B01L

CHEMICAL OR PHYSICAL LABORATORY APPARATUS FOR GENERAL USE (apparatus for medical or pharmaceutical purposes A61; apparatus for industrial purposes or laboratory apparatus whose construction and performance are comparable to that of similar industrial apparatus, see the relevant classes for industrial apparatus, particularly subclasses of B01 and C12; separating or distilling apparatus B01D; mixing or stirring devices B01F; atomisers B05B; [N: vibrating devices, e.g. shaking tables,] sieves B07B; corks, bungs B65D; handling liquids in general B67; vacuum pumps F04; siphons F04F10/00; taps, stop-cocks F16K; tubes, tube joints F16L; apparatus specially adapted for investigating or analyzing materials G01, particularly G01N; electrical or optical apparatus, see the relevant classes in Sections G and H)

Special rules of classification within this subclass

Classification Rules:

Classes of B01L 1/00-B01L 99/00 are given for invention information, i.e. the information is such that if you do a search on this subject-matter it is important to see the document. The definitions below give guidance to scope and limits of the respective classes. Additional information is classified with Indexing Codes in the range of B01L 1/00-B01L 99/00. These codes are used in combination or without a class in B01L. In addition to a class in B01L, Indexing Codes in the range of B01L 2200/00-B01L 2400/00 are applied were possible to all documents classified in B01L. Indexing Codes B01L 2200/00-B01L 2400/00 are not used for documents without a class in B01L. Also if documents have only an Indexing Code in the range of B01L 1/00-B01L 99/00, no Indexing Code is used.

Double classification:

Often double classification will be necessary, also within B01L itself. For example in cases documents relating to sample containers it might be that a document gets classified for the sample taking in A61B 10/0045, for sample storage in B01L 3/50 and in G01N for a specific analysis technique.

Circulation:

Due to the broad scope of B01L, and its status as residual group, there is no exhaustive list of neighbouring fields. In particular, it is important that documents relating to sample containers are also circulated to the specific analysis techniques mentioned in the document to allow double classification were appropriate. Some of the areas where documents need to be circulated regularly are: A61B, A61J, A61M, B01D, B01F, B01J, B29C, B81, B82, C12N, C12M, C12Q, F04B, F16K, G01F, and in particular G01N.

B01L 1/00

Enclosures; Chambers (fume cupboards B08B; provided with manipulation devices, glove boxes B25J; cooling chambers F25D)

Definition statement

This subclass/group covers:

Chambers, enclosures, rooms and cupboards for laboratory use which have no specific application.

Also comprises Air-pressure chambers.

References relevant to classification in this group

This subclass/group does not cover:

Incubators	C12M 41/14
Laboratory benches	B01L 9/02
Industrial clean rooms	F24F 3/161

Informative references

Attention is drawn to the following places, which may be of interest for search:

Fume cupboards	B08B
Manipulation devices, glove boxes	B25J
Cooling chambers	F25D

B01L 1/02

Air-pressure chambers; Air-locks therefor

Definition statement

This subclass/group covers:

Incubator or conditioning cabinet not otherwise provided for. Doors and bayonet designs.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Glove boxes	B25J
Vacuum locks for discharge tubes	H01J 37/18

B01L 1/025

[N: Environmental chambers (Incubators for culturing cells C12M41/14, Test chambers to test weather resistance G01N17/002)]

Definition statement

This subclass/group covers:

Closed chambers, not otherwise provided for, to provide a defined environment such as temperature, pressure, humidity and other gas concentrations, climate chambers.

References relevant to classification in this group

This subclass/group does not cover:

Incubators for culturing cells	C12M 41/14
Test chambers to test weather resistance	G01N 17/002

B01L 1/04

Dust-free rooms or enclosures [N: (clean rooms suitable for industrial purposes F24F3/161)]

References relevant to classification in this group

This subclass/group does not cover:

Clean rooms for industrial use	F24F 3/161

Informative references

Attention is drawn to the following places, which may be of interest for search:

Ventilation	F24F 7/00
Treatment rooms for medical purposes	A61G 10/00

B01L 1/50

[N: for storing hazardous materials in the laboratory, e.g. cupboards, waste containers]

References relevant to classification in this group

This subclass/group does not cover:

Sample containers	B01L 3/50, B01L 3/14

Informative references

Attention is drawn to the following places, which may be of interest for search:

Refuse receptacles	B65F 1/00

B01L 3/00

Containers or dishes for laboratory use, e.g. laboratory glassware (bottles B65D; apparatus for enzymology or microbiology [N: specially adapted for culturing] C12M1/00); Droppers (receptacles for volumetric purposes G01F)

Definition statement

This subclass/group covers:

Simple fluid transfer means, such as tubes, valves, fittings.

Various containers, in particular for sample or reagent storage also comprising microfluidic structures.

Droppers comprising various fluid dispensing means such as pipettes, burettes and droplet dispensers.

Spatulas.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Packaging containers	B65D
Culturing devices	C12M 23/02
Metering volume	G01F
Chemical Reactors	B01J 19/00
Analysis of a material	G01N

Special rules of classification within this group

Due to the diversity of the subgroups in this group the head group is only rarely used to classify. It is preferred to use all relevant main groups instead.

