CNV-1080 Mixing Ratios

Status	100%
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Purpose

The purpose of this document is to define the conversion approach to create conversion for Object 1080 Mixing Ratios.

Mixing Ratios are the ratios which are maintained for mixed costing. Mixing ratios are weighting factors assigned to the procurement alternatives. This weighting factor is obtained from the planning department based on the usage of the procurement alternatives during the planning year. The pre-requisites for maintaining mixing ratios are production version and production alternatives.

The document details out the field list, extraction criteria, scoping, mapping, transformation logic, generation of the pre-load file and loading of the same with respect to the object 1080 - Mixing Ratios.

Key tables and fields:

The tables mentioned below are the main tables used for Mixing Ratios in S4.

- **CKMLMV001** – This table in SAP is primarily used to store Procurement Alternatives data. This table contains various fields that hold specific information or linking keys about procurement alternatives such as Procurement alternatives, object type, valuation area etc.
- **CKMLMV003** – This table in SAP stores information related to mixing ratios. The table stores information of mixing ratios with reference to the procurement alternatives and production version.

Table: CKMLMV001 is the central table for defining procurement alternatives in SAP S/4HANA, which is a pre-requisite for migrating mixing ratios. The key fields of this table are:

- **MATNR –** The MATNR is the material number of the material for which the procurement alternative is being maintained.
- **WERKS –** The WERKS is the plant in which the material will be costed.
- **OTYP –** The OTYP (Object type) field identifies the object type e.g. “BA – Procurement Alternative”, “PR – Procurement Process”, “EB-Sales Order Stock”, “LA – Activity type” etc.
- **KALNR –** This field stores the procurement alternative/Process number. A procurement alternative represents one of a number of different ways of procuring a specific material. You can control the level of detail in which the procurement alternatives are represented through the controlling level. Depending on the processing category, there are single-level and multilevel procurement alternatives. For example, "purchase order" is single-level procurement and "production" is multilevel procurement.
- **BTYP** – The process categories differentiate between the different types of procurement or consumption of materials. For example, the process categories "production" and "purchase order" represent two different methods of procuring a material. Since different methods of procurement or consumption are handled by the SAP System in different ways, the system updates different types of data. On the basis of this data, characteristics can be derived and used to create procurement processes, procurement alternatives, and consumption alternatives. E.g. “BB-Purchase Order”, “BF-Production”, “BL-Subcontracting” etc.
- **SEPZ_NAME_ND** - This field helps define a user defined name for procurement alternatives / consumption alternative. This can be defined by the user using controlling levels and which can be used to identify transactions in the ML data.

Table: CKMLMV003 is the central table for defining mixing ratios in relation to procurement alternatives in SAP S/4HANA:

- **MATNR –** The MATNR is the material number of the material for which the procurement alternative and mixing ratio(s) are being maintained.
- **WERKS –** The WERKS is the plant in which the material will be costed and for which the mixing ratios will be maintained.
- **KALNR_BAL –** This field is a key field and stores the procurement alternative number. A procurement alternative represents one of a number of different ways of procuring a specific material. You can control the level of detail in which the procurement alternatives are represented through the controlling level. Depending on the processing category, there are single-level and multilevel procurement alternatives. For example, "purchase order" is single-level procurement and "production" is multilevel procurement.
- **KALNR_IN – This field is a key field and stores the procurement process number. It is** a process in Product Cost Controlling that calculates and displays the costs incurred in the process of procuring materials. A procurement process identifies such a process for one or more materials. A process can produce multiple materials simultaneously (such as when co-products are involved), while a procurement alternative represents the procurement of a single material. Depending on the process category, the procurement process can be single-level or multilevel.
- **MGTYP** – The Quantity structure type is a key field and it is used in costing with quantity structure. When costing, this controls if and how mixed costing is performed. The quantity structure type is used to determine which procurement alternatives will be used with what mixing ratio for the materials involved in the costing. Therefore, it determines for how long the mixing ratios are valid.
- **GJAHR** – The year stores the year information for which the mixing ratio is being maintained. While maintaining mixing ratios, it is important to maintain the year.
- **PERIO** – The period stores the period specific information for which the mixing ratio is valid.

