

VarioBatch[®] Production
and Materials Management

gip mbH

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2 PRODUCTION PROTOCOLS

2.1 COMPLETE PROTOCOL

If production orders have been produced at a production site with Variobatch, all set and actual parameters with which a formula has been run are saved. These comprise

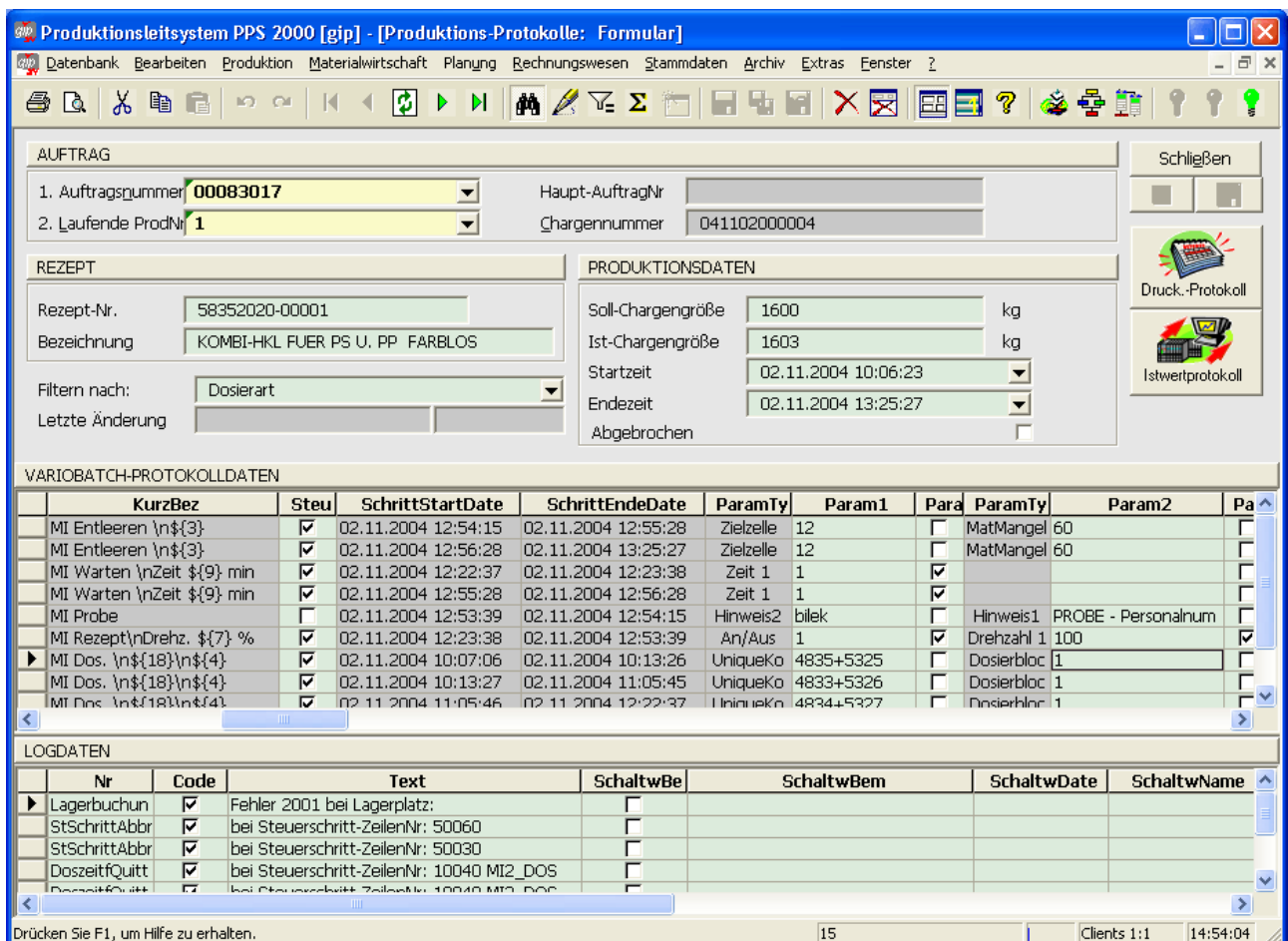
- Material data, e.g. Set weights and actual weights, margins of tolerance etc.
- procedural data, e.g. Temperatures, engine speed, mixing times, lags etc.
- Control system data, e.g. Source and target information, route information etc.

