Tutorial
G^{raf}Compounder 5.0
Part III

Data Import
Merger from Clipboard
Merger from Table Calculation File
[Excel®, Libre Office®, others]

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Content:

G^raf Compounder 5.0

Step by Step with Screen Shots

Part III

- **Merger**

  - **Before you start**

    Organisation of data for merger

  - **Data from table calculation program**

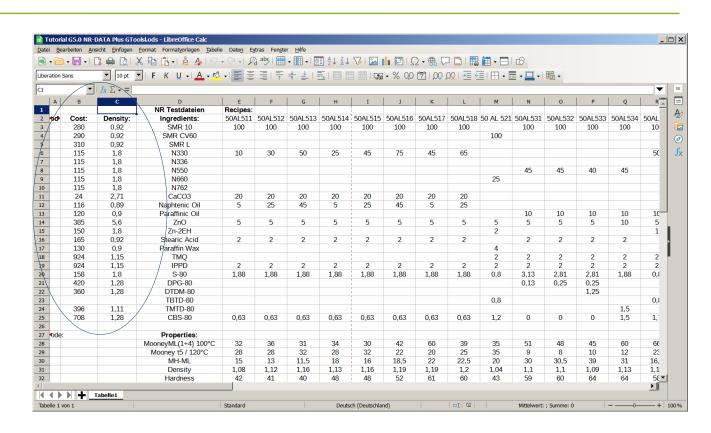 - **Data from .gc files**

Conclusion

- **Preparation of Data for Merger**
  - **Import of Data from Table Calculation Program**
    - **Preparation of Data Table**
      - Adaption to GrafCompounder Data Format
    - **Introduction of Code: Raw Materials**
    - **Introduction of Code: Properties**
      - **Ambiguous coding, selected for demonstration purpose, requires the import of a file without coding, while the target file can be provided with a code.**
      - **The advantage is that the coding of the imported file can be carried out quickly and easily afterwards**
    - **Copy / Paste with Clippboard**

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- **Preparation of Data for Merger**
  - **Import of Data from Table Calculation Program**
    - **Preparation of Data Table**
      - Adaption to GrafCompounder Data Format
    - **Introduction of Code: Raw Materials**
    - **Introduction of Code: Properties**
      - **Ambiguous coding, selected for demonstration purpose, requires the import of a file without coding, while the target file can be provided with a code.**
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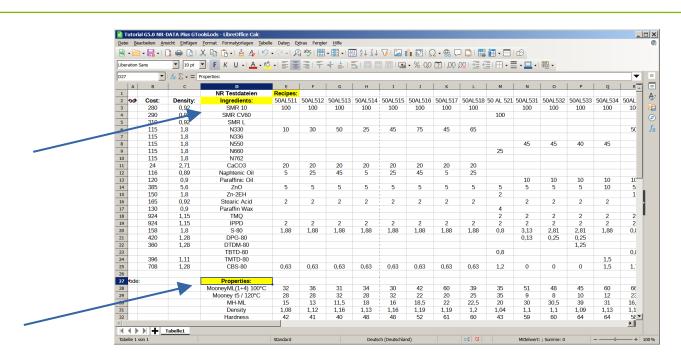   - **Copy / Paste with Clippboard**

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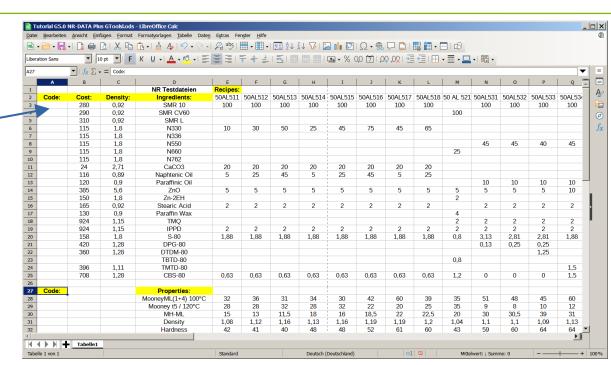**Open file in data caclulation Program**
- **Note: Density and arbitrary cost values put in.**

The spreadsheet screenshot shows (title bar): Tutorial G5.0 NR-DATA Plus GToolsLods - LibreOffice Calc