- **LOSGR_PC –** The costing lot size in the material master record is usually used as a basis for costing all materials within one low-level code. If these materials (such as semi-finished products) are used in materials (such as finished products) in the next-highest low-level code, the costing results are converted to the costing lot size of the material costed (in this case, the finished product) to calculate the material costs for the finished product.
- **MEINS_PC – This field displays the** unit of measure in which the quantity is displayed.
- **ALDAT_PC – This field displays the d**ate with which the quantity structure is selected for the cost estimate with quantity structure.
- **MISCH_VERH – This field provides the weightage** to be applied to individual procurement alternative when the cost estimate is executed using the mixed cost estimate. This can be entered in equivalence numbers or percentages.

The mixing ratios can be extracted from the legacy SAP system and loaded to S4 Hana via Syniti. However, SAP has not provided a standard migration object for migration of mixing ratios and hence, for the conversion of this object, the data/details will be extracted from ECC and transformed as applicable for S4HANA in Syniti and will be loaded to S4, using LTMC or a custom program.

Conversion Scope

The scope of this document covers the approach for converting active Mixing ratios from Legacy Source Systems (ECC) into S/4HANA following the Master Data Design Standard - DD-FUN-050 Master Data Standard_1080 – Mixing ratios.

The data from legacy system includes:

1. Active and valid records for Mixing ratios which are still in use/valid and have validity date is >= cutover date i.e. CKMLMV003-GJAHR = Cutover year **and** CKMLMV003-BRDAT is the latest date. To combine tables CKMLMV001 and CKMLMV003 use MATNR (Material), WERKS (Plant) and KALNR_BAL (Procurement Alternative). In CKMLMV001 the procurement alternative field is KALNR whereas in CKMLMV003 it is KALNR_BAL. So the logic would be CKMLMV001-KALNR=CKMLMV003-KALNR_BAL
2. All Active and valid records for mixing ratios will be migrated from WP2 and PF2. The mixing ratio should be active for the cutover year.
3. Mixing ratios will be relevant only for materials in scope as per conv spec 2019 and plants as per conv spec 2010
4. Mixing ratios should be greater than "0" for them to be migrated.
5. Process category "BF", "BL", "BU" and "BB" to be considered for filtering mixing ratios.

The data from legacy system excludes:

1. All Mixing ratio records which have a validity date in the past and are not in use in any exposure

List of source systems and approximate number of records <All plants in PF2 and WP2 for which mixing ratios have been maintained for the cutover year will be relevant for migration. This information will be available in the table CKMLMV003 in PF2 and WP2 system >

Source	Scope	Source Approx No. of Records	Target System	Target Approx No. of Records
PF2	Active and in use Mixing Ratio Records	72106 for 2025 and 4168 for 11/2025	S4HANA	XXXX
WP2	Active and in use Mixing Ratio Records	14644 for 2025 and 464 for 11/2025	S4HANA	XXXX

Additional Information

Multi-language Requirement

None

Document Management

Not Applicable

Legal Requirement

Not Applicable

Special Requirements

Not Applicable

Target Design

The Target design of the object 1080 – Mixing Ratios is based on the MDS - DD-FUN-050 Master Data Standard_1080 – Mixing Ratios Master Data is as below

The technical design of the target for this conversion approach.