These data serve the purpose of traceability and documentation of production quality.

Production protocols are also generated if the KL module has been implemented and control formulas have been defined for manual procedures. In that case, costs that were required for the procedures are calculated. For further information see the documentation for the calculation of cost and performance.

The form consists of:

- Form heading (Chaprot table)
- 1.Sublist (ChaProkomp table) with protocol data
- 2.Sublist (logfile table) with log data



AUFTRAG

1. Auftragsnummer: 00083017
 2. Laufende ProdNr: 1

Haupt-AuftragNr:
 Chargennummer: 041102000004

REZEPT

Rezept-Nr.: 58352020-00001
 Bezeichnung: KOMBI-HKL FUER PS U. PP FARBLOS

Filtern nach: Dosierart
 Letzte Änderung:

PRODUKTIONS DATEN

Soll-Chargengröße: 1600 kg
 Ist-Chargengröße: 1603 kg
 Startzeit: 02.11.2004 10:06:23
 Endezeit: 02.11.2004 13:25:27
 Abgebrochen:

VARIOBATCH-PROTOKOLLDATEN

	KurzBez	Steu	SchrittStartDate	SchrittEndDate	ParamTy	Param1	Para	ParamTy	Param2	Pa
	MI Entleeren \n\${3}	<input checked="" type="checkbox"/>	02.11.2004 12:54:15	02.11.2004 12:55:28	Zielzelle	12	<input type="checkbox"/>	MatMangel	60	<input type="checkbox"/>
	MI Entleeren \n\${3}	<input checked="" type="checkbox"/>	02.11.2004 12:56:28	02.11.2004 13:25:27	Zielzelle	12	<input type="checkbox"/>	MatMangel	60	<input type="checkbox"/>
	MI Warten \nZeit \${9} min	<input checked="" type="checkbox"/>	02.11.2004 12:22:37	02.11.2004 12:23:38	Zeit 1	1	<input checked="" type="checkbox"/>			<input type="checkbox"/>
	MI Warten \nZeit \${9} min	<input checked="" type="checkbox"/>	02.11.2004 12:55:28	02.11.2004 12:56:28	Zeit 1	1	<input checked="" type="checkbox"/>			<input type="checkbox"/>
	MI Probe	<input type="checkbox"/>	02.11.2004 12:53:39	02.11.2004 12:54:15	Hinweis2	bilek	<input type="checkbox"/>	Hinweis1	PROBE - Personalnum	<input type="checkbox"/>
	MI Rezept\nDrehz. \${7} %	<input checked="" type="checkbox"/>	02.11.2004 12:23:38	02.11.2004 12:53:39	An/Aus	1	<input checked="" type="checkbox"/>	Drehzahl	1 100	<input checked="" type="checkbox"/>
	MI Dos. \n\${18}\n\${4}	<input checked="" type="checkbox"/>	02.11.2004 10:07:06	02.11.2004 10:13:26	UniqueKo	4835+5325	<input type="checkbox"/>	Dosierbloc	1	<input type="checkbox"/>
	MI Dos. \n\${18}\n\${4}	<input checked="" type="checkbox"/>	02.11.2004 10:13:27	02.11.2004 11:05:45	UniqueKo	4833+5326	<input type="checkbox"/>	Dosierbloc	1	<input type="checkbox"/>
	MI Dos. \n\${18}\n\${4}	<input checked="" type="checkbox"/>	02.11.2004 11:05:46	02.11.2004 12:22:37	UniqueKo	4834+5327	<input type="checkbox"/>	Dosierbloc	1	<input type="checkbox"/>

