of the above products and compositions
- . apparatus for the manufacture or treatment of polysaccharides or their derivatives

Oligosaccharides having a definite number (maximum 10) of monosaccharide residues, but excluding sucrose, will be found in heading C2S, Saccharides. Sucrose will be found in Heading C6B, Sugar

Excluded are:

- . compositions for use as food—A2B, Food preparations
- . compositions for medicinal use—A5B, Pharmaceutical preparations &c
- . cellulose and its derivatives and conversion products—C3A, Cellulose derivatives &c
- . cellular products and their preparation—C3C, Cellular polymeric materials
- . compounds of polysaccharides with proteins—C3H, Proteins, enzymes and nucleic acids
- . proteins containing polysaccharides or modified polysaccharide chains—C3H, Proteins, enzymes and nucleic acids
- . graft polymerization products based on polysaccharides or on derivatives of polysaccharides—C3P, Addition polymers &c
- . paints, varnishes and other coating-compositions drying by exposure based on polysaccharides—C4A, Paints, inks &c

Disclosure relating to micro-organisms used in producing polysaccharides is recorded also by assigning terms from Heading C6Y, Indexing Schedule for micro-organism information. Details of the indexing practice are given in that Schedule

The exclusion references listed in this heading are not exhaustive. Reference should be made to the appropriate general heading/s for processes, materials, elements or devices which may be more widely applicable than can appropriately be classified in this heading

Relationship with the Universal Indexing Schedules (heading U1S)

In addition to recording uses and applications of inventions classified in this heading, U1S is used, subject to its indexing rules, to record significant properties of materials with which this heading is concerned

Operative date for Key entries

The operative date of the terms in this heading is that of Edition J

Classifying schedule

Terms from Indexing Schedule B are applicable with all terms from the Classifying Schedule, and terms from Indexing Schedules A, C-F are applicable as specified below

preparation of polysaccharides—

- . by extraction from natural or crude sources characterised by structure of polysaccharide and/or the extraction procedure to produce an initial product—
- .. where the centre of interest lies solely in the post-extraction procedure—*See terms UBA-UBD below*
- .. *See also* Indexing Schedule D
- UAA .. extraction of starch (*including* amylose and amylopectin)
- UAB .. extraction of other polysaccharides
- .. from non-polysaccharide materials—
- UAC .. using fermentation methods
- UAD .. using non-biological methods
- UAX .. using other methods

miscellaneous post-production methods—

- . *See also* Indexing Schedule D
- UBA . fractionation and purification
- UBB . stabilisation
- UBC . drying, compacting, dewatering
- UBD . other methods

after-treatment of polysaccharides and/or polysaccharide derivatives for modification of the physico-chemical properties *other than* chemical after-treatments specifically covered by terms UDA-UDX *below*—

- . *See also* Indexing Schedules D, F
- . modification of starches, *including* gelatinisation, dextrinisation and hydrolysis—
- UCA .. using physical treatments only
- UCB .. using treatments involving chemical and/or biological methods
- .. *See also* Indexing Schedule A
- . modification of other polysaccharides and/or their derivatives, *including* degradation and hydrolysis
- UCC .. using physical treatments only
- UCD .. using treatments involving chemical and/or biological methods
- .. *See also* Indexing Schedule A

chemical after-treatment of polysaccharides for preparation of polysaccharide derivatives, involving—

- . *See also* Indexing Schedules C, D, F
- UDA . crosslinking and insolubilisation
- UDB . oxidation, reduction, reaction with ureas or acetal formation (reaction with aldehydes or ketones)
- UDC . esterification (*including* thioesters)
- UDD . etherification (*including* thioethers)
- UDE . salt, gel or complex formation
- UDF . removal of functional groups
- UDX . other treatments

compositions or articles containing polysaccharides, their derivatives or addition products—

- . *See also* Indexing Schedules E, F
- UFA . containing starch polysaccharides
- UFB . containing other polysaccharides
- UFZ . containing polysaccharides of both of the above classes

Indexing Schedule A

enzymes used—

- U100 . α -amylase
- U101 . β -amylase
- U102 . isoamylase
- U103 . α -1,6-glucosidase
- U109 . other enzymes

Indexing Schedule B

	polysaccharide—
U200	. amylose
U201	. amylopectin
U202	. heparin, chondroitin
U203	. agar, carrageenin, fucoidin, laminaran
U204	. alginic acid
U205	. chitin, chitosan
U206	. dextran
U207	. hyaluronic acid
U208	. xanthan gum
U209	. pectic substances
U210	. plant gums and mucilages
U211	. xylan, araban, inulin
U212	. containing halogen
U213	. containing metallic elements (<i>including ammonium salts of acidic compounds</i>)
U214	. containing nitrogen
U215	. containing phosphorus
U216	. containing sulphur
U217	. containing unclassified elements
U218	. other microbial polysaccharides
U219	. other non-microbial polysaccharides