	Cost:	Density:	Ingredients:	50AL511	50AL512	50AL513	50AL514	50AL515	50AL516	50AL517	50AL518	50 AL 521	50AL531	50AL532	50AL533	50AL534	50AL
			NR Testdateien	Recipes:													
	280	0,92	SMR 10	100	100	100	100	100	100	100	100		100	100	100	100	10
	290	0,9	SMR CV60									100					
	310	0,92	SMR L														
	115	1,8	N330	10	30	50	25	45	75	45	65						50
	115	1,8	N336														
	115	1,8	N550										45	45	40	45	
	115	1,8	N660									25					
	115	1,8	N762														
	24	2,71	CaCO3	20	20	20	20	20	20	20	20						
	116	0,89	Naphtenic Oil	5	25	45	5	25	45	5	25						
	120	0,9	Paraffinic Oil										10	10	10	10	10
	385	5,6	ZnO	5	5	5	5	5	5	5	5	5	5	5	5	10	5
	150	1,8	Zn-2EH									2					1
	165	0,92	Stearic Acid	2	2	2	2	2	2	2	2		2	2	2	2	
	130	0,9	Paraffin Wax									4					
	924	1,15	TMQ									2	2	2	2	2	2
	924	1,15	IPPD	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	158	1,8	S-80	1,88	1,88	1,88	1,88	1,88	1,88	1,88	1,88	0,8	3,13	2,81	2,81	1,88	0,
	420	1,28	DPG-80										0,13	0,25	0,25		
	360	1,28	DTDM-80												1,25		
			TBTD-80									0,8					0,
	396	1,11	TMTD-80													1,5	
	708	1,28	CBS-80	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63	1,2	0	0	0	1,5	1,
	Code:		Properties:														
			MooneyML(1+4) 100°C	32	36	31	34	30	42	60	39	35	51	48	45	60	66
			Mooney t5 / 120°C	28	28	32	28	32	22	20	25	35	9	8	10	12	23
			MH-ML	15	13	11,5	18	16	18,5	22	22,5	20	30	30,5	39	31	16,
			Density	1,08	1,12	1,16	1,13	1,16	1,19	1,19	1,2	1,04	1,1	1,1	1,09	1,13	1,1
			Hardness	42	41	40	48	48	52	61	60	43	59	60	64	64	58

Make sure that Cell with "Recipes:" "Ingredients:", "Properties:" in

◆ **Position as shown**

◆ **Spelling exactly as shown**

◆ **No empty column or row between data neither joined cell.**

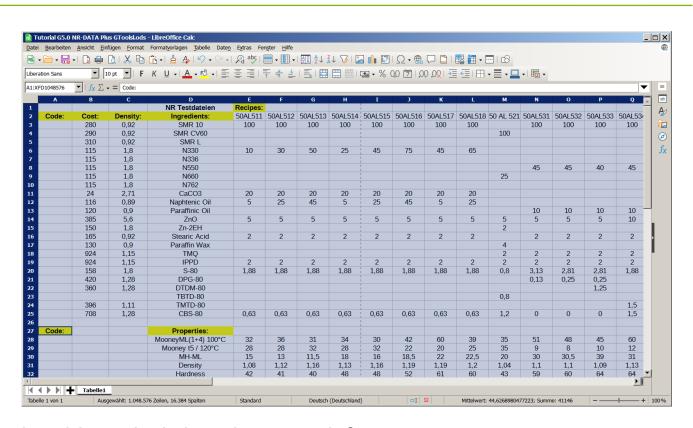   ✗ **Empty row above „Properties:" is allowed**

Make sure that Cell with "Recipes:" "Ingredients:", "Properties:" in position.

- Same applies for „Cost:", „Density:" and „Code:"
  - All terms must have a double dot (:)
  - It's possible to change the order of the columns or omit a column
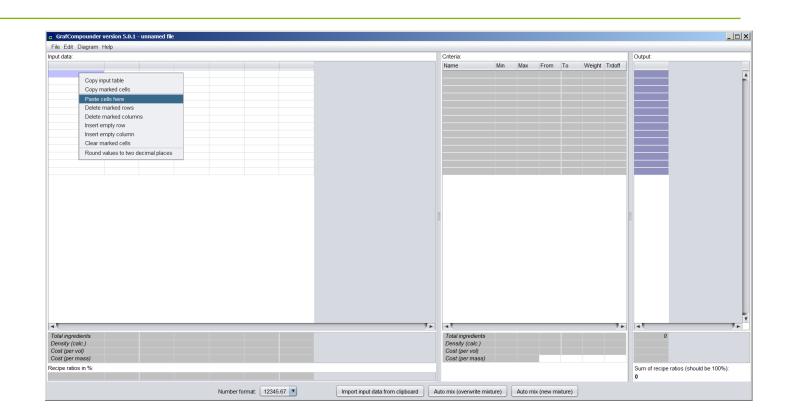   - ✗ But „Density:" and „Cost:" needed for cost/volume calculations