B01L 3/02

Burettes; Pipettes

Definition statement

This subclass/group covers:

Burettes, pipettes, pipette tips, droplet counters, droplet dispensers (droppers), and other laboratory devices to withdraw and discharge a liquid.

Relationship between large subject matter areas

This class relates to generally to manually operated devices, but is not restricted to hand held devices. Automation of pipetting stations is classified in G01N 35/10.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Dispensing of fluids in automatic analysers	G01N 35/10
Manual dosing	B05B
Closures with discharging devices	B65D 47/00

Dispensing not otherwise provided for	B67D
Repeated volume dosing of fluids in general	G01F 11/00

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Pipette	Means with one port
Burette	Means with two ports
Dropper	Means to dispense the liquid dropwise

B01L 3/0203

[N: Burettes, i.e. for withdrawing and redistributing liquids through different conduits]

Definition statement

This subclass/group covers:

Burettes, i.e. for withdrawing and redistributing liquids through different conduits.

References relevant to classification in this group

This subclass/group does not cover:

If the volume dispensed is droplet sized	B01L 3/0241

Informative references

Attention is drawn to the following places, which may be of interest for search:

Medical burettes	A61M 5/1412

B01L 3/021

[N: Pipettes, i.e. with only one conduit for withdrawing and redistributing liquids]

Definition statement

This subclass/group covers:

Pipettes, i.e. with only one conduit for withdrawing and redistributing liquids.

References relevant to classification in this group

This subclass/group does not cover:

If the volume dispensed is droplet sized	B01L 3/0241

Informative references

Attention is drawn to the following places, which may be of interest for search:

Pipette type sampler or inoculator for cell handling	C12M 33/04

Special rules of classification within this group

If used to fill standard multiwell plates use B01L 2300/0829.

B01L 3/0213

[N: Accessories for glass pipettes; Gun-type pipettes, e.g. safety devices, pumps]

Definition statement

This subclass/group covers:

This group covers accesories for (traditional) glass pipettes, such as safety devices to protect the user from inhaling hazardous fluids or pumps. This group also encompasses gun-type pipettors.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Gun type pipettors in general	G01F 11/026

B01L 3/0217

[N: of the plunger pump type (medical syringes A61M)]

Definition statement

This subclass/group covers:

Piston or plunger-type pipettes.

References relevant to classification in this group

This subclass/group does not cover:

Medical syringes	A61M 5/178
Fluid dosing with measuring chambers in general	G01F 11/02

B01L 3/022

[N: Capillary pipettes, i.e. having very small bore (B01L3/0224 to B01L3/0237 take precedence)]

Definition statement

This subclass/group covers:

Pipettes where a piston or plunger is moved within a capillary.

Relationship between large subject matter areas

Pipettes having a capillary needle but no plunger within the capillary are not classified here, use Indexing Code B01L 2300/0838 in combination with appropriate group in B01L 3/02 instead.

References relevant to classification in this group

This subclass/group does not cover:

Capillary pipette without piston	B01L 3/021, B01L 3/0241
Details of electronic control, e.g. relating to user interface	B01L 3/0237
Pippetes having mechanical means to	B01L 3/0224

set stroke length	

Informative references

Attention is drawn to the following places, which may be of interest for search:

Microinjections	C12N 15/89

B01L 3/0231

[N: having several coaxial pistons]

Definition statement

This subclass/group covers:

Plunger pipettes with coaxial pistons. This group does NOT cover multiple parallel plungers.

B01L 3/0234

[N: Repeating pipettes, i.e. for dispensing multiple doses from a single charge]

References relevant to classification in this group

This subclass/group does not cover:

Drop counters; Drop formers	B01L 3/0241

B01L 3/0241

[N: Drop counters; Drop formers (making arrays for combinatorial libraries B01J19/0046; automation of dispensing for analysis G01N35/10)]

Definition statement

This subclass/group covers:

Droplet dispensers and droplet counters. This group covers the constructional details of the dispensing part itself not the automation aspects.

Relationship between large subject matter areas

The integration into automated systems is classified for instance in G01N 35/10 and B01J 19/0046

References relevant to classification in this group

This subclass/group does not cover:

Making arrays for combinatorial libraries	B01J 19/0046
Spraying or atomising in general	B05B
Printing	B41J
Automation of dispensing for analysis	G01N 35/10

Informative references

Attention is drawn to the following places, which may be of interest for search:

Means for dispensing and evacuation of reagents to make chemical libraries	B01J 2219/00351
Investigating characteristics of particles	G01N 15/00
Microinjections	C12N 15/89

Special rules of classification within this group

If used to fill standard multiwell plates use B01L 2300/0829.

B01L 3/0244

[N: using pins]

Definition statement

This subclass/group covers:

Droplet dispensers using pins.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Nibs, quills, pens for writing and drawing	B43K 1/00

Special rules of classification within this group

Use B01L 2400/02 for details of printing action.

B01L 3/0258

[N: using stamps]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Stamps in general	B41K

B01L 3/0262

[N: using touch-off at substrate or container]

Definition statement

This subclass/group covers:

In touch-off dispensers the liquid contacts the target surface while it still hangs at the dispenser thus leading to a bridge between the two bodies. Capillary forces draw the liquid subsequently, at least in part, to the target surface.

