

KDD046 - Product Hierarchy

Status	Approved
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Issue

Syensqo uses the concept of a product hierarchy to manage its finished good material categorization. This categorization is used for pricing, sales reporting, revenue, profitability and margin analysis, as well as product reporting.

Current issue today:

- There is no systematic product hierarchy across BUs
- There is significant fragmentation and lack of harmonization in business processes associated with the definition and use of the product hierarchy
- There are siloed operations across different BUs, leading to manual work, inefficiencies and inconsistencies in product data between different systems
- The hierarchy is not always stored in the standard SAP fields

Recommendation

It is recommended to go with Option A which is to harmonize and standardize the product hierarchy using the standard SAP 3 tier product hierarchy definition as well as having a formal master data standard and governance process.

The definition of each of the 3 levels and the values to be used in each level will be discussed and decided in detail design (a proposal with examples have been provided for context).

Background & Context

The Material Product Hierarchy structure is used primarily to classify materials within an organization. It serves several purposes:

1. **Classification:** It helps classify materials based on their attributes, such as material type, industry sector, product group, etc. This classification aids in organizing materials logically, making it easier to manage them within the system.
2. **Search and Retrieval:** The hierarchy structure provides a standardized framework for searching and retrieving materials. Users can navigate through the hierarchy to find specific materials based on their characteristics, reducing search time and improving efficiency.
3. **Reporting:** It facilitates reporting and analysis by providing a consistent structure for categorizing materials. This allows for the generation of meaningful reports on inventory, procurement, consumption, sales, revenue, profitability and other material-related activities.
4. **Integration:** The Product Hierarchy structure integrates with other SAP modules and processes, such as Sales and Distribution (SD), Production Planning (PP), and Warehouse Management (WM). By classifying materials consistently across different modules, it ensures seamless integration and data consistency throughout the enterprise.
5. **Control and Governance:** The hierarchy structure supports governance and control mechanisms by enabling the definition of authorization levels and access restrictions based on material classifications. This helps enforce security and compliance measures to protect sensitive data and ensure proper handling of materials.
6. **Pricing:** The allocation of prices, discounts, surcharges, rebates and other pricing elements are typically assigned to a particular level of a product hierarchy in order to reduce the administration and deployment of the different pricing elements as pricing elements can be set at a level of the hierarchy rather than at the material.

The Material Product Hierarchy structure plays a crucial role in standardizing material classification, streamlining material or inventory-based processes, reduce administration and governance of customer facing information (eg pricing) and improving operational and management reporting related to materials.

The AS-IS product hierarchy is configured differently for different BU's but the main As-Is product hierarchy rules follow a 5 tier approach using a combination of classification and the "basic material" field in the basic data 2 view of the material master. There are enhancements (Z-reports) that identify each tier of the hierarchy, the relationship to the lower tier and depict it in a graphical format to the user.

The AS-IS product hierarchy is owned and managed by the product managers in each BU. They are responsible for managing the existing product hierarchy, adding new nodes to the hierarchy and assigning the products (materials) to the hierarchy nodes.

Examples of AS-IS product hierarchy usage:

The Solvay WP1 Product Axis

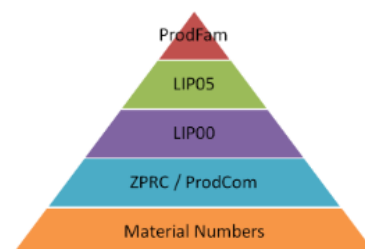
- Provides a hierarchical model for grouping materials based on technology.
- Primary purpose is to support EHS Volume Tracking
- Each child in a lower level can be assigned to only 1 parent in an upper level.(not a matrix)



Level	Structure	Comments
Product Family	FAMPR..	Highest Grouping - Closely tied to Material Division
Product Line Hierarchy	LIP05	Next Level Grouping for Reporting
EHS Grouping	LIP00xxxxx	Chemical identity. Used for volume tracking by EHS
PRCOM/ZPRC	9xxxxxx	Commercial Product Name - used for SDS generation
ZMAT Material	1xxxxx	Material IDs