LOGDATEN

	Nr	Code	Text	SchaltwBe	SchaltwBem	SchaltwDate	SchaltwName
		<input checked="" type="checkbox"/>	Fehler 2001 bei Lagerplatz:	<input type="checkbox"/>			
	StSchrittAbbr	<input checked="" type="checkbox"/>	bei Steuerschritt-ZeilenNr: 50060	<input type="checkbox"/>			
	StSchrittAbbr	<input checked="" type="checkbox"/>	bei Steuerschritt-ZeilenNr: 50030	<input type="checkbox"/>			
	DoszeitQuitt	<input checked="" type="checkbox"/>	bei Steuerschritt-ZeilenNr: 10040 MI2_DOS	<input type="checkbox"/>			
	DoszeitQuitt	<input checked="" type="checkbox"/>	bei Steuerschritt-ZeilenNr: 10040 MI2_DOS	<input type="checkbox"/>			

Drücken Sie F1, um Hilfe zu erhalten. 15 Clients 1:1 14:54:04

In the production protocol, the following data are displayed in the heading:

Order number	Number of the produced order
Serial number	Serial number of the produced order
Batch number	Batch number of the production batch produced
Formula number	Number of the component formula
Set batch size	The quantity set to be produced
Actual batch size	The actual quantity produced
Start time	Time stamp when the order was started
End time	Time stamp when the order was completed
Cancelled	Indication if a formula has been cancelled
Filter by	Selection list to determine the sorting order of the sublist. There are three options: 1 = Sort by dosing 2 = sort by control steps 3 = sort by time flow

In the sublist, the completed control steps of a Variobatch control step are displayed. Each line represents one control step. The following data are displayed for each control step:

Component number	Component number applied. Only displayed in the row where the dosing step currently is
Name	Component name
Dosing type	Dosing type of the raw material
Cell	Source cell number from which the crude material has been obtained
Set value	Set dosing value in [kg]
Actual value	Actual dosing value in [kg]
Difference	Difference between set value and actual value in [kg]
Aggregate type	Aggregate type of the control step
Control step ID	Number of control step type
Name	Name of the control step type
Print control step	Check box if the control step is to be printed in the production print protocol. Is automatically selected if the printing field has been activated in the control step definition.
ParamTyp1...20	Item type of the corresponding parameter from the control step definition
Param1...20	Entered value of the set parameter
P1D...20D	Check box if the parameter is to be printed in the production print protocol. Is automatically selected if the printing field has been activated in the control step definition.
ActValType1...8	Item type of the corresponding actual value from the control step definition
ActVal1...8	Actual value
I1D...8D	Check box if the parameter is to be printed in the production print protocol. Is automatically selected if the printing field has been activated in the control step definition.
Step start date	Time stamp when the control step was started
Step end date	Time stamp when the control step was completed
Tolerance	Tolerance overstepping. Only displayed for dosing steps.

overstepping

Row	row number of the control step in order-related control formula
Sequence ID	Sequence the control step belongs to
Level	Level the control step belongs to
Variable cost	Calculated variable cost in €. The value is the result of the runtime of the control step and the determined cost rates.
Fixed cost	Fixed cost in €
Cost performance	Runtime of the control step resulting from the manual production. The runtime is calculated from the set quantity and the performance figures and cost rates determined in the master data. (performance-dependent part)
Cost time	Runtime of the control step from the time-dependent part of the control step.

2.Sublist

Here, all messages are listed which have emerged during the production process. The list can be extended with manual entries, in order to e.g. Enter quality data.

Number	Message type or class
Code	Code if the record is to appear in the print protocol. The setting which logfile class is to appear in the print protocol is defined in the logfile classes.
Text	Message text
Message date	Time of message
Message name	
Switch room confirm	Confirmation field for the switch room that the message has been checked.
Switch room comment	Comment field for the switch room
Switch room date	Date of confirmation
Switch room name	Name of the person confirming the message
Department date	Date of assessment
Department name	Name of the person assessing the message
Department comment	Comment field for department

2.2 PRINT PROTOCOL

The print protocol is a lean production protocol set and actual parameters relevant for printing. Here, only those control steps and their parameters are displayed which have been declared in the control step definition in VarioBatch. If more parameters are required in the print protocol for a certain batch, these can explicitly be selected in the preceding form.