B01L 3/0268

[N: using pulse dispensing or spraying, e.g. inkjet type, piezo actuated ejection of droplets from capillaries]

References relevant to classification in this group

This subclass/group does not cover:

Ink jet printing of ink	B41J 2/01

Informative references

Attention is drawn to the following places, which may be of interest for search:

Nozzles and apparatus for spraying or atomising in general	B05B 1/00
nebulizers for MS after chromatography	G01N 30/724
Introducing samples into mass spectrometers	H01J 49/04

B01L 3/0272

[N: Dropper bottles]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Eye dropper	A61F 9/0026
Packaging container closures with dropper	B65D 47/18

B01L 3/0275

[N: Interchangeable or disposable dispensing tips]

Definition statement

This subclass/group covers:

Pipette tips, note that the subgroup also covers ejection means for pipette tips.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Pipette tip racks	B01L 9/543

Synonyms and Keywords

In patent documents the following expressions/words "chip (in English translations of Japanese documents)" and " (pipette) tips" are often used as

synonyms.

B01L 3/0279

[N: co-operating with positive ejection means]

Definition statement

This subclass/group covers:

Pipette tip ejectors.

Relationship between large subject matter areas

Note that this is not restricted to the features of the tip itself but can also relate to the ejection mechanism of the pipette.

B01L 3/0282

[N: mounted within a receptacle (wash bottles B01L3/10)]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Eye dropper	A61F 9/0026

B01L 3/0289

[N: Apparatus for withdrawing or distributing predetermined quantities of fluid (B01L3/02 takes precedence; sample taking G01N1/00; sample taking within automatic analysers G01N35/00; volume measuring in general G01F)]

Definition statement

This subclass/group covers:

Fluid handling apparatus not provided for in B01L 3/02, this group is restricted to gas, beads or pulverized materials.

Relationship between large subject matter areas

The subgroup is used as residual group for liquid handling.

B01L 3/0293

[N: for liquids]

Definition statement

This subclass/group covers:
Liquid handling apparatus not provided for in B01L 3/02.

B01L 3/06

Crystallising dishes

Relationship between large subject matter areas

Often used in combination with classes in B01L 3/50.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Crystallization for separation	B01D 9/00
Sugars	C07H
Crystals of macromolecules	C30B 29/58
Single crystal crystallization	C30B 7/00

Special rules of classification within this group

If used as a sample container double classify with relevant class in B01L 3/50

B01L 3/08

Flasks (specially adapted for distillation B01D [N: B01D3/10])

Definition statement

This subclass/group covers:
Flasks used in the lab and not otherwise provided for. Flasks usually comprise an inlet which is smaller than the main body.

B01L 3/12

Gas jars or cylinders

References relevant to classification in this group

This subclass/group does not cover:

Gas storage containers in general	F17C

B01L 3/14

Test tubes [N: (devices for taking samples of blood A61B5/14)] (not used, see B01L3/50 and subgroups)]

Definition statement

This subclass/group covers:

Sample containers having the form of tubes, also coveres centrifugal type test tubes and test tube caps.

Relationship between large subject matter areas

Sample containers having a different form, e.g. plates, bags, are classified in B01L 3/50, this class is only used for (cylindrical) tube formed containers.

References relevant to classification in this group

This subclass/group does not cover:

Devices for taking samples of blood	A61B 5/14
Sample containers with other geometrical forms	B01L 3/50
Test tubes with sample transport other than by centrifugation	B01L 3/502
Racks and holders for test tubes	B01L 9/06

Informative references

Attention is drawn to the following places, which may be of interest for search:

Centrifuges	B04B 5/04
Tubular or bottle type culture devices	C12M 1/24
Automatic sample analysis	G01N 35/00

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Test tubes	Elongated tubes
Round tubular	Sample containers

B01L 3/16

Retorts

Definition statement

This subclass/group covers:

Retorts are simple distillation apparatuses. They often comprise round bases and turned down necks.

References relevant to classification in this group

This subclass/group does not cover:

Distillation, microdistillation	B01D

B01L 3/50

[N: Containers for the purpose of retaining a material to be analysed, e.g. test tubes (devices for taking samples of blood A61B5/14)]

Definition statement

This subclass/group covers:

Sample containers not being simple test tubes. Covered are simple containers which only store the sample but also more complex containers with integrated passive or active parts which inter alia transport samples within it.

Relationship between large subject matter areas

Containers for chemical synthesis, even if of small size, are classified in B01J.

Containers specific to a single analytical technique are usually classified in the respective field, e.g. in G01N, C12M. Documents are double classified in both places when, due to their constructional aspects, they are also relevant for other applications.

References relevant to classification in this group

This subclass/group does not cover:

Synthesis reactors	B01J
Test tubes	B01L 3/14
Petri dishes	C12M 23/10

Informative references

Attention is drawn to the following places, which may be of interest for search:

Transport containers for preserved human or animal parts	A01N 1/02
Body liquid sampling	A61B 10/0045
Medical containers	A61J
Reagent containers	B01L 3/52
Labcontainer with identification means	B01L 3/545
Containers for storage of materials	B65D
Constructional details of bioreactors for culturing	C12M 23/00
Cuvettes constructions	G01N 21/03
Microscopic slides	G02B 21/34

Special rules of classification within this group

It is important to note that this group is restricted to sample containers and not to lab containers in general.