Table – CKMLMV001: Procurement Alternatives

Table	Field	Data Element	Field Description	Data Type	Length	Requirement
CKMLMV001	MATNR	MATNR	Material Number	CHAR	40	Required
CKMLMV001	WERKS	WERKS_D	Plant	CHAR	4	Required
CKMLMV001	OTYP	CKML_OTYP	Object Type	CHAR	2	Required
CKMLMV001	KALNR	CKML_ALPROCNR	Procurement Alternative/Process	NUMC	12	Required
CKMLMV001	BTYP	CKML_BTYP	Process Category	CHAR	4	Required
CKMLMV001	**SEPZ_NAME_ND**	CKML_SEPZ_NAME	User defined name	CHAR	30	Optional

Table – CKMLMV003: Process model: Receipts / mixing strategies

Table	**Field**	**Data Element**	**Field Description**	**Data Type**	**Length**	**Requirement**
CKMLMV003	MATNR	MATNR	Material Number	CHAR	40	Required
CKMLMV003	WERKS	WERKS_D	Plant	CHAR	4	Required
CKMLMV003	KALNR_BAL	CKML_N_BALTNR	Procurement Alternative	NUMC	12	Required
CKMLMV003	MGTYP	CKML_MGTYP	Quantity Structure Type	CHAR	5	Required
CKMLMV003	GJAHR	GJAHR	Fiscal Year	NUMC	4	Required
CKMLMV003	PERIO	POPER	Posting Period	NUMC	3	Optional
CKMLMV003	LOSGR_PC	CK_LOSGR	Lot Size	QUAN	13 and 3 Decimals	Required
CKMLMV003	MEINS_PC	MEINH	Unit of Measure	UNIT	3	Required
CKMLMV003	ALDAT_PC	CK_BRDAT	Quantity Structure Date	DATS	8	Required
CKMLMV003	KALNR_IN	CKML_N_PROCNR	Procurement Process	NUMC	12	System Generated
CKMLMV003	MISCH_VERH	CK_CROSSR	Mixing Ratio	DEC	13 and 3 Decimals	Required

Data Cleansing

For the purpose of the Object 1080 – Mixing Ratios, it is expected that only the relevant data will be extracted to the S4 system. Data cleansing is not relevant for extraction.

Conversion Process

The generic high-level process steps for the conversion are as below:

1. Extraction:
    a. Extract from the source systems: Apply the selection parameters and data relevancy as mentioned in this specification, from the relevant tables
2. Transform
    a. Transform fields by applying the fields and value mapping in the Syniti
    b. Generate and validate Pre-load files
3. Load
    a. Load the validated Pre-load file using LSMW or a custom program to upload the mixing ratios to S4.

Data Privacy and Sensitivity

None

Extraction

Extraction of data from a source into S4. There are 2 possibilities:

1. The data exists in the source. Syniti connects to the source system, then “extracts, transforms and loads” the data into S4. There are 3 approaches:
    a. Perform full data extraction from relevant tables in the source system(s).
    b. Perform extraction through the application layer.
    c. Data is loaded to the repository from the provided source system extract/report. This approach is considered if we cannot connect to the source system.
2. The extraction will be based on the signed off extraction rules.
3. The relevancy criteria for mixing ratios (if any) as captured in the relevancy criteria sheet will be considered.

Extraction Run Sheet

Req #	Requirement Description	Team Responsible
01	All Active and valid records for mixing ratios will be migrated from WP2 and PF2. The mixing ratio should be active for the cutover year.	Syniti Team
02	Mixing ratios will be relevant only for materials in scope as per conv spec 2019 and plants as per conv spec 2010	Syniti Team
03	Mixing ratios should be greater than "0" for them to be migrated.	Syniti Team

Note: Only materials identified as relevant for migration as per conversion spec 2010 and 2019 would be considered as in-scope for mixing ratios.

Selection Screen

Not Applicable

Data Collection Template (DCT)

Not Applicable

Extraction Dependencies

Item #	Step Description	Team Responsible
01	Any period / year end close activities have been fully completed	Business
02	Active and relevant mixing ratio records have been identified	Business
03	Production versions and Procurement alternatives have been configured	Functional team

Transformation

The Target fields are mapped to the applicable Legacy field that will be its source, this is a 3-way activity involving the Business, Functional team and Data team. This identifies the transformation activity required to allow to make the data Target ready:

1. Perform value mapping and data transformation rules.
    a. Legacy values are mapped to the to-be values (this could include a default value)
    b. Values are transformed according to the rules defined in
2. Prepare target-ready data in the structure and format that is required for loading via prescribed Load Tool. This step also produces the load data ready for business to perform Pre-load Data Validation