The form consists of:

- Form heading (Chaprot table)
- 1.Sublist (ChaProkomp table) with protocol data

- 2.Sublist (logfile table) with log data

Produktionsleitsystem PPS 2000 [gip] - [Produktions-Druckprotokolle: Formular]

Datenbank Bearbeiten Produktion Materialwirtschaft Planung Rechnungswesen Stammdaten Archiv Extras Fenster ?

AUFTRAG

1. Auftragsnummer: 00083017 Haupt-AuftragNr: []
 2. Laufende ProdNr: 1 Chargennummer: 041102000004

REZEPT

Rezept-Nr.: 58352020-00001
 Bezeichnung: KOMBI-HKL FUER PS U. PP FARBLOS

Filtern nach: Dosierart
 Letzte Änderung: []

PRODUKTIONS DATEN

Ansatzgröße - SOLL: 1600 kg
 Ansatzgröße - IST: 1603 kg
 Startzeit: 02.11.2004 10:06:23
 Endezeit: 02.11.2004 13:25:27
 Abgebrochen:

VARIOBATCH-PROTOKOLLDATEN

Pos	Hinweis	ParamTyp	Param1V	ParamTyp	Param2V	ParamTyp	Param3V	ParamTyp	Param4V	ParamTyp	Param5V	ParamTyp
0												
1												
2		Zeit 1	1									
3		Zeit 1	1									
4		Any/Aus	1	Drehzahl 1	100	Zeit 1	30					
5		Soll Istqewi	399,36	Toleranz Pl	5							

LOGDATEN

Nr	Code	Text	SchaltwBe	SchaltwBem	SchaltwDate	SchaltwName	St
Lagerbuchun	<input checked="" type="checkbox"/>	Fehler 2001 bei Lagerplatz:	<input type="checkbox"/>				
StSchrittAbbr	<input checked="" type="checkbox"/>	bei Steuerschritt-ZeilenNr: 50060	<input type="checkbox"/>				
StSchrittAbbr	<input checked="" type="checkbox"/>	bei Steuerschritt-ZeilenNr: 50030	<input type="checkbox"/>				
DoszeitfQuitt	<input checked="" type="checkbox"/>	bei Steuerschritt-ZeilenNr: 10040 MI2_D	<input type="checkbox"/>				
DoszeitfQuitt	<input checked="" type="checkbox"/>	bei Steuerschritt-ZeilenNr: 10040 MI2_D	<input type="checkbox"/>				
DoszeitfQuitt	<input checked="" type="checkbox"/>	bei Steuerschritt-ZeilenNr: 10040 MI2_D	<input type="checkbox"/>				

