Functional Template - Waste Management Report

1.0 Overview

The functionality of Waste Management aims to use SAP system for optimizing the control of all relevant legal documents of waste management process, ensuring integrity, accessibility and traceability of all data and costs related to the process, and compliance with legal requirements.

The SAP module is installed and used on Solvay/RCS legacy systems.

The SVT reporting is now based on a BW solution.

Business Context and Application Overview

Provide an overview of the app (e.g Domain, key processes, purpose of the app, etc)

Application User Profile

Describe the key User profiles that exist for the application.

General role/Viewer role:

Approver role:

Roles and access

Role Code	Role Description	Explanation
ZR_RCS_CA_M5X	EHS - Waste Management	Menu access to transaction RRMX (bex analysis)
ZBI_RCS_EHS_A06	EHS - Waste Management	Access to InfoArea WASTE

Authorization objects

Authorization object	Explanation
C_PLANT	Restriction for plants in analysis
C_CNTRY	Restriction for country in analysis

Target Users:

As examples: Controllers / Accountants

Around 2 users, In Latin America first. It be implemented in other countries in the future.

Application Type

Data Product Type	☐ Dashboard ☑ Report ☐ Advanced analytics ☐ AI ☐ Others <specify which one>
Technologies	☑ BW ☐ Tableau ☐ Qliksense ☐ Talend ☐ Dataiku ☐ Others <specify which one>
Data Sources *Note: list of all applications and various environment*	☐ SAP PF1 (Production environment) ☑ SAP WP1 ☐ SAP PI1 ☐ BW (versions) ☐ iCare CRM ☐ CORE CRM ☐ Others <specify the name of the source>

VERSION	DATE	MODIFIED BY	DESCRIPTION
0.01	12/05/2023	Abidemi Raji	Initial draft

2.0 Business Process

Capture the business process that the application supports . This can be describe through a process diagram or a business capability model

BW EHS Waste Management and CADRI

The goal of Entries Control Report is to provide a report that facilitates the control of waste generation by period and its posterior management at Paulinia site.

In order to control the generation of each waste by several generating areas of Paulinia and the subsequent steps to final disposition from the supplier, it is necessary to list all Entry Documents created in the period that were not deleted, and them to have the trace of each relevant document created during the process.

Waste Management processes are transversal processes that involves EHS (DG and Product Safety), RtR, PtP and OTC.

There are 2 main transactions in Waste process:

- Edit Entry Documents - WAE0X – that creates Entry Documents, wastes, stock entries and purchase Orders,

- Edit Disposal Documents – WAM0X – that manages the details of waste expedition and posterior disposal

Both types of documents – entry and disposal – have different types of status that are linked to their current process step.

There is a governmental license –CADRI- that controls the amount of waste that can be disposed by type of waste and by disposer in a defined period. Also for each waste there are 2 codes that must be informed CETESB and IBAMA CODES.

Also, there are 2 types of classification, one related to waste and its transport, that is the normal DG country classification. And the other is a country Waste Code related to its waste nature.

Summarizing the process at Brazil:

1- The generator representative creates an amount of waste in the system. The number of units is exact but the weight is estimated. The waste will be weighed only at the time that it is being issued, therefore the quantity in Kg is estimated until the expedition time.

2- The Waste Administrator release the Entry Document and define where the waste will be stored, transferring the quantity to the defined warehouse.

3- Waste Administrator defined the disposer and the transporter and creates the Disposal Document and the purchase request that is based in a preexistent contract. There is an automatic check regarding governmental license- CADRI- if there is no allowed volume, the process is blocked.

4- In the purchase request the Waste Adm informs the date expected to issue the waste. Back office team will create the purchase order. The purchase process is a subcontracting process. Therefore there is a mirror virtual material (ZDIE) linked to each waste material (ZUNB). The waste material appears in the purchase order as a component.

5- The logistic team creates the delivery by transaction ME2O, based in the purchase order. After the delivery creation, logistics team creates the shipment order and the expedition programing. If it is the case, all the usual process regarding DG goods expedition is followed.