B01L 3/502

[N: with fluid transport, e.g. in multi-compartment structures (centrifugal-type cuvettes G01N21/07; analysis by separation into components G01N30/00; automatic analysers G01N35/00)]

Definition statement

This subclass/group covers:

Sample container where fluid is transported during use between different parts of the container.

Relationship between large subject matter areas

In addition to storage of the sample these containers usually enable other function as well, such as sample preparation or analysis. Double classification is preferred.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Taking bodily sample other than blood	A61B 10/0045
Measuring characteristics of blood in vivo and taking blood samples	A61B 5/14
Devices for introducing media into the body	A61M
Specific analysis techniques	G01N
Sample preparation	G01N 1/00
Centrifugal-type cuvettes	G01N 21/07
Analysis by separation into components	G01N 30/00
Analysing biological materials	G01N 33/48
Automatic analysers	G01N 35/00

B01L 3/5021

[N: Test tubes specially adapted for centrifugation purposes (centrifuges B04B5/04)]

Relationship between large subject matter areas

Non-tubular centrifugal sample containers are classified in B01L 3/502.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Centrifuges	B04B
Centrifugal type cuvettes	G01N 21/07
Physical separation of blood components	G01N 33/491

B01L 3/5023

[N: with a sample being transported to, and subsequently stored in an absorbent for analysis]

Definition statement

This subclass/group covers:

Constructional details and flow shaping in sample containers where liquid is transported through an absorbent, e.g. lateral flow devices.

Relationship between large subject matter areas

Analysis technique, sensor details and chemistry of lateral flow devices are classified in G01N, e.g. G01N 33/543.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Layered products	B32B
Optical sensors	G01N 21/75
Electric, electro-chemical and magnetic analysis	G01N 27/00

Physical analysis of biological material	G01N 33/487
Immunoassays	G01N 33/543

Special rules of classification within this group

Double classify with B01L 3/5027 or B01L 3/5027 for porous microchannels in a substrate.

B01L 3/5025

[N: for parallel transport of multiple samples]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Bioreactors	C12M
Centrifugal cuvettes	G01N 21/07

B01L 3/50255

[N: Multi-well filtration]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Purifying or cleaning a sample	G01N 1/34
Filtration per se	B01D
Bioreactors	C12M

B01L 3/5027

[N: by integrated micro-fluidic structures, i.e. dimensions of channels and chambers are such that surface tension forces are important, e.g. lab-on-a-chip (B01L3/5023 takes

precedence; micromixers B01F13/0059; microreactors for synthesis B01J19/0093; micro-capillary devices in general B81B1/00)]

Definition statement

This subclass/group covers:

Sample containers with integrated microfluidic components. Microfluidic components are not restricted to capillary transport but are defined by their small size.

Relationship between large subject matter areas

Microfluidic devices can be found in a number of different fields. This group covers only those devices that are used to analyse a sample. The focus is on the sample handling per se in such devices, i.e. handling of fluids, beads, single molecules. The specifics of the analysis itself is for example classified in G01N and C12Q.

Capillary fluid transport in porous materials as flow layers of sample containers, e.g. lateral flow devices, are classified in B01L 3/5023.

References relevant to classification in this group

This subclass/group does not cover:

Micro mixers	B01F 13/0059
Micro reactor for synthesis	B01J 19/0093
Micro-capillary devices in general	B81B 1/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Micro devices for drug release	A61K 9/0097
Sample preparation	G01N 1/00
Introducing samples into mass spectrometers	H01J 49/04

Special rules of classification within this group

For microfluidic devices characterized by the specific integrated thermal control, e.g. for PCR, use double classification with B01L 7/00.

Use index codes B01L 2200/00-B01L 2400/00 as complete as possible.

Synonyms and Keywords

In patent document the following expressions/words " sample containers with integrated microfluidic components", "lab-on-a-chip" and "microfluidic device for analysis" are often used as synonyms.

B01L 3/502707

[N: characterised by the manufacture of the container or its components (manufacture of micro-structural devices in general B81C; by shaping or joining plastic parts B29C59/00 B29C65/00, by laminating B32B37/00)]

Definition statement

This subclass/group covers:

Sample containers with integrated microfluidic components with specific manufacturing details.

References relevant to classification in this group

This subclass/group does not cover:

Manufacture of micro-structural devices in general	B81C

Informative references

Attention is drawn to the following places, which may be of interest for search:

Microdevices for electrophoresis	G01N 27/44791
Shaping or joining of plastics	B29C 59/00, B29C 65/00
Laminating	B32B 37/00
Photolithography	G03F 7/00

B01L 3/502715

[N: characterised by interfacing components, e.g. fluidic, electrical, optical or mechanical interfaces]

Definition statement

This subclass/group covers:

Integrated microfluidic interfaces, i.e. the section of the interface which forms part of the container.

Fluidic interfaces comprise inlets and outlets.

Optical interfaces may comprise lenses, prisms, mirrors.