Transformation Run Sheet

Item #	Step Description	Team Responsible
1	Ensure all the fields that require value mapping, as stipulated Mapping tables, have the latest signed-off mapping files imported into Syniti	Data team
2	Ensure that signed off value mappings have been maintained in the Syniti	Syniti team
3	Confirm the value mappings are maintained in Syniti	Data team
4	Ensure that the relevancy rules for extraction are signed off by all relevant business stakeholders.	Syniti/Data team
5	Execute transformation for the object	Syniti team
6	Monitor the transformation progress and ensure performance and completion is within allowed timeframe	Syniti/Data team
7.	Generate Pre-Load reports.	Syniti team
8.	Generate data load count.	Syniti team
9.	Log errors as defects, if any and address resolutions. Close defects.	Syniti/Data team
10.	Re-transform and re-validate the Pre-load reports if necessary.	Syniti/Data team
11.	Validate the transformed file as part of pre-load validation, raise data defects or provide the pre-load sign-off.	Business

12.	Analyse and resolve any pre-load defects logged by business.	Syniti/Data team
13.	Repeat steps 5 to 11 if necessary	Syniti/Data team
14.	Proceed to pre-load validations	Data team

Transformation Rules

Rule #	Source system	Source Table	Source Field	Source Description	Target System	Target Table	Target Field	Target Description	Transformation Logic
01	WP2 / PF2	CKMLMV003	MATNR	Material Number	S4 HANA	CKMLMV003	MATNR	Material Number	From Value Mapping
02	WP2 / PF2	CKMLMV003	WERKS	Plant	S4 HANA	CKMLMV003	WERKS	Plant	From Value mapping
03	WP2 / PF2	CKMLMV003	KALNR_BAL	Procurement Alternative	S4 HANA	CKMLMV003	KALNR_BAL	Procurement Alternative	Automatic from Config
04	WP2 / PF2	CKMLMV003	MGTYP	Quantity Structure Type	S4 HANA	CKMLMV003	MGTYP	Quantity Structure Type	Copy As is
05	WP2 / PF2	CKMLMV003	GJAHR	Fiscal Year	S4 HANA	CKMLMV003	GJAHR	Fiscal Year	Current Year
06	WP2 / PF2	CKMLMV003	PERIO	Posting Period	S4 HANA	CKMLMV003	PERIO	Posting Period	Copy As Is
07	WP2 / PF2	CKMLMV003	LOSGR_PC	Lot Size	S4 HANA	CKMLMV003	LOSGR_PC	Lot Size	Automatic from Config
08	WP2 / PF2	CKMLMV003	MEINS_PC	Unit of Measure	S4 HANA	CKMLMV003	MEINS_PC	Unit of Measure	Automatic from Config
09	WP2 / PF2	CKMLMV003	ALDAT_PC	Quantity Structure Date	S4 HANA	CKMLMV003	ALDAT_PC	Quantity Structure Date	Copy As Is
10	WP2 / PF2	CKMLMV003	KALNR_IN	Procurement Process	S4 HANA	CKMLMV003	KALNR_IN	Procurement Process	Automatic from Config
11	WP2 / PF2	CKMLMV003	MISCH_VERH	Mixing Ratio	S4 HANA	CKMLMV003	MISCH_VERH	Mixing Ratio	Copy As Is

Transformation Mapping

Below value mapping tables should be constructed in Syniti

Mapping Table Name	Mapping Table Description
Controlling Area	Controlling area should be configured and be available in value mapping or as default if only one controlling area is being used
Ledger	Ledger(s) should be configured and should be available.
Version	Version should be configured and should be available.
Production Version	Production Version should be configured and should be available
Production Alternative	Production Alternative should be configured and should be available.