6- In right date, the picking is done, the truck is loaded, the waste is weighed, NFe is created and the expedition is done. The waste delivered appears as in the supplier storage control.

7- NFe copy is sent to Waste Adm that input the data updating the Disposal Document. Also, the right weight value in KG is fixed by MIGO transaction in the stock.

8- After the effective disposal, the supplier (disposer) sends a destruction certificate and the related invoice to Waste Adm. The weight informed by the supplier can be different of the registered in the expedition.

9- The Waste Adm updates data in Disposal document and changes its status. People of invoice centralized reception receives automatically information to perform MIRO and MIGO, and also closes the purchase requisition.

10- The process is finished.

3.0 Application Feature Overview

Information about the existent Workbooks and the respective BW queries.

Reports	Definition	Prompts	BW Workbook Query	Query Technical Name
EHS Waste Movement (core query)	This query is used to analyze the data stored in WASTE movement		**BW_QRY_MVEHSW01_0001**	
EHS Waste CADRI (core query)	This query is used to analyze the data stored in CADRI repository		**BW_QRY_MVEHSW02_0001**	

4.0 Functional Specification

4.1 General Data/Calculations

This section will approach the concepts/definitions that will be used in all the reports and required to understand the data from the reports.

Could be specific fields, closing activities, additional information to work and understand the reports.

4.2 Process Detail

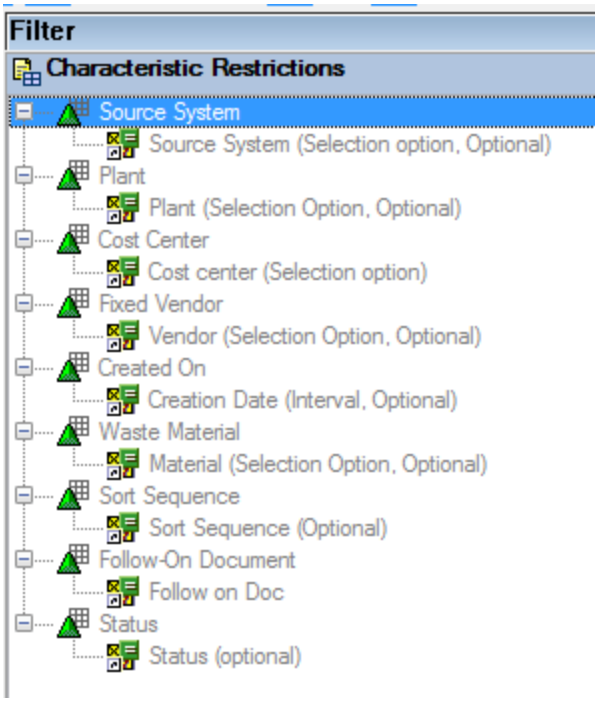
4.2.1. Report/Process Definition

This section represents the process with detail information for the application. Can include specific or special cases, complex logics , calculations, flows, among others.

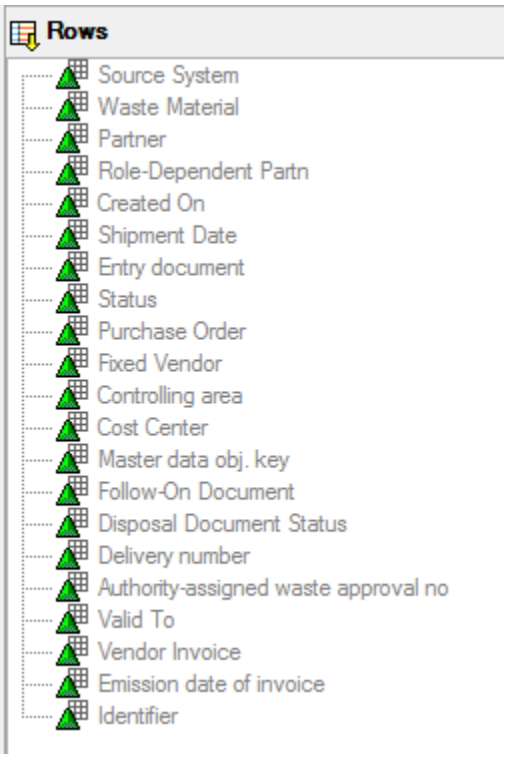
Reporting

BW_QRY_MVEHSW01_0001 - EHS Waste Movement (core query)