Mechanical interfaces may comprise aligning marks, guides.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Holders for lab-on-a-chips	B01L 9/52
Handling and feeding of cartridges in automated analysers	G01N 35/00

B01L 3/502723

[N: characterised by venting arrangements]

Definition statement

This subclass/group covers:

Means to remove air or gases from a microfluidic sample container.

Also comprises documents where bubble formation is avoided.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Venting, avoiding backpressure, avoid gas bubbles	B01L 2200/0684

B01L 3/50273

[N: characterised by the means or forces applied to move the fluids (micro pumps F04B19/006, of the membrane type F04B43/043)]

Definition statement

This subclass/group covers:

Means or forces to move fluid in microfluidic sample containers, e.g. integrated pumps.

References relevant to classification in this group

This subclass/group does not cover:

Infusion devices with flow control	A61M 5/168
Influencing the flow rate for a given force	B01L 3/502746
Micropumps in general	F04B 19/006
Micropumps of the membrane type in general	F04B 43/043

Informative references

Attention is drawn to the following places, which may be of interest for search:

Micro mixers	B01F 13/0059

Special rules of classification within this group

Use Indexing Codes B01L 2400/04 to specify the kind of force or means to move the fluid.

B01L 3/502738

[N: characterised by integrated valves (microvalves F16K99/0001)]

Definition statement

This subclass/group covers:

This group covers the constructional details of valves specific to microfluidic

sample containers. It also covers valving schemes when they depend on integrated structures, like cascades of capillary valves.

Relationship between large subject matter areas

External valve actuators are classified in F16K or G01N 35/00.

References relevant to classification in this group

This subclass/group does not cover:

Microvalves and actuators in general	F16K 99/0001
Throttle valves in microfluidic sample containers	B01L 3/502746

Informative references

Attention is drawn to the following places, which may be of interest for search:

Valves in automated analysers	G01N 35/1097

Special rules of classification within this group

For valve details use B01L 2400/06.

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Valve	Means to stop or divert the whole flow of a fluid

B01L 3/502746

[N: characterised by the means for controlling flow resistance, e.g. flow controllers, baffles (B01L3/502738 takes precedence)]

Definition statement

This subclass/group covers:

Controlling the flow resistance in a microfluidic sample container which is neither valving, where the flow is stopped, nor pumping, which is the source of the force for the flow.

For example, providing baffles in order to slow but not stop a flow in a specific section of a channel. Adapting the channel dimensions to obtain a specific flow pattern.

References relevant to classification in this group

This subclass/group does not cover:

Infusion devices with flow control	A61M 5/168
Valves for microfluidic sample containers	B01L 3/502738
Flow control in general	G05D 7/00

Special rules of classification within this group

For flow control details use B01L 2400/08.

B01L 3/502753

[N: characterised by bulk separation arrangements on lab-on-a-chip devices, e.g. for filtration or centrifugation (separation in general B01D; micro-apparatus for analysis using electrophoresis G01N27/44791; sample preparation G01N1/28)]

Definition statement

This subclass/group covers:

Sample containers with integrated microfluidic components with bulk separation such as filtration or centrifugation. In general, the flow direction of the bulk fluid is the same as the component which is separated. In a bulk separation a certain class of particles/fluid is usually separated from another class as a group. For example, centrifugation leads to a classification of particle groups based on their densitiy.

Relationship between large subject matter areas

When the separation is the only purpose and the device is not combined with sample storage, i.e. not integrated, it should not be classified in this group.

References relevant to classification in this group

This subclass/group does not cover:

Separation in general	B01D
Micro-apparatus for analysis using electrophoresis	G01N 27/44791
Separation or sorting of particles or molecules on an individual level	B01L 3/502761

Informative references

Attention is drawn to the following places, which may be of interest for search:

Centrifugal test tubes	B01L 3/5021
Separation of solids from solids or fluids by e.g.electric or magnetic means, dielectrophoresis	B03C
Sample preparation	G01N 1/28
Centrifugal-type cuvettes	G01N 21/07
Analysing blood by separating its components	G01N 33/491
Automatic analysers using bio-disks	G01N 35/00069

B01L 3/502761

[N: specially adapted for handling suspended solids or molecules independently from the bulk fluid flow, e.g. for trapping or sorting beads, for physically stretching molecules (investigating characteristics of particles G01N15/00)]

Definition statement

This subclass/group covers:

Handling of suspended solids or molecules independent from the bulk fluid flow. In general, the fluid flow direction of the bulk fluid is different from the flow direction of the component to be separated. Handling may comprise

trapping, sorting, stretching, orientating of particles or molecules.

Usually particles or molecules are handled individually, thus they can be selectively handled irrespective of whether more particles or molecules of the same type/class exist in the sample. For example, a single DNA molecule may be stretched in a nanochannel although the sample comprises many more DNA molecules.

References relevant to classification in this group

This subclass/group does not cover:

Investigating characteristics of particles	G01N 15/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Separating or Sorting solids from solids	B07B
Separation of solids from solids or fluids by e.g.electric or magnetic means, dielectrophoresis	B03C

Special rules of classification within this group

When particles/molecules are separated as part of a whole class (as bulk) they are classified in B01L 3/502753.

Details of particle/molecule handling can be coded in B01L 2200/0647.