Transformation Dependencies

List the steps that need to occur before transformation can commence

Item #	Step Description	Team Responsible
1	Ensure all the fields that require value mapping, as stipulated Mapping tables, have the latest signed-off mapping files imported into Syniti	Data team
2	Ensure that signed off value mappings have been maintained in the Syniti	Syniti team
3	Confirm the value mappings as maintained in the Syniti	Data team
4	Ensure that Signed off DCT (if any) from business has been received and maintained in Syniti	Syniti/Data team
5	Confirmation and signoff on the extracted values	Syniti, Data and business

Pre-Load Validation

Project Team

The Pre Load validations are performed by Project Team

Completeness

Task	Action
Generation of Pre-load reports	Mandatory field check. • Check if the fiscal year and period is correctly maintained • Check if the procurement alternative and production version are maintained correctly. • Check the controlling area
Record Count	Record Count Confirm the record counts in preload summary report • Total Records: • Valid Records: Invalid Records:
Business Confirmation	Data team after the initial validation of Pre-Load validation based on the pre agreed validation checklist To send the Pre-Load file to the Business Representatives for all plants/valuation area in scope for conversion Business Representatives to validate the pre-load file Agree with data team on the next steps for erroneous records

Accuracy

The Pre Load validations are performed by Project Team

Task	Action
Generation of Pre-load reports	Mandatory field check. • Check if the fiscal year and period is correctly maintained • Check if the procurement alternative and production version are maintained correctly. • Check the controlling area
Record Count	Record Count Confirm the record counts in preload summary report • Total Records: • Valid Records: Invalid Records:
Business Confirmation	Data team after the initial validation of Pre-Load validation based on the pre agreed validation checklist To send the Pre-Load file to the Business Representatives for all plants/valuation area in scope for conversion Business Representatives to validate the pre-load file Agree with data team on the next steps for erroneous records

Business

Completeness

Task	Action
Check Data load register count	Business Data Owner/s to verify that the total number of relevant records to be converted as per relevancy / DCT is equal to the total number of records in the Preload file.

Accuracy

Task	Action
Conversion accuracy	To check and validate the load files with all the transformation and mapping rules, to be signed off.

Load

The load process includes:

1. Execute the automated data load into target system using load tool or product the load file if the load must be done manually
2. Once the data is loaded to the target system, it will be extracted and prepared for Post Load Data Validation
3. Execute the automated data load into target system using load tool or produce the load file if the loading of records to be done using LTMC cockpit object of Mixing ratios.
4. Once the data is loaded to the target system, it will be extracted and prepared for Post Load Data Validation with side by side check of each fields in scope of the objects with fields to be displayed as XXXX_ECC, XXXX_S4HANA, XXXX_MATCH (As TRUE or FALSE) with an additional column denoting fields not matching and status of loading in S/4HANA as LOADED_IN_S4HANA (As TRUE or FALSE)

Load Run Sheet

Item #	Step Description	Team Responsible
1	Go to load file and pick 5 data records, load manually without any tool. See what happens. If all okay, proceed with the next step.	Data team
2	Go to load file and pick 10 records and load them with the tool. No action if the previous step has fallen. If not, then continue to load 10 records with the tool. Check if everything went okay.	Data team
3	Proceed with the full load if steps one and two were succeed else fix the issue with records	Data team
4	Validate few records loaded by accessing standard transactions from S/4HNA e.g. **CK94** to check the mixing ratios.	Data team
5	Generate post load report if step 5 is validated	Data team
6	Log errors as defects, if any and address resolutions. Close defects.	Data team
7	Resolve defects by reupload and re-generate post load reports if necessary.	Data team
8	Business to validate the post load files as part of post-load validation, raise data defects or provide the post-load sign-off.	Business
9	Repeat steps 1 to 5 if necessary.	Data team

Load Phase and Dependencies

The load phase for this object is ideally relevant for pre-cutover Phase 4

Configuration

Below configurations must exist to facilitate the conversion of this object.