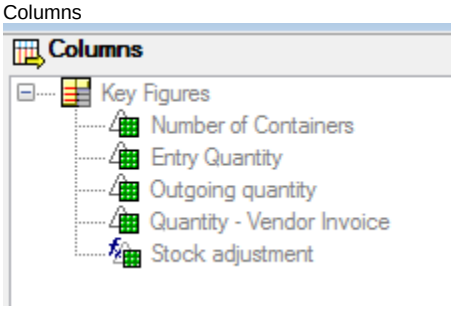
Filters



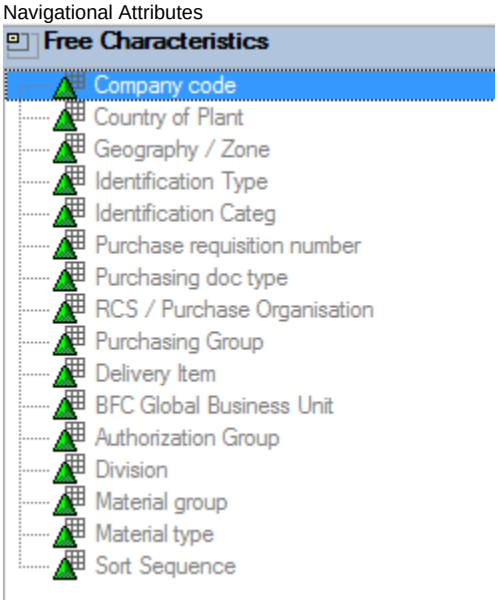
Rows


Rows
Source System
Waste Material
Partner
Role-Dependent Partn
Created On
Shipment Date
Entry document
Status
Purchase Order
Fixed Vendor
Controlling area
Cost Center
Master data obj. key
Follow-On Document
Disposal Document Status
Delivery number
Authority-assigned waste approval no
Valid To
Vendor Invoice
Emission date of invoice
Identifier