B01L 3/502769

[N: characterised by multiphase flow arrangements]

Definition statement

This subclass/group covers:

Sample containers with integrated microfluidic components having multiphase flow arrangements. Multiphase flow is meant to encompass flows where gas/liquid or liquid/liquid interfaces exist and kept during flow of the fluids. The fluids may be immiscible but under certain conditions this may not be necessary.

Special rules of classification within this group

This group is only used in the rare event that none of the groups below are suitable.

B01L 3/502776

[N: specially adapted for focusing or laminating flows]

Definition statement

This subclass/group covers:

Sample containers with integrated microfluidic components having laminated flow arrangements, such as a sheath flow.

References relevant to classification in this group

This subclass/group does not cover:

Micro mixers	B01F 13/0059
Investigating characteristics of particles	G01N 15/00

B01L 3/502784

[N: specially adapted for droplet or plug flow, e.g. digital micro-fluidics (automatic analysis using a stream of discrete samples in a tube system G01N35/08)]

Definition statement

This subclass/group covers:

Droplets or plug flow in sample containers with integrated microfluidic components, such as digital microfluidics.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Automatic analysis using a stream of discrete samples in a tube system (bench top sized)	G01N 35/08

B01L 3/502792

[N: for moving individual droplets on a plate, e.g. by locally altering surface tension]

Definition statement

This subclass/group covers:

Moving droplets individually on a plate, for example by electrowetting.

The droplet may also be bordered by a cover plate in addition to a bottom plate. No side walls are present to guide the droplet.

Special rules of classification within this group

If present, use Indexing Code for virtual walls B01L 2300/089

B01L 3/5029

[N: using swabs]

Definition statement

This subclass/group covers:

Sample containers comprising both fluid transport and swabs. The invention is usually directed to the handling of the swab within the container and not the swab itself.

Relationship between large subject matter areas

Swabs as sample taking devices are found in G01N 1/02 and A61B 10/0045.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Devices for sampling bodily liquids	A61B 10/0045
Ear cleaners	A61F 11/006
Absorbent pads, swabs	A61F 13/15
Surgical swabs	A61F 13/36
Cell sampling container with a swab	C12M 1/30
Sampling with a swab	G01N 1/02,G01N 2001/028

B01L 3/505

[N: flexible containers not provided for above]

Definition statement

This subclass/group covers:
Flexible sample containers such as bags or foldable sample cards.

B01L 3/5055

[N: Hinged, e.g. opposable surfaces]

Definition statement

This subclass/group covers:
Folded sample cards.

B01L 3/508

[N: rigid containers not provided for above]

Definition statement

This subclass/group covers:
Sample containers having rigid walls and which do not comprise any internal sample transport.

References relevant to classification in this group

This subclass/group does not cover:

Rigid sample containers with fluid transport	B01L 3/502

Informative references

Attention is drawn to the following places, which may be of interest for search:

Urine sample containers	A61B 10/007
Cuvettes	G01N 21/03
Microscopic slides	G02B 21/34

Vacuum locks for discharge tubes (and sample vessels to be used in vacuum)	H01J 37/18

B01L 3/5082

[N: Test tubes per se]

Definition statement

This subclass/group covers:

Sample containers having the form of tubes, also covers centrifugal type test tubes and test tube caps.

References relevant to classification in this group

This subclass/group does not cover:

Devices for taking samples of blood	A61B 5/14
Sample containers with other geometrical forms	B01L 3/50
Test tubes with sample transport other than by centrifugation	B01L 3/502
Racks and holders for test tubes	B01L 9/06

Informative references

Attention is drawn to the following places, which may be of interest for search:

Producing plastic containers	B29D 22/003
Tubular or bottle type culture devices	C12M 23/08

B01L 3/50825

[N: Closing or opening means, corks, bungs (closures for containers B65D; means for removing stoppers B67B7/02)]

Relationship between large subject matter areas

Test tube caps having additional chambers, e.g. for reagents, are also classified in B01L 3/502.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Closures for packaging containers	B65D 39/00 - B65D 55/00
Means for removing stoppers	B67B 7/02
Producing plastic closure caps	B29D 99/0096

Special rules of classification within this group

For details use B01L 2300/04.

Synonyms and Keywords

In patent document the following expressions/words "stopper", "closure", "bung", "cork", "seal" and "cap" are often used as synonyms.

B01L 3/5085

[N: for multiple samples, e.g. micro-titration plates]

Relationship between large subject matter areas

Microarray sensors such as DNA-chips without any sample storage are classified elsewhere, e.g. in B01J 19/0046 or G01N 33/50.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Processes and Apparatus for making combinatorial libraries	B01J 19/0046
Chemical or biological libraries	C40B
Automated analysis with microtitration plates	G01N 35/028

Special rules of classification within this group

Use B01L 2300/0829 for standard microtiter plate format.

B01L 3/50851

[N: specially adapted for heating or cooling samples (laboratory heating apparatus B01L7/00; incubators C12M)]

Definition statement

This subclass/group covers:
Sample containers for thermal treatment of samples, such as PCR containers.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Thermostats	B01L 7/00

B01L 3/50853

[N: with covers or lids]

Definition statement

This subclass/group covers:
Constructional details of closures for multisample containers.