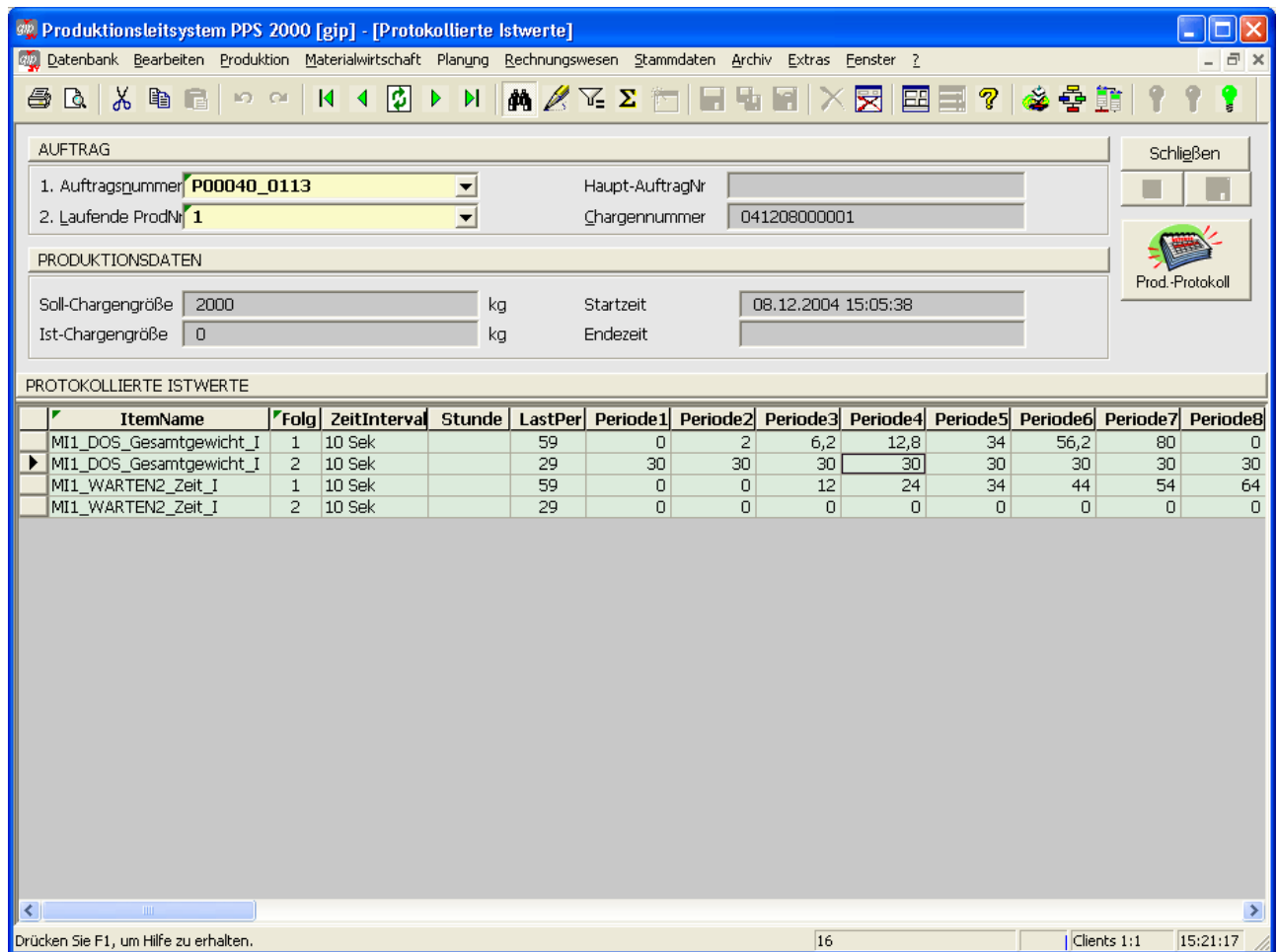
Drücken Sie F1, um Hilfe zu erhalten. 15 Clients 1:1 14:55:07

2.3 RECORDED ACTUAL VALUES

This form lists all values of process variables which have been recorded during the production of the production batch. The SPS parameter form defines which process variables and in which time intervals they will be recorded.

The form consists of:

- Form heading (Chaprot table)
- 1.Sublist (Batch protocol statistic table) with protocol data



Produktionsleitsystem PPS 2000 [gip] - [Protokollierte Istwerte]

Datenbank Bearbeiten Produktion Materialwirtschaft Planung Rechnungswesen Stammdaten Archiv Extras Fenster ?

AUFTRAG

1. Auftragsnummer **P00040_0113** Haupt-AuftragNr
 2. Laufende ProdNr **1** Chargennummer 041208000001

PRODUKTIONS DATEN

Soll-Chargengröße 2000 kg Startzeit 08.12.2004 15:05:38
 Ist-Chargengröße 0 kg Endezeit

PROTOKOLLIERTE ISTWERTE

ItemName	Folg	ZeitInterva	Stunde	LastPer	Periode1	Periode2	Periode3	Periode4	Periode5	Periode6	Periode7	Periode8
MI1_DOS_Gesamtgewicht_I	1	10 Sek		59	0	2	6,2	12,8	34	56,2	80	0
MI1_DOS_Gesamtgewicht_I	2	10 Sek		29	30	30	30	30	30	30	30	30
MI1_WARTEN2_Zeit_I	1	10 Sek		59	0	0	12	24	34	44	54	64
MI1_WARTEN2_Zeit_I	2	10 Sek		29	0	0	0	0	0	0	0	0