Columns



Navigational Attributes



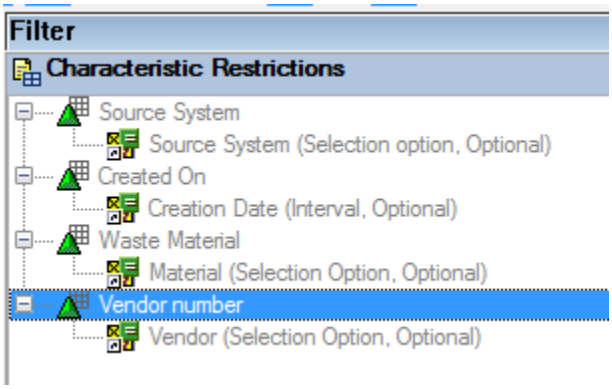
Lay-Out

Waste Material		Partner	Role-Dependent Partn	Created On	Shipment Date	Entry document	Status	Purchase Order	Fixed Vendor	
2024968	ACIDO SALICILICO FORA ESPECIFICA(	1000000020	#	01/12/2015	16/12/2015	8000000011	Confirmado	#	#	WP1_400/Not assigned
2024968	ACIDO SALICILICO FORA ESPECIFICA(	1000000020	#	02/02/2016	19/09/2016	8000000139	Confirmado	#	#	WP1_400/Not assigned
2024968	ACIDO SALICILICO FORA ESPECIFICA(	1000000020	#	20/04/2016	19/09/2016	8000000311	Confirmado	#	#	WP1_400/Not assigned
2024968	ACIDO SALICILICO FORA ESPECIFICA(	1000000020	#	29/06/2016	19/09/2016	8000000491	#	#	#	WP1_400/Not assigned
2024968	ACIDO SALICILICO FORA ESPECIFICA(	1000000020	#	01/08/2016	19/09/2016	8000000554	Confirmado	4502841791	124482	REVALORE COPROCESSAMENTO I
2024971	AREIA DE PROCESSO - GR	1000000035	BR PAULÍNIA-SÍLICAS-Geral	17/12/2015	18/12/2015	8000000100	#	#	#	WP1_400/Not assigned
2024971	AREIA DE PROCESSO - GR	1000000035	BR PAULÍNIA-SÍLICAS-Geral	17/12/2015	18/12/2015	8000000101	#	#	#	WP1_400/Not assigned
2024971	AREIA DE PROCESSO - GR	1000000035	BR PAULÍNIA-SÍLICAS-Geral	18/12/2015	28/12/2015	8000000083	Confirmado	#	#	WP1_400/Not assigned
2024971	AREIA DE PROCESSO - GR	1000000035	BR PAULÍNIA-SÍLICAS-Geral	18/12/2015	28/12/2015	8000000084	#	#	#	WP1_400/Not assigned
2024971	AREIA DE PROCESSO - GR	1000000035	BR PAULÍNIA-SÍLICAS-Geral	18/12/2015	18/05/2016	8000000106	Confirmado	#	#	WP1_400/Not assigned
2024971	AREIA DE PROCESSO - GR	1000000035	BR PAULÍNIA-SÍLICAS-Geral	18/12/2015	29/08/2016	8000000105	#	#	#	WP1_400/Not assigned
2024971	AREIA DE PROCESSO - GR	1000000035	BR PAULÍNIA-SÍLICAS-Geral	04/03/2016	11/03/2016	8000000200	#	#	#	WP1_400/Not assigned
2024971	AREIA DE PROCESSO - GR	1000000035	BR PAULÍNIA-SÍLICAS-Geral	04/03/2016	11/03/2016	8000000201	Confirmado	#	#	WP1_400/Not assigned
2024971	AREIA DE PROCESSO - GR	1000000035	BR PAULÍNIA-SÍLICAS-Geral	23/03/2016	20/04/2016	8000000222	Confirmado	#	#	WP1_400/Not assigned
2024971	AREIA DE PROCESSO - GR	1000000035	BR PAULÍNIA-SÍLICAS-Geral	29/08/2016	29/08/2016	8000000658	Confirmado	#	#	WP1_400/Not assigned
2024971	AREIA DE PROCESSO - GR	1000000035	BR PAULÍNIA-SÍLICAS-Geral	05/09/2016	09/09/2016	8000000665	#	#	#	WP1_400/Not assigned
2024974	RESIDUOS DE BISFENOL - TB	1000000010	#	01/12/2015	16/12/2015	8000000008	Confirmado	4502646293	124482	REVALORE COPROCESSAMENTO I