References relevant to classification in this group

This subclass/group does not cover:

Closures for test tubes	B01L 3/50825
Handling of closures in automated systems	G01N 35/00

Special rules of classification within this group

For details use Indexing Codes B01L 2300/04.

B01L 3/50855

[N: using modular assemblies of strips or of individual wells]

Definition statement

This subclass/group covers:

Multisample containers which can be assembled and/or disassembled during use but which form a single unit when they are assembled. These are typically assembled into a standard format using a frame.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Holders and racks for test tubes	B01L 9/06

B01L 3/50857

[N: using arrays or bundles of open capillaries for holding samples]

Definition statement

This subclass/group covers:

Multiple parallel capillaries which hold a sample by surface tension at a specific location. The sample is not transported within the device except for filling or draining.

References relevant to classification in this group

This subclass/group does not cover:

Parallel capillaries as sample containers involving transport within said capillaries	B01L 3/5027, B01L 3/5025

B01L 3/5088

[N: confining liquids at a location by surface tension, e.g. virtual wells on plates, wires (B01L3/50857 takes precedence)]

References relevant to classification in this group

This subclass/group does not cover:

Droplet is also moved, transported on the substrate	B01L 3/502

Informative references

Attention is drawn to the following places, which may be of interest for search:

Applying liquids to render a surface hydrophobic	B05D 5/08
Surface shaping of plastic parts	B29C 59/00
Maldi-TOF sample plates	H01J 49/0418

Special rules of classification within this group

For multiple samples double classify with B01L 3/5085.

B01L 3/52

[N: Containers specially adapted for storing or dispensing a reagent (B01L3/02 takes precedence; containers for medical or pharmaceutical purposes A61J1/00; containers in general B65D; storing or dispensing test elements G01N33/4875; automated reagent dispensing G01N35/1002)]

Definition statement

This subclass/group covers:

Reagent containers.

Relationship between large subject matter areas

Sample containers with integrated reagent containers are not classified in this group. However, if the reagent container is a (modular) unit which can be inserted into a sample container and is thus not an integral part of the sample container it should be classified in this group.

References relevant to classification in this group

This subclass/group does not cover:

Pipettes, Burettes, Droppers	B01L 3/02
Sample container	B01L 3/50

Automated reagent dispensers	G01N 35/1002

Informative references

Attention is drawn to the following places, which may be of interest for search:

Medical containers	A61J 1/00
Sample containers	B01L 3/50
Lab container with identification means	B01L 3/545
Containers for storage of materials	B65D
Storing or dispensing test elements	G01N 33/4875

Special rules of classification within this group

Sample containers having additional integrated compartments for reagents are not classfied in this group but in B01L 3/50 use mirror Indexing Codes B01L 3/52 instead or B01L 2200/16.

B01L 3/523

[N: with means for closing or opening]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Test tube closures	B01L 3/50825
Closures for multiwell containers	B01L 3/50853

B01L 3/527

[N: for a plurality of reagents]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Sample containers for multiple samples	B01L 3/5085

B01L 3/54

[N: Labware with identification means (identification of carriers, materials or components in automatic analysers G01N35/00732)]

Definition statement

This subclass/group covers:

Labels, barcodes, RFIDs and other identification means used for labware.

References relevant to classification in this group

This subclass/group does not cover:

Record carrier designed to carry digital markings like barcodes, RFID	G06K 19/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Control arrangments for automated analysers	G01N 35/00584

B01L 3/545

[N: for laboratory containers]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Medical informatics, acquisition of medical information for laboratory test	G06F 19/366

B01L 3/56

[N: Labware specially adapted for transferring fluids]

Definition statement

This subclass/group covers:

Simple labware to transfer fluids, in particular traditional glassware and its accessories, such as connectors, valves, tubes, funnels.

References relevant to classification in this group

This subclass/group does not cover:

Pipettes, Burettes, Droppers	B01L 3/02
Devices for withdrawing samples	G01N 1/02

Informative references

Attention is drawn to the following places, which may be of interest for search:

Medical tubes, connectors, couplings, valves and the like	A61M 39/00

B01L 3/561

[N: Tubes; Conduits (in general F16L)]

References relevant to classification in this group

This subclass/group does not cover:

Pipes in general F16L.

B01L 3/563

[N: Joints or fittings (in general F16L); Separable fluid transfer means to transfer fluids between at least two containers, e.g. connectors]

References relevant to classification in this group

This subclass/group does not cover:

If connectors are integrated into a sample container use	B01L 3/502

Joints and fittings in general	F16L

B01L 3/5635

[N: connecting two containers face to face, e.g. comprising a filter]

Definition statement

This subclass/group covers:

Direct connection between only two containers.

B01L 3/565

[N: Seals (in general F16L)]

References relevant to classification in this group

This subclass/group does not cover:

Joints and fittings in general	F16L

B01L 3/567

[N: Valves, taps or stop-cocks (in combination with burettes B01L3/0203; in general F16K)]

Definition statement

This subclass/group covers:

Valves specifically used in connection with laboratory equipment.