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Highlight the whole table with click in the upper left corner and copy with right mouse click.
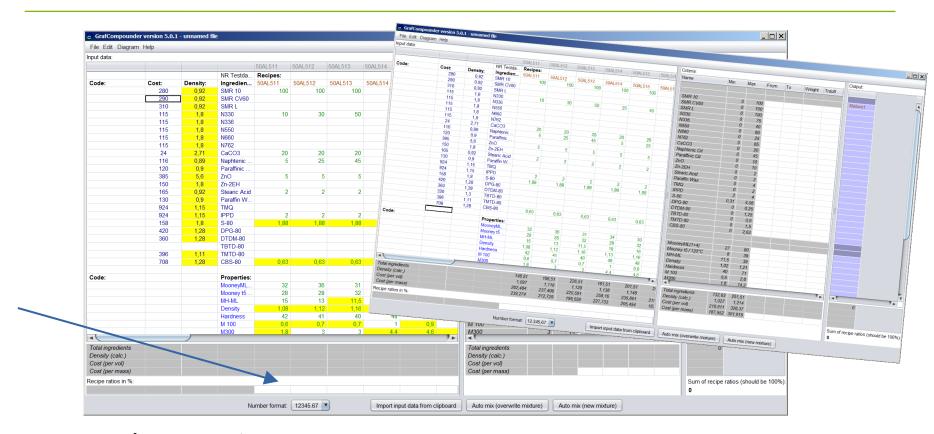
G^{raf}Compounder
Tutorial Part III

Open G^{raf}Compounder
Right Mouse click in the uper left cell select „paste cells here"

Open G^{raf}Compounder

Right Mouse click in the uper left cell select „paste cells here"

✗ **If yellow cells appear, change number format (most likely reason).**

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Polymers

Apply a code in column „Code:" in sector „Ingredients:"

◆ **Select anything which can be sorted as- / descending. An ambiguous code slected.**

  ✗ **As an example: single digit numbers applied for groups of ingredients** 10

Apply a code in column „Code:" in sector „Properties:"

◆ **Select anything which can be sorted as- / descending**

   ✗ **As an example: three digit numbers applied, but e code is ambiguous**

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Rheology

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
25	90	708	1,28	CBS-80	0,63	0,63	0,63	0,63	0,63	0,63	0,63	0,63	1,2	0	0	0	1,5
26																	
27	Code:			Properties:													
28	100			MooneyML(1+4) 100°C	32	36	31	34	30	42	60	39	35	51	48	45	60
29	100			Mooney t5 / 120°C	28	28	32	28	32	22	20	25	35	9	8	10	12
30	100			MH-ML	15	13	11,5	18	16	18,5	22	22,5	20	30	30,5	39	31
31	200			Density	1,08	1,12	1,16	1,13	1,16	1,19	1,19	1,2	1,04	1,1	1,1	1,09	1,13
32	200			Hardness	42	41	40	48	48	52	61	60	43	59	60	64	64
33	200			M 100	0,6	0,7	0,7	1	0,9	1	1,7	1,4	0,9	1,9	2,1	2,8	2
34	200			M300	1,8	3	3	4,4	4,6	5,3	8	7,6	4,1	9,6	10	13	13,5
35	200			TS	25	21	15	25	20	15,3	23	18	25	22	23	21	24
36	200			EB	785	725	690	715	705	615	560	590	655	540	535	450	475
37	200			Tear(Trouser)Median 23°C	6	7,1	8,6	16	25	30	29	33	7	12	9,2	7,2	10,5
38	200			Tear(Trouser)Median 100°C	2,4	28	5,9	28	32	7,2	17	34	6,8	6,8	8,1	4	4,4
39	300			C-Set -26°C /24h [%]	22	28	30	17	19	35	29	27		10	10	10	16
40	300			C-Set 0°C /24h [%]	10	14	14	8	12	16	13	12	15	10	8	7	6
41	300			C-Set 23°C /72h [%]	8	10	14	9	13	16	10	17	9	6	7	6	7
42	300			C-Set 70°C /24h [%]	39	50	61	44	50	54	44	50	20	27	24	20	26
43	400			Aging 7d/70°C													
44	400			Delta Hardness	4	4	9	2	7	8	3	7	0	4	5	2	4
45	400			Delta M100	20	40	35	15	3	40	15	30	20	55	50	20	50
46	400			Delta M300	20	40	40	30	35	40	10	20	25	40	30	20	12
47	400			Delta TS	5	15	20	10	10	10	5	-20	0	0	0	-10	-4
48	400			Delta EB	-5	-5	-5	-5	-5	-10	0	-5	-7	-10	-10	-20	-10

Apply a code in column „Code:" in sector „Properties:"

◆ **Select anything which can be sorted as- / descending**

   ✗ **As an example: three digit numbers applied**

1. **Select another data file with different blocks of experiments**

   (*in our example we stay with NR based compounds*)**:**

   ◆ **Prepare as shown above in both sectors „Ingredients:" „Properties:"**
   - ✗ **Check ingredient / property names**
   - ✗ **Example N550 and not CB550 or opposite.**