Delivery number	Authority-assigned waste approval no	Valid To	Vendor Invoice	Emission date of invoice	Identifier	Number of Containers	Entry Quantity	Outgoing quantity	Quantity - Vendor Invoice	Stock adjustment
190028360	00000000000037002385	28/01/2016	6191	20/01/2016	BRWC	40	17.600,0 KG	9.840,0 KG	9.840,0 KG	7.760,0 KG
190031221	00000000000037002466	16/04/2017	#	#	BRWC	8	3.520,0 KG	2.038,7 KG	0,0	1.481,3 KG
190031221	00000000000037002466	16/04/2017	#	#	BRWC	11	4.840,0 KG	2.803,2 KG	0,0	2.036,8 KG
190031221	00000000000037002466	16/04/2017	#	#	BRWC	4	1.760,0 KG	1.019,4 KG	0,0	740,6 KG
190031221	00000000000037002466	16/04/2017	#	#	BRWC	8	3.520,0 KG	2.038,7 KG	0,0	1.481,3 KG
190028379	00000000000037002386	20/08/2017	6195	20/01/2016	BRWC	1	54.000,0 KG	42.000,0 KG	42.440,0 KG	12.000,0 KG
190028380	00000000000037002386	20/08/2017	6194	20/01/2016	BRWC	1	54.000,0 KG	43.120,0 KG	43.000,0 KG	10.880,0 KG
190028420	00000000000037002386	20/08/2017	132	01/03/2016	BRWC	1	54.000,0 KG	43.120,0 KG	44.100,0 KG	10.880,0 KG
190028421	00000000000037002189	14/10/2016	132	01/03/2016	BRWC	1	54.000,0 KG	44.200,0 KG	44.100,0 KG	9.800,0 KG
190029851	00000000000037002386	20/08/2017	6933	30/06/2016	BRWC	1	54.000,0 KG	51.080,0 KG	48.720,0 KG	2.920,0 KG
190031003	00000000000037002386	20/08/2017	7402	30/09/2016	BRWC	1	54.000,0 KG	39.300,0 KG	41.360,0 KG	14.700,0 KG
190029154	00000000000037002386	20/08/2017	6496	31/03/2016	BRWC	1	54.000,0 KG	51.320,0 KG	51.240,0 KG	2.680,0 KG
190029155	00000000000037002386	20/08/2017	6495	31/03/2016	BRWC	1	54.000,0 KG	43.160,0 KG	43.200,0 KG	10.840,0 KG
190029566	00000000000037002386	20/08/2017	6740	31/05/2016	BRWC	1	54.000,0 KG	45.900,0 KG	45.880,0 KG	8.100,0 KG
190031002	00000000000037002386	20/08/2017	7401	30/09/2016	BRWC	1	54.000,0 KG	41.360,0 KG	39.400,0 KG	12.640,0 KG
190031122	00000000000037002386	20/08/2017	7403	30/09/2016	BRWC	1	54.000,0 KG	43.820,0 KG	43.600,0 KG	10.180,0 KG
190028361	00000000000037002385	12/04/2016	6299	19/02/2016	160305	48	21.120,0 KG	16.480,0 KG	16.240,0 KG	4.640,0 KG
190030599	00000000000037002525	28/01/2018	7258	31/08/2016	160305	40	17.600,0 KG	10.764,7 KG	18.020,0 KG	6.835,3 KG

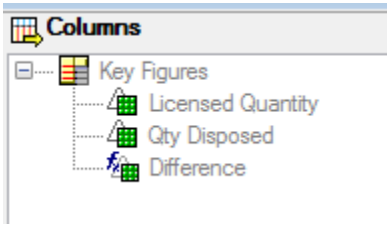
BW_QRY_MVEHSW02_0001 - EHS Waste CADRI (core query)