Indexing Schedule C

	polysaccharide derivatives—
	. esters—
U300	. . alkyl
U301	. . aminoalkyl
U302	. . aryl and substituted aryl
U303	. . carboxyalkyl
U304	. . cyanoalkyl
U305	. . hydroxyalkyl
U309	. . other ethers
	. esters—
U310	. . of fatty acid
U311	. . of other organic acid
U312	. . of inorganic acid
U313	. . esters of carboxylated polysaccharide acid groups
	. other derivatives—
U314	. . oxidation products
U315	. . reaction products with ureas
U316	. . reaction products with aldehydes or ketones
U319	. . other specified derivatives
U330	. plural modified polysaccharides

Indexing Schedule D

	general process features—
U400	. steeping methods
U401	. cyclone separation
U402	. wet milling process
U403	. injection of steam
U404	. pressure or shearing action
U405	. using microorganisms
U406	. using acid
U407	. using alkali
U408	. using ultrasonic treatments
U409	. using enzymes
U410	. characterised by use of apparatus
U419	. other

Indexing Schedule E

- compounding ingredients, functionally defined—
- U500 . bactericides
 . buffering and other pH controlling or modifying agents (*including* specified acid, alkaline or neutral conditions and pH values thereof)—
- U501 . . acid pH
 U502 . . basic pH
 U503 . . substantially neutral
 . organic dyestuffs and optical brightening agents, flavours or perfumes—
- U504 . . of specified structure
 U505 . . of unspecified structure
 U506 . soaps, surfactants and wetting agents
- ingredients chemically defined—
- . inorganic—
 . . substances specified solely for affecting pH—*See* terms U501-3 *above*
 . . alkali hydroxides
 U507 . . borates and perborates
 U508 . . carbonates, bicarbonates and percarbonates
 U509 . . fluosilicates
 U510 . . halides
 U511 . . oxyhalides
 U512 . . mineral acids and acid hydroxides
 U513 . . oxides and peroxides
 U514 . . phosphates and polyphosphates
 U515 . . silicates
 U516 . . sulphates, persulphates
 U517 . . other inorganic
 U519 . organic—
 . . non-polymeric—
- U520 . . . aldehydes
 U521 . . . bases, salts of bases with organic and inorganic acids, *including* quaternary ammonium compounds
 . . . substances specified solely for affecting pH—*See* terms U501-3 *above*
 U522 . . . carboxylic acids, salts of such acids with inorganic bases, *including* ammonium salts, reactive derivatives of such acids
 substances specified solely for affecting pH—*See* terms U501-3 *above*
 U523 . . . esters, containing chains up to 7 carbon atoms, with organic or inorganic acids
 esters containing longer carbon chains—*See* term U525 *below*
 U524 . . . monohydric alcohols
 . . . oils, fats and waxes, polyhydric alcohols, hydrocarbons—
 . . . sulphates and sulphonates—*See* term U506 *above*
 U525 . . . esters, containing chains of 8 or more carbon atoms, with organic or inorganic acids *other than* vegetable and animal oils, fats and waxes
 U526 . . . hydrocarbons, mineral oils and waxes
 . . . polyhydric alcohols—
 U527 vegetable and animal oils, fats and waxes
 U528 sugars, oligosaccharides containing up to 10 saccharide residues
 U529 other, *including* polyether-ols of non-surfactant types, but *excluding* sugars
 . . polymeric—
 . . . natural polymers and their derivatives, *other than* polysaccharides within the meaning of this heading—
 U530 cellulose and derivatives thereof
 U531 proteins and derivatives thereof
 U539 others
 . . . synthetic polymers—
 U540 addition polymers
 U541 condensation polymers
 U549 others

Indexing Schedule F

Terms from this Schedule are applicable with terms UCA-UDX in cases of plural modifications, *in relation to all but the last treatment*, the last treatment forming the subject of the classifying term. Terms from this Schedule are applicable in all relevant cases in combination with terms UFA-UFZ to further define the polysaccharides used

- pretreatment of polysaccharide base—
- U600 . condensation with aldehydes or ketones
 - U601 . cross-linking or insolubilisation
 - U602 . degradation, dextrinisation, gelatinisation or hydrolysis
 - U603 . esterification
 - U604 . etherification
 - U605 . oxidation
 - U609 . other treatments
- U610 special methods of preparing polysaccharide compositions
- U611 special method of making articles from polysaccharides