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Form heading

- Order number** Number of the produced order
- Serial number** Serial number of the produced order.
- Batch number** Batch number of the production batch
- Formula number** Number of the component formula
- Set batch size** The quantity set to be produced
- Actual batch size** The actual quantity produced
- Start time** Time stamp when the order was started
- End time** Time stamp when the order was completed

1.Sublist of recorded actual values

- Item name** Name of the process variable
- Serial number** Serial number of the process variable records.
- Time interval** Time interval between the period entries: Off/undefined:10 sec:20 sec:1 min:2 min: 5 min:10 min:20 min:60 min:
- Last period** Determines in which period field an entry was last made

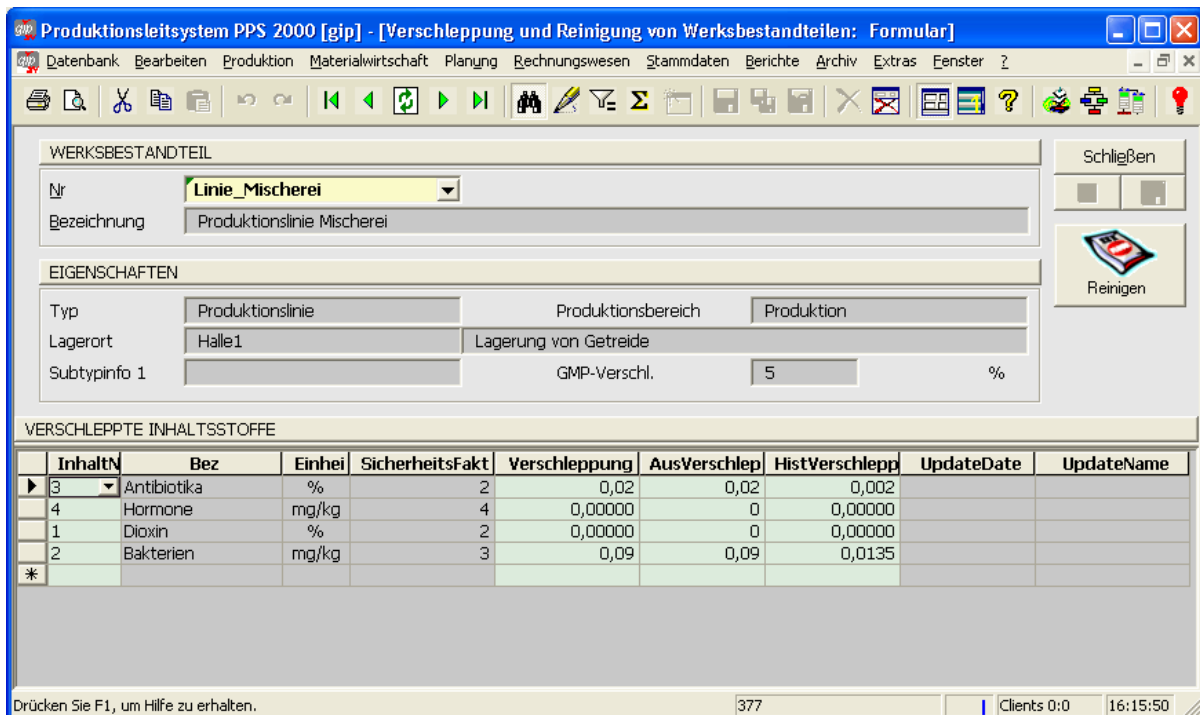
Periode1...60 Values of the process variable Recording starts at 1 and ends at field 60. Then, a new record is created.

2.4 RESIDUE AND CLEANING

In this form it can be viewed which factory components and lines contain residue of which substances. If an upcoming process has been locked at arrival, in production or at goods issue, the residue can be reset after cleaning of the factory component.