Filters

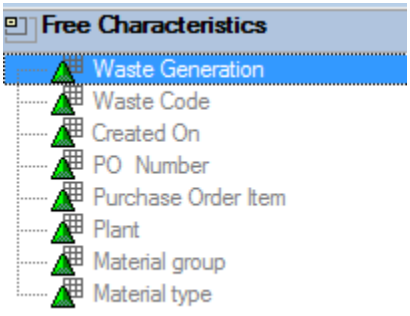


Rows

Columns



Navigational Attributes



Lay-Out

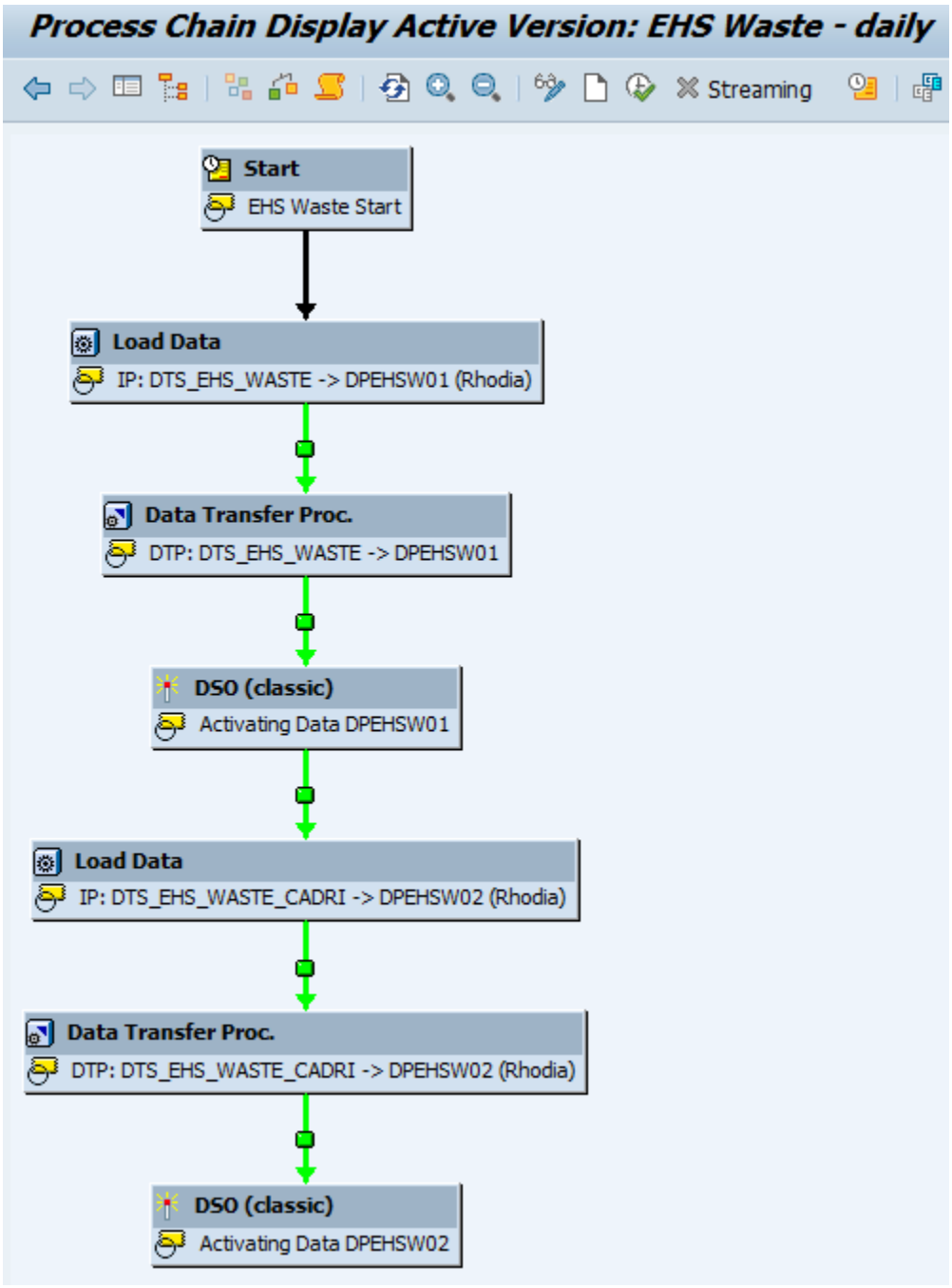
Source System	Waste Material		Vendor number		Authority-assigned waste approval no.	Valid From	Valid To	Licensed Quantity	Qty Disposed	Difference
WP1_400	2024968	ACIDO SALICILICO FORA ESPEC	124482	REVALORE COPROCESSAM	00000000000037002385	10/08/2015	28/01/2016	81.360 KG	4.920 KG	76.440 KG
WP1_400	2024968	ACIDO SALICILICO FORA ESPEC	124482	REVALORE COPROCESSAM	00000000000037002466	07/12/2015	31/12/2015	80.000 KG	0 KG	80.000 KG
WP1_400	2024968	ACIDO SALICILICO FORA ESPEC	124482	REVALORE COPROCESSAM	00000000000037002466	01/01/2016	31/12/2016	80.000 KG	3.950 KG	76.050 KG
WP1_400	2024968	ACIDO SALICILICO FORA ESPEC	124482	REVALORE COPROCESSAM	00000000000037002466	01/01/2017	16/04/2017	80.000 KG	0 KG	80.000 KG
WP1_400	2024969	ANEIS CERAMICOS - TB	90708	HOLCIM BRASIL S A	00000000000037002011	28/05/2014	31/12/2014	30.000 KG	0 KG	30.000 KG
WP1_400	2024969	ANEIS CERAMICOS - TB	90708	HOLCIM BRASIL S A	00000000000037002011	01/01/2015	31/12/2015	30.000 KG	0 KG	30.000 KG
WP1_400	2024969	ANEIS CERAMICOS - TB	90708	HOLCIM BRASIL S A	00000000000037002011	01/01/2016	28/05/2016	30.000 KG	0 KG	30.000 KG
WP1_400	2024970	ANEIS CERAMICOS - BB 600	90708	HOLCIM BRASIL S A	00000000000037002011	28/05/2014	31/12/2014	30.000 KG	0 KG	30.000 KG
WP1_400	2024970	ANEIS CERAMICOS - BB 600	90708	HOLCIM BRASIL S A	00000000000037002011	01/01/2015	31/12/2015	30.000 KG	0 KG	30.000 KG
WP1_400	2024970	ANEIS CERAMICOS - BB 600	90708	HOLCIM BRASIL S A	00000000000037002011	01/01/2016	28/05/2016	30.000 KG	0 KG	30.000 KG
WP1_400	2024971	AREIA DE PROCESSO - GR	90708	HOLCIM BRASIL S A	00000000000037002011	28/05/2014	31/12/2014	1.800.000 KG	0 KG	1.800.000 KG