Product Family	FAMPR	LIP05 Description	LIP05 Code	LIP02 (SPM?)	LIP00 (SVT?)	ZPRC/SDS
Aero Composites	FAMPR00637	Hot Melt Thermoset	LIP0500065		5225-HM	5225 FILM 59 GSM 25"74 GLS
		Solution Thermoset	LIP0500066		5225-Soln	
		Other Thermoset Composites	LIP0500067			
Aero Adhesives	FAMPR00638	Films	LIP0500068		FM 300-2	
		Other Adhesives	LIP0500069		BR-127	
Aero Carbon Fiber & Fabric	FAMPR00639	Fiber	LIP0500070		GenID	
		Fabric	LIP0500071		GenID	
Aero Thermoplastics	FAMPR00640	Hot Melt (APC)	LIP0500072		PEKK	
		Slurry	LIP0500073		EVOLITE	
		Semi finished	LIP0500074			

[Product Axis List for CM](#)



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
PIM Level (1) GBU	13_coats 12														
(from EHS Authorization Group)	Novocare (validated)	O&G	Aroma Performance (validated)	Silica	Soda Ash & Derivatives	Coats	*(Coats) Fibras	Technology Solutions	Special Chem (WP1)	Special Chem (PF1)	Peroxides	Peroxides	Specialty Polymers	Composite Materials	List for CM (source:)
	WP1	WP1	WP1	WP1	PF1	WP1	WP1	WP1	WP1	PF1	PF1	WP1	PF1		
PIM Level 2 - Product Family / Business Line	Product Family	Product Family	Product Family	Product Family	PF1 (hierarchy) level 1	Product Family	Product Family	Product Family	Product Family	Level 1	PF1 (hierarchy) level 1	LIP02	Business Line	Manual	
PIM Level Level 3	LIP02		LIP06	LIP03	PF1 (hierarchy) level 2	LIP04	LIP02	LIP04	LIP06	Level 2	PF1 (hierarchy) level 2	LIP00	Product Family (Brand)		Resins for Infusion
PIM Level Level 4	LIP00		*same as LIP03	LIP02	PF1 (hierarchy) level 3	LIP03	LIP01		LIP05		PF1 (hierarchy) level 3		3rd level letter (new request to be removed)		Primers
PIM Level Level 5			*same as LIP03	LIP01		LIP02	LIP00		LIP04		PF1 (hierarchy) level 4				Molding Compound
Level 6			LIP03	LIP00		LIP01			LIP03						Dry Textile
Level 7			LIP02			LIP00			LIP02						Blinder
Level 8			LIP01						LIP01						Adhesives
Level 9			LIP00						LIP00						Surfacing
SAP Product Code / Material Group / Specification (EHS)	Commercial Product	Commercial Product	Commercial Product	Commercial Product	Material Group	Commercial Product	Commercial Product	Commercial Product	Commercial Product	Material Group	Material Group	Commercial Product	Material Group	Created entity	Films
					Check if any on SALES in WP1 (Bianca Cavagioni)										Non-structural prepreps
Example															Structural Prepreps
Level 1 - GBU	Novocare		Aroma Performance	Silica	Soda Ash & Derivatives	Coats	*(Coats) Fibras	Technology Solutions	Special Chem (WP1)		Peroxides		Specialty Polymers	Composite Materials	Tooling Prepreps
Level 2 - Product Family / Business Line	FAMPR00619 ALKOXYLATES					FAMPR00513 RHODIAECO	FAMPR90005 PA FIBERS		FAMPR00026 ORGANICS		H2O2		CRYSTALLINE		Others
Level 3	LIP0400368 ALKOXYLATES					LIP0300509 LEATHER PRODUCT	LIP0290002 PA FIBERS		LIP0600024 NDA		H2O2 HIGH PURITY		Amodel		

Why Syensqo Needs a Unified Product Hierarchy

Current Situation:

No systematic product hierarchy across BUs

Significant fragmentation and lack of harmonization in business processes

Siloed operations across different BUs, leading to manual work, inefficiencies and inconsistencies in product data between different systems

What's needed:

Establish a unified product hierarchy (tree structure) with clear levels

SAP as the single system of truth for product hierarchy management

Unique product identifiers (e.g. SAP Material Number) used consistently across all systems

Harmonized product management processes across all BUs

Potential benefits

- Business Efficiency:

Reduces duplication of efforts and resources across BUs

Enhances accuracy in pricing, reporting and forecasting (among other areas)

- Data consistency:

Ensures consistent product information across all platforms

Prevents data silos and fragmentation, improving decision-making

- Scalability:

A unified structure allows easier integration with future systems and processes

Simplifies the onboarding of new products and BUs

Assumptions

- Remediation of the product hierarchy in the AS-IS environment is not feasible due to the upstream and downstream process and technical dependencies on this data element
- Governance of this object could be deployed immediately if a central owner could be found (example: Set up data maintenance R&Rs with the help of MDM team)
- Any product characteristic data currently stored in the "As-Is" 5 tier hierarchy will be migrated into the SAP classification system where the characteristics will be stored against the products (materials) directly.

Constraints

The standard SAP product hierarchy is broken down into 3 specific levels. A product hierarchy is recorded by the sequence of digits within a hierarchy number. The first level consisting of 5 characters, the second level consisting of 5 characters and the third level consisting of 8 characters.

The number of characters on each level cannot exceed 5 for level 1 and 2 and cannot exceed 8 for level 3.

An owner is required for each tier in order to maintain governance and provide direction for the program

Impacts

- A very detailed data migration plan will be required to transfer existing product hierarchy data into the material master data and the new hierarchy.
- Any upstream or downstream systems or processes that rely on this data must also be remediated.
- Thorough testing will be required to validate data accuracy and completeness.
- Associated processes (such as pricing) will need to have forward visibility of the new structure in order to adjust to the new hierarchy accordingly
- Specific change management initiatives required to educate users on the new hierarchy structure and related processes.

Business Rules

In standard SAP, since the product hierarchy is assigned to the material master record and it is broken down into 3 specific levels, each level containing its own characteristics, a decision needs to be made on the usage, nomenclature and ownership of each of the three tiers. Business rules will need to be put in place to support this.

A product hierarchy is recorded by the sequence of digits within a hierarchy number. It is a three level structure consisting of up to eighteen characters divided into three levels. The first level consisting of 5 characters, the second level consisting of 5 characters and the third level consisting of 8 characters.

For example, to better differentiate each of the 3 levels of the product hierarchy, each level could be named as:

Level 1: Organizational or Business Unit

Level 2: Product Family

Level 3: Product Line

Some product characteristics exist in the "As-Is" hierarchy. All relevant product characteristics to be migrated and included in SAP as part of the characteristics tagged to each SKU (using classes and characteristics) such as series, physical form, viscosity, formulation, series, type, quality etc.

Options considered

Option A: Define a New 3 Tier Product Hierarchy

Option A proposes to rebuild the product hierarchy using the standard SAP 3 tier concept. The new hierarchy should be harmonized and standardized and have a formal master data standard and governance process.

The definition of each of the 3 levels and the values to be used in each level will be discussed and decided in detail design.

This option proposes to standardize the product hierarchy across all GBU's to prevent the current manual, inefficient and inconsistent handling of product related data.

This includes establishing a unified product hierarchy (tree structure) with clear levels, using SAP as the single system of truth, having unique product identifiers used consistently across all systems

The aim of this option is to reduce duplication of efforts and resources across BUs, enhance the accuracy in pricing, reporting and forecasting (among other areas), ensure consistent product information across all platforms and to prevent data silos and fragmentation to support improved decision-making

This option should also provide a unified structure that allows easier integration with future systems and processes particularly when onboarding new products or BUs.

Option B: Use the existing 5 Tier Product Hierarchy

This options proposes that the AS-IS product hierarchy is used in its current state. This means that each GBU is responsible for the definition and configuration of the product hierarchies following the existing 5 tier approach using a combination of classification and the “basic material” field in the basic data 2 view of the material master. Their existing enhancements (Z-reports) that identify each tier of the hierarchy, the relationship to the lower tier and the rules to show it in a graphical format to the user will either be ported across to S4 Hana or rebuild to provide similar capability as exists today.

