

BW Industrial - EHS (WBP) /\ Obsolete /\



The new wiki link for this data flow is here:

[Technical Documentation - EHS Report](#)

Please update the doc there and no longer here.



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General presentation

Objective of the application

EHS stands for Environment, Health and Safety. The Goal of **EHS** is to protect employees, the public, the environment and to comply with applicable laws and protect the Company's reputation. EHS departments, of some companies are responsible for environmental protection, occupational health and safety.

This application offers a set of reports about EHS specifications and documents:

- Changes log on specifications
- Legal and Standard compositions
- Pure substances use in authorization groups
- Revision documents data
- List of EHS documents with a released status (SDSs but also labels, transport documents, composition report and certificates)
- SDS sending

Wiki EHS support: <https://sites.google.com/a/solvay.com/wiki-ehs-support/wiki>

Reporting Coordinator: Célia Gonzalez-Roux

Usage information

Around 50 users. Some reports are only for the use of the EHS Admin team (Role menu EHS - Admin) others also concerned product stewards.

History

Reports were delivered separately from 2014 to 2016. Last report "Pure Sub with Revision document" was delivered in june 2016.

Roles & Access

Roles and access

Role Code	Role Description	Explanation
ZR_RCS_CA_M51	EHS Reporting - ADMIN Reports	Role menu for EHS admin team reports
ZR_RCS_CA_M45	EHS Reporting - SDS Reports	Role menu for EHS reports "documents generation" and "SDS shipping"
ZBI_RCS_EH_S_A02	Environment, Health and Safety Analysis - End User Role	Application Role: • End User rights • gives access to infoproviders of Infoarea "AREA_EHSTR" (EHS - Transactional Data) • BI Analysis Authorization "ZBI_EHS" ("*" for authorization objects not relevant for the application)
ZR_RCS_EH_S_A08	EHS - Convergence - End User Role	Application Role: • End User rights • gives access to infoproviders of Infoarea "IA_EHS_DOC_GEN*" (IA_EHS_DOC_GEN) and "IA_EHS_RS_*" (Report Shipping) • BI Analysis Authorization "Z_CONV" ("*" for authorization objects not relevant for the application)