WP1_400	2024971	AREIA DE PROCESSO - GR	90708	HOLCIM BRASIL S A	00000000000037002011	01/01/2015	31/12/2015	1.800.000 KG	0 KG	1.800.000 KG
WP1_400	2024971	AREIA DE PROCESSO - GR	90708	HOLCIM BRASIL S A	00000000000037002011	01/01/2016	28/05/2016	1.800.000 KG	0 KG	1.800.000 KG
WP1_400	2024971	AREIA DE PROCESSO - GR	124482	REVALORE COPROCESSAM	00000000000037002386	20/08/2015	31/12/2015	1.889.930 KG	64.610 KG	1.825.320 KG
WP1_400	2024971	AREIA DE PROCESSO - GR	124482	REVALORE COPROCESSAM	00000000000037002386	01/01/2016	31/12/2016	2.000.000 KG	157.970 KG	1.842.030 KG
WP1_400	2024971	AREIA DE PROCESSO - GR	124482	REVALORE COPROCESSAM	00000000000037002386	01/01/2017	20/08/2017	2.000.000 KG	0 KG	2.000.000 KG
WP1_400	2024971	AREIA DE PROCESSO - GR	2500041184	CRH CANTAGALO INDUSTR	00000000000037002189	22/11/2014	14/10/2016	1.200.000 KG	22.050 KG	1.177.950 KG
WP1_400	2024974	RESIDUOS DE BISFENOL - TB	90708	HOLCIM BRASIL S A	00000000000037002011	28/05/2014	31/12/2014	220.000 KG	0 KG	220.000 KG
WP1_400	2024974	RESIDUOS DE BISFENOL - TB	90708	HOLCIM BRASIL S A	00000000000037002011	01/01/2015	31/12/2015	220.000 KG	0 KG	220.000 KG
WP1_400	2024974	RESIDUOS DE BISFENOL - TB	90708	HOLCIM BRASIL S A	00000000000037002011	01/01/2016	28/05/2016	220.000 KG	19.870 KG	200.130 KG
WP1_400	2024974	RESIDUOS DE BISFENOL - TB	124482	REVALORE COPROCESSAM	00000000000037002385	10/08/2015	28/12/2015	743.650 KG	8.240 KG	735.410 KG
WP1_400	2024974	RESIDUOS DE BISFENOL - TB	124482	REVALORE COPROCESSAM	00000000000037002525	14/03/2016	31/12/2016	400.000 KG	29.050 KG	370.950 KG
WP1_400	2024974	RESIDUOS DE BISFENOL - TB	124482	REVALORE COPROCESSAM	00000000000037002525	01/01/2017	31/12/2017	400.000 KG	0 KG	400.000 KG