In this option, the product hierarchy will be owned and managed by the product managers in each BU and adjusted according to their individual needs.

Evaluation

The comparison below shows that Option A would be the preferred outcome.

	Option A - Define a New 3 Tier Product Hierarchy	Option B - Use the existing 5 Tier Product Hierarchy
Business Efficiency	 Pro - Reduces duplication of efforts and resources across BUs to govern and maintain  Pro - Enhances accuracy in pricing, reporting and forecasting (among other areas)  Con - Requires the collaboration across teams to define the initial hierarchy and to maintain it	 Pro - Minimal to no effort required to migrate the old hierarchy to the new system  Con - Each BU will be required to govern and maintain using their own resources  Con - Will provide no improvement in pricing, reporting and forecasting (among other areas)
Data consistency	 Pro - Ensures consistent product information across all platforms  Pro - Prevents data silos and fragmentation, improving decision-making	 Pro - Allows for bespoke structures to support each BU's needs  Con - Prevents a centralized and consistent product information database across all platforms  Con - Lack of governance to prevent data silo and inconsistencies hindering decision making
Scalability	 Pro - A unified structure allows easier integration with future systems and processes  Pro - Simplifies the onboarding of new products and BUs  Con - May reduce flexibility of new businesses or BU's	 Pro - Allows autonomy and flexibility for new businesses or BU's  Con - More complex relationships and mappings with future systems and processes  Con - Creates effort and complexity when onboarding of new products and BUs
Standardization and Simplification	 Pro - Uses standard SAP fields and, therefore, is available in standard reports. Also allows downstream processes (like CO-PA) to interact with this data in a standard way.	 Con - Does not use SAP standard fields and requires developments to manage the assignment and visualization. Also requires downstream processes to use this non-standard data via developments.

See also

File

Modified

PDF File KDD 046 Approval.pdf Approval from Francine - New KDD will need to go to Steerco

Nov 05, 2025 by CHIEW-ext, Yock Sang

Change log

Version	Published	Changed By	Comment
CURRENT (v. 11)	Sept 09, 2024 08:33	WENNINGER-ext, Sascha	
v. 10	Aug 30, 2024 10:14	GONZALVEZ-ext, Antonio	
v. 9	Aug 30, 2024 10:13	GONZALVEZ-ext, Antonio	
v. 8	Aug 29, 2024 16:52	GONZALVEZ-ext, Antonio	
v. 7	Aug 29, 2024 15:57	NARAHARI-ext, Bhargavi	
v. 6	Aug 26, 2024 17:46	GONZALVEZ-ext, Antonio	
v. 5	Aug 22, 2024 14:26	GONZALVEZ-ext, Antonio	
v. 4	Aug 22, 2024 14:14	GONZALVEZ-ext, Antonio	
v. 3	Aug 21, 2024 13:21	GONZALVEZ-ext, Antonio	
v. 2	Aug 21, 2024 11:49	GONZALVEZ-ext, Antonio	

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Workflow history

Title	Last Updated By	Updated	Status
There are no pages at the moment.			

Workflow history

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

Nov 05, 2025	Actor	Type	Activity	Version
Approved	 CHIEW-ext, Yock Sang	State	changed state to Approved at 4:33 am	v11
Pending SteerCo Review	 CHIEW-ext, Yock Sang	State	gave <i>Final Approval</i> approval at 4:33 am Approved by Francine	
Sept 26, 2024				
Pending Stakeholder Review	 FALL-ext, Cheikh	State	changed expiry date to '10 Oct, 2024 01:17 pm' at 1:17 pm	
		State	changed state to Pending SteerCo Review at 1:17 pm	v11
	 FALL-ext, Cheikh	State	gave <i>Stakeholder Review</i> approval at 1:17 pm	
Sept 09, 2024				
	WENNINGER-ext, Sascha	Edit	updated the page at 8:33 am	
		State	changed expiry date to '16 Sept, 2024 06:34 am' at 6:34 am	

State	changed state to Pending Stakeholder Review at 6:34 am	v11
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