References relevant to classification in this group

This subclass/group does not cover:

Valves in general	F16K
Automated sample transfer characterised by valves	G01N 35/1097

Informative references

Attention is drawn to the following places, which may be of interest for search:

Burettes	B01L 3/0203

B01L 3/569

[N: Glassware]

Definition statement

This subclass/group covers:

Residual group for glassware not falling in any of the above groups, i.e. must by made of glass.

B01L 5/00

Gas handling apparatus (gas jars or cylinders B01L3/12; cold traps, cold baffles B01D8/00; separation of gases or vapours B01D53/00; gas generators B01J7/00; steam traps F16T)

References relevant to classification in this group

This subclass/group does not cover:

Separation of gases or vapours	B01D 53/00
Cold traps, cold baffles	B01D 8/00
Gas generators	B01J 7/00
Gas jars or cylinders	B01L 3/12
Steam traps	F16T
Gas vessels	F17C
Taking gas samples	G01N 1/22
Investigating gases	G01N 33/0004

Special rules of classification within this group

This group is mostly inactive.

B01L 5/02

Gas collection apparatus, e.g. by bubbling under water (for sampling G01N)

References relevant to classification in this group

This subclass/group does not cover:

For sampling	G01N

B01L 7/00

Heating or cooling apparatus (evaporators B01D1/00; drying gases or vapours, e.g. desiccators, B01D53/26; autoclaves B01J3/04; drying ovens F26B; furnaces, ovens F27); Heat insulating devices

Definition statement

This subclass/group covers:

Thermostats for heating or cooling and heat insulation devices.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Evaporators	B01D 1/00
Cold traps	B01D 8/00
Heating or cooling for centrifuges	B04B 15/02
Incubators	C12M 41/14
Heating in general	F24
Cooling in general	F25
Drying in general	F26
Heat exchanger in general	F28
Sample preparation	G01N 1/00

Controlling temperature.	G05D 23/00
Chip cooling	H02N 1/00
Electric heating	H05B

Special rules of classification within this group

Use Indexing Code range B01L 2300/18 to specify the thermostating means.

B01L 7/02

Water baths; Sand baths; Air baths

Informative references

Attention is drawn to the following places, which may be of interest for search:

Direct contact heat exchange appratus	F28C 3/00

B01L 7/04

Heat insulating devices, e.g. jackets for flasks

Definition statement

This subclass/group covers:
Stand alone heat insulation device.

B01L 7/50

[N: Cryostats]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Temperature processes for preservation of (parts of) animals or humans	A01N 1/0284
Refrigeration or cooling in general	F25

B01L 7/52

[N: with provision for submitting samples to a predetermined sequence of different temperatures, e.g. for treating nucleic acid samples (amplification or hybridisation processes per se C12Q1/68; controlling the temperature for synthesis reactors per se B01J19/0013)]

Definition statement

This subclass/group covers:

Thermocyclers and other thermostats where a sample is exposed to a defined sequence of different temperatures. For example used for PCR.

Relationship between large subject matter areas

The specific analysis methods of polymerase chain reactions (PCR) are classified in C12Q 1/68.

Other integrated means such as specific detectors, or means for automation are classified in G01N.

References relevant to classification in this group

This subclass/group does not cover:

PCR methods	C12Q 1/68

Special rules of classification within this group

Use double classification with microfluidic sample containers of B01L 3/5027.

B01L 7/54

[N: using spatial temperature gradients]

Definition statement

This subclass/group covers:

Thermostats creating a defined temperature gradient in space.

B01L 9/00

Supporting devices; Holding devices (tweezers, tongs B25B)

Definition statement

This subclass/group covers:

Holding frame constructions, trays for drying labware, holders for labware not provided for in a subgroup.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Fastening tools in general	B25B

B01L 9/02

Laboratory benches or tables; Fittings therefor

Informative references

Attention is drawn to the following places, which may be of interest for search:

Work space management systems	A47B 83/001
Dental work stands	A61G 15/14

B01L 9/06

Test-tube stands; Test-tube holders

Informative references

Attention is drawn to the following places, which may be of interest for search:

Automated analysers with conveyors for sample containers	G01N 35/026

B01L 9/50

[N: Clamping means, tongs (in general F16B2/06)]

Definition statement

This subclass/group covers:

Indicating positions of wells and other receptacles by numbers, characters, grooves or other means.

B01L 9/52

[N: Supports for flat sample carrier, e.g. used for plates, slides, chips]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Microscopic slides	G02B 21/34
Staining of samples	G01N 1/30
Automated analysers	G01N 35/00

Special rules of classification within this group

Use Indexing Codes to identify specific carrier.

B01L 9/54

[N: Supports related to pipettes and burettes]

Relationship between large subject matter areas

Automated handling of pipettes or pipette tips is classified in G01N 35/10 and B01J 19/0046.

References relevant to classification in this group

This subclass/group does not cover:

Automated pipetting stations	G01N 35/10

Informative references

Attention is drawn to the following places, which may be of interest for search:

Packages for Syringes, Needles	A61M 5/002
Racks for Syringes, Needles	A61M 5/008

Positioning tool for sampling or inoculating	C12M 1/265

B01L 99/00

Subject matter not provided for in other groups of this subclass [N: (chemical indicators in general G01N)]

Definition statement

This subclass/group covers:

Residual group.

Indicating position in recipients.

Cleaning of labware.

Transportable labs.