Data Loading

Info Providers and objects loaded

Process Chain name: PC_EHS_WASTE_FLOW

Daily, start at 4:30 am.



Remark: PC_EHS_WASTE was the original metachain, but has been replaced by chain PC_EHS_WASTE_FLOW, in order to be aligned with all BW systems

5.0 Non-functional Descriptions

Please populate the relevant section and delete those that are not applicable.

5.1 Usability

Usability is about the ease with which a User can learn to start using the solution and the ease with which they can use the system. In addition to ease of learning and ease of use, usability also includes areas such as ease of recall, error avoidance and handling, accessibility among others e.g., 99% of metadata entry Users who have use the Maintenance Dashboard should be able to change filters, extract etc., when required. Maintenance data will be centrally stored in the Google Cloud platform, which will be available to other applications e.g., and Dashboards if needed.

5.2 Regulatory Compliance

Software systems must comply with legal and regulatory e.g., GDPR requirements, this can change depending on country, organisation industry and / or region. The software systems must be secure from unauthorized access. The Maintenance Dashboard will comply with Solvay's regulations and compliance e.g., access only granted to authorized Users.

5.3 Security

Security refers to essential aspects that assure a solution and its components will be protected against unauthorized access or malware attacks. Important considerations related to security aspects of a system are User authentication, User authorization or User access privileges, data theft, malware attacks, data encryption, and maintaining audit trails, e.g., only Users with administrator access shall be able to create new accounts and assign data access privileges to the new accounts e.g.,

- *All data will be encrypted in the dashboard*
- *Only authorised Users / Administrative Users will be able to access data.*
- *Maintenance data will be split between either SCO or ECO, and Users will only have authority to one Entity data.*

5.4 Performance

Performance defines how fast a software system or a particular section of it responds to certain User actions under a certain workload. In most cases, this metric explains how long a User must wait before the target operation happens e.g., the page renders, a transaction is processed, etc., given the overall number of Users now. Performance requirements may describe background processes invisible to Users, e.g., backup and speed of data transfers.

5.5 Reliability

Reliability is the ability of a solution or its component to perform its required functions without failure under predefined conditions for a specified time / period. Reliability can possibly be specified in terms of average time system runs before failure occurs, percentage of operations completed successfully within a time / period, maximum acceptable failure probability, or number of failures within a period. Reliability aspects are in reference to (but not limited to) evaluation of the system to be considered as reliable, classification of reliability defining failures vs. regular failures, and the impact of failure on business operations. The Maintenance Dashboard will display data from the previous refresh of data.

5.6 Scalability

Scalability refers to the degree to which a solution can evolve to handle increased amounts of work. The increased amount of work could be in terms of the user base, transactions, data, network traffic, or other factors e.g., the system should be able to handle an additional load of a maximum of 5,000 Users every month for the next 6 months without any noticeable performance impacts.

5.7 Compatibility

Interoperability is the degree to which the solution is compatible with other components. It is a measure of how effectively the system interoperates with other software systems and how easily it integrates with external hardware devices.

Interoperability aspects to be discussed during elicitation are in reference to (but not limited to) software systems to be interfaced with along with data / messages to be exchanged and any standard data formats, hardware components to be integrated with, and any standard communication protocols to be followed e.g., Order Management system will push the order file into a secured file transfer protocol server from where it will be loaded into the system through a daily job. To guarantee between Google Cloud platform and SAP BW Queries e.g., BW_QRY_MVPMOR01_0002, Solvay has introduced a new tool called Xtract (Xtract).

5.8 Availability

Availability is the degree to which the solution is operable and accessible when required. It is a measure of time during which the system is fully operational e.g., available for use and sometimes included as a Service Level Agreement (SLA) considering its criticality to the business, e.g., the system shall be at least 99% available on weekdays between 09:00 to 18:30 Central European Time (CET).

5.9 Refresh of the Data

Frequency, data, and time of the data refresh in the data product.