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Highlight data and copy

◆ **Consolidate the ingredient and property names. Do not apply a code.**
(ANY difference is regocknized as separate item)

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Paste selected data file with:

◆ **Click select „Merger in Recipes from Clipboard"**

◆ **Message appears what amount of recipes, ingredients and properties added**

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1. Review whole file after „Merger"
   - Input   „Code:" for ingredients
   - Input „Code:" for properties

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Tutorial Part III

1. Review new file; repeat for „Properties:"
   - Input „Code:" for ingredients
   - Input „Code:" for properties
     [review www.grafcompounder.de: FAQ for details)

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Tutorial Part III

1. Highlight „Code:" column, right mouse click, select „Sort selected Property rows"
   ◆ Review properties: on double items and consolidate

Review Properties on aliased items

◆ *In the example Modulus M 500 is not in the right position due to different name (**Modulus M 500 instead of M500**)*

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1. Highlight „Code:" column, right mouse click, select „Sort selected Property rows"
    ◆ Insert empty row; copy row for shift; paste cells; delete marked row
       Row „Modulus M 500" is now in the right position

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Repeat procedure sorting the ingredients

Continue sorting selected ingredients in alphabetic order.

◆ **Highlight ingredients; right mouse click; „sort selected ingredient rows."**

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Continue with other ingredients / properties blocks.

◆ **Put in missing density (at least) and cost values (if available)**
(for training put in arbitrary numbers)

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Continue with other ingredients / properties blocks.

◆ **Example: Acceleators; process aids, anti aging/ozonants, etc.**

Save the file with new name.

◆ **Suggestion: Chose a combination of the file names used for this merger**

◆ **File is now ready for use.**

Merger of .gc Files

- **If there are more .gc files created**
  - ✦ **You want to combine two files? Procedure needs less preparation of the files**
  - ✦ **Expanding your data base with more files: use procedure descibed below.**

- **Merger from .gc File**

  - **Open first file, you want to expand**

- **Merger from .GC File**

  ◆ **Click „File", select „Merger from File"**

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- **Merger from .GC File**

  - **Click „File" in menue bar, select „Merger from File"**

  - **Select File from folder, click „Enter"**

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- **Merger from .GC File**
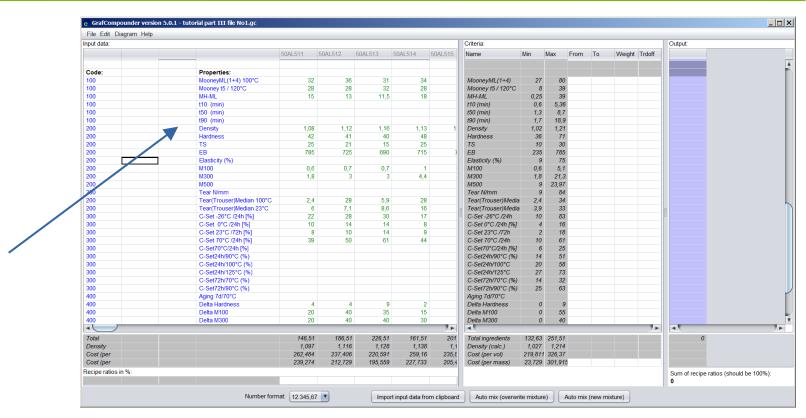
    ◆ **Put in Codes and Sort as described above**

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- **Merger from .gc file**

  - **Sort group of ingredients as described previously**

- **Merger from .gc File**

  ◆ **Repeat coding and sorting with properties, and subgroup of properties**

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Fig.: CB550 over Hardness - M300

- **Merger from .gc file**

    - **File ready for use.**
    [*Analyze data with graphic tools*]

- **Concluding Remarks**

    - **In the example, ambiguous coding was selected. This requires the import of a file without coding.**

        - **This type of coding was chosen because it is very simple and quick to perform.**

    - **If unambiguous coding is preferred, this must be generated in an external process.**

        - **It can be done, for example, by copying the „Ingredient" and „Property" columns and exporting them into a table.**

Summary

- **Preparation of original data for loading into G^{raf}Compounder**
- **Import with copy-paste**
- **Prepare second file**
  - ✗ **Requirements of input data field**
  - ✗ **Same name for same ingredient**
- **After data import with „Merger" sort data and consolidate**
- **Save file with new name**

➡ **Release „G^{raf}Compounder" Version 5.0
July 2023**

➡**Upgrades from earlier versions upon request**

Send us your:

Questions, Remarks, Discussion ?

More information under: **www.grafcompounder.com**