The form consists of:

- Form heading (storage place table)
- Sublist (GMP_Residue table) Residue substances
-



WERKSBESTANDTEIL

Nr: **Linie_Mischerei**
 Bezeichnung: Produktionslinie Mischerei

EIGENSCHAFTEN

Typ: Produktionslinie Produktionsbereich: Produktion
 Lagerort: Halle1 Lagerung von Getreide
 Subtypinfo 1: GMP-Verschl.: 5 %

VERSCHLEPPTE INHALTSSTOFFE

	InhaltN	Bez	Einhei	SicherheitsFakt	Verschleppung	AusVerschlep	HistVerschlepp	UpdateDate	UpdateName
▶ 3	Antibiotika		%	2	0,02	0,02	0,002		
4	Hormone		mg/kg	4	0,00000	0	0,00000		
1	Dioxin		%	2	0,00000	0	0,00000		
2	Bakterien		mg/kg	3	0,09	0,09	0,0135		
*									

Drücken Sie F1, um Hilfe zu erhalten. 377 Clients 0:0 16:15:50

Header data:

- Number** Unique alphanumeric number of the factory component
- Name** Name of storage place
- Type** Type of storage place
- Production branch** Production branch the storage place belongs to
- GMP Residue** For production lines, the degree of residue on the site is indicated in [%].

Sublist Residue of Substances

- Substance number** Substance
- Safety factor** Multiplier for residue calculation
- Residue (X-1)** Current residue concentration of the substance.

Last Residue (X-1) Residue concentration of the substance originating from the last batch only.

History Residue (X-1) Residue concentration of the substance originating from past batches.

The calculation algorithm for the residue of each substance:

Variable X identifies the next batch to be produced on the site.

- Last Residue X = concentration substance * degree of residue * safety factor
- Residue X = last pollution batch X-1 + history pollution X-1
- History Residue X = residue batch X * degree of residue * safety factor

Checking if batch X, which is next to be produced at the factory component, is at risk results from the comparison between the residue value and the maximum limit indicated in the GMP article group.

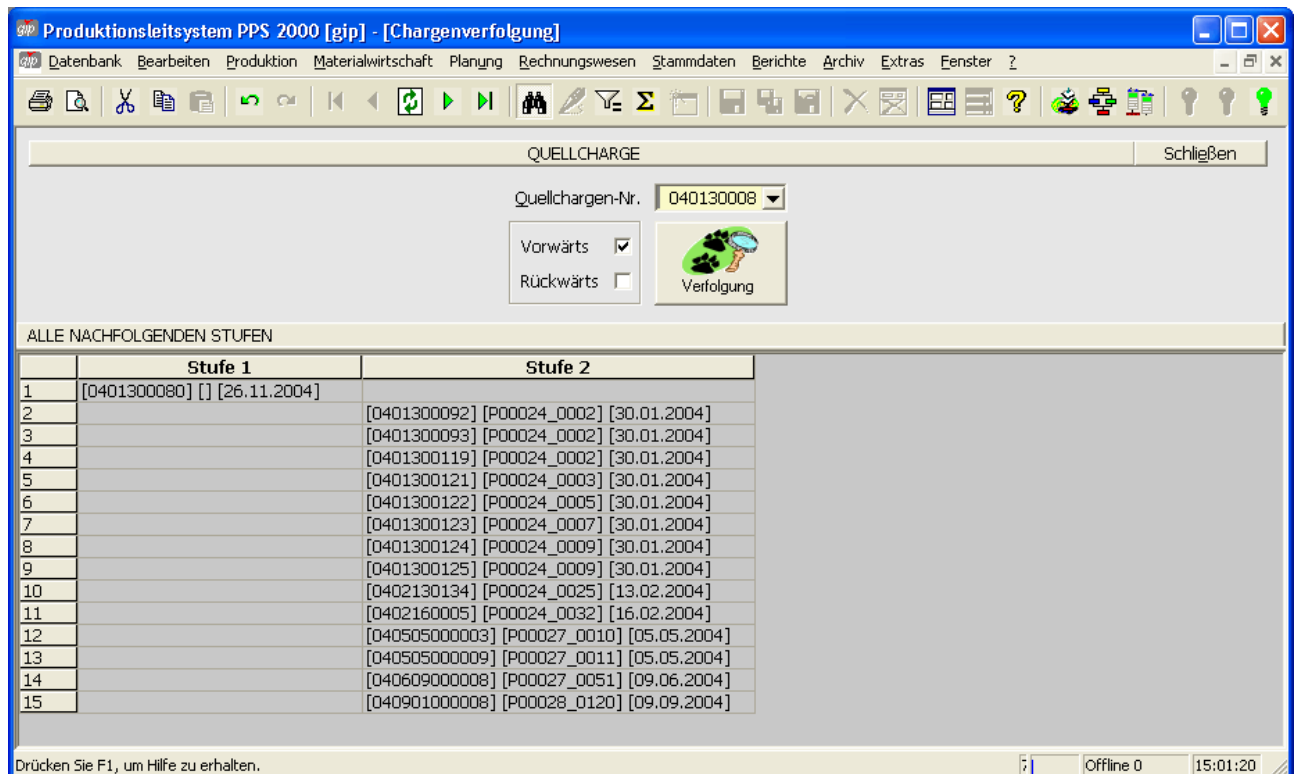
Calculation algorithm in production:

1. Run through the production batches to be started next.
2. Run through the components for each production batch
3. Run through the substances of the component
4. Apply the residue calculation algorithm. If the maximum limit of the substance for this article group is exceeded, display an error message and jump out of the loop
5. If no error message occurs, production can begin.

"Clean" button

This deletes the sublist.

2.5 BATCH TRACING



In this dialogue, batches can be tracked in forward or backward direction. Batch tracing is the display of dependencies between storage batches which have joined through production. As the production of a finished product takes place in multiple intermediate steps, tree structures emerge, which are displayed in this form.

The dialogue consists of a heading and two sublists.

In the heading, the (source) batch to be traced is selected. A *radio button* allows you to switch between *forward tracing* and *backward tracing*. By pressing the "tracing" button, the result is displayed in the sublist. In the first sublist, a batch to be tracked can be selected by double-clicking and copied into the header.

Example of use for forward tracing

A furnisher reports to the producing company that the delivered batch has been of bad quality. By forward tracing, the batch number of goods receipt can be entered. The system then displays a tree structure across all production stages as far as the finished goods which have been produced from them. This way, customers can be informed about the bad products.

Example of use for backward tracing

A customer complains about the quality of a purchased product. By backward tracking it is possible to retrace with which production orders the finished product has been produced. The tree structure is displayed as far as the original crude materials (batches).

With the production records, problems which might have occurred can now be analysed which have lead to the bad result.

3 ARCHIVING

Production orders produced, old storage batches and old delivery notes, which are not accessed that frequently, can be copied into archive tables in a background process. This relieves the system and accelerates access to current data. Archiving is carried out by setting of system parameters. The archived data can be viewed under the menu item Archive.

The following parameters serve to configure archiving:

Group	Name	Function	Default value
ARCHIVING	automatic Archiving on	Shall automatic archiving be activated at all? (0=no,1=yes). All data from the work tables are copied into the archive tables while archiving. The records in the work tables are deleted.	1
ARCHIVING	automatic Archiving order on	Should production orders be automatically archived? (0=no,1=yes). For orders to be able to be archived, the order must have status = 7 (assessed). Archiving is carried out on the communication server. All records related to the order are copied from/deleted in the following tables: Order, Order comp, Batch, BatchPos, BatchPosPos, OrderPackPosPos, OrderPackMat, BatchProt, BatchProComp, LogFile.	0
ARCHIVING	automatic Archiving Storage on	Should all storage movements and storage batches booked as zero stock be automatically archived? (0=no,1=yes). Archiving is carried out on the communication server.	0
ARCHIVING	automatic Archiving incoming goods on	Should delivery notes together with the confirmation of goods be automatically archived? (0=no,1=yes). For delivery notes to be able to be archived, the delivery note must have status = 3 (completed). Archiving is carried out on the communication server. All records related to the delivery note are copied from/deleted in the following tables: Delivery note, Goods confirmation, Transport confirmation, Weighing confirmation	0
ARCHIVING	Time interval order archiving	Only orders with the actualisation date older than " Today – time interval " are considered for archiving.	60
ARCHIVING	Time interval storage data archiving	Only storage batches with the actualisation date older than " Today – time interval " are considered for archiving.	60
ARCHIVING	Time interval incoming goods archiving	Only delivery notes with the actualisation date older than " Today – time interval " are considered for archiving.	60