Item #	Configuration Item
01	Controlling Area
02	Company code
03	Production Version
04	Production Alternatives

Conversion Objects

Object #	Preceding Object Conversion Approach
CNV-2010	Materials - General Plant Data / S.Loc Data
CNV-2019	Materials - Basic View
CNV-2012	Materials - Accounting 1

CNV-2013	Materials - Costing 1
CNV-2014	Materials - Accounting 2
CNV-2015	Materials - Costing 2

Error Handling

The table below depicts some possible system errors for this data object during data load. All data load error is to be logged as defect and managed within the Defect Management

Error Type	Error Description	Action Taken
Procurement Alternative	Procurement Alternative not maintained	Ensure that all required procurement Alternatives are maintained
Fiscal Year	Enter correct fiscal year	Correct fiscal year
Production Version	Production Version not maintained	Ensure that all required Production Versions are maintained

Post-Load Validation

Project Team

The following post load validations will be done by Project Team

Completeness

Task	Action
Reconciliation of Record Count	Record Count - Count and check how many records were loaded vs. Records in the load file (Each mock has its own data record count) Check for logs from Load and fix erroneous records, if any.

Accuracy

Task	Action
Check values in key fields for accuracy	Post-load reports will have the same structure as the load file and some additional columns as required to facilitate the post load validation. Leverage on tool to create a Post Load report that reports S/4HANA loaded records along with the legacy values side-by-side to allow for 100% check of all these fields in the shortest possible time. Any mismatch will be reported under the Post Load - Error report.

Business

The following post load validations will be done by business.

Completeness

Task	Action
Record Count Check	Review the record count report from the Data Team and ensure it is correct by cross-checking with the record count confirmed during Pre-load Business Validations Business may also run transaction code **CK94** to cross check the Mixing Ratios

Accuracy

Task	Action
Field Checks	Check the fields to ensure that Activity Prices have been properly maintained
Value Check	Check the activity prices against activity types and corresponding cost centres.

Key Assumptions

- Relevancy rules have been thoroughly validated and signed off by business.
- All relevant configurations have been maintained.

See also

Change log

Version	Published	Changed By	Comment
CURRENT (v. 19)	**Jan 07, 2026 11:06**	**GANESAN-ext, Shivkumar**	
v. 18	Jan 07, 2026 11:00	**GANESAN-ext, Shivkumar**	
v. 17	Dec 12, 2025 12:07	**GANESAN-ext, Shivkumar**	
v. 16	Dec 03, 2025 13:08	**GANESAN-ext, Shivkumar**	
v. 15	Dec 03, 2025 12:54	**GANESAN-ext, Shivkumar**	
v. 14	Nov 28, 2025 17:39	**GANESAN-ext, Shivkumar**	
v. 13	Nov 28, 2025 13:16	**GANESAN-ext, Shivkumar**	
v. 12	Nov 27, 2025 11:34	**GANESAN-ext, Shivkumar**	
v. 11	Nov 27, 2025 11:27	**GANESAN-ext, Shivkumar**	
v. 10	Nov 27, 2025 10:09	**GANESAN-ext, Shivkumar**	

Go to Page History

Workflow history

This view shows the 5 most recent entries. The complete workflow log is available from the 'Document Activity' menu item.

Apr 01, 2026	Actor	Type	Activity	Version
Approved	TAN-ext, Charmaine	State	changed state to Approved at 1:06 pm (State override) *[PMO Comments] Conversion Spec completed as per CS register and functional review completed*	v19
Lead Approval	TAN-ext, Charmaine	State	gave *Minor change* approval at 1:06 pm *[PMO Comments] Conversion Spec completed as per CS register and functional review completed*	
Mar 24, 2026				
	GARCIA-ext, Angel Luis	State	changed expiry date to '31 Mar, 2026 02:14 pm' at 3:14 pm	
		State	changed state to Lead Approval at 3:14 pm	v19
Tech Review of Updates	GARCIA-ext, Angel Luis	State	gave *Minor change* approval at 3:14 pm	
		State	changed state to Tech Review of Updates at 3:14 pm	v19

Mar 18, 2026

Update in progress	WENNINGER-ext, Sascha	State	changed state to	Update in progress at 5:52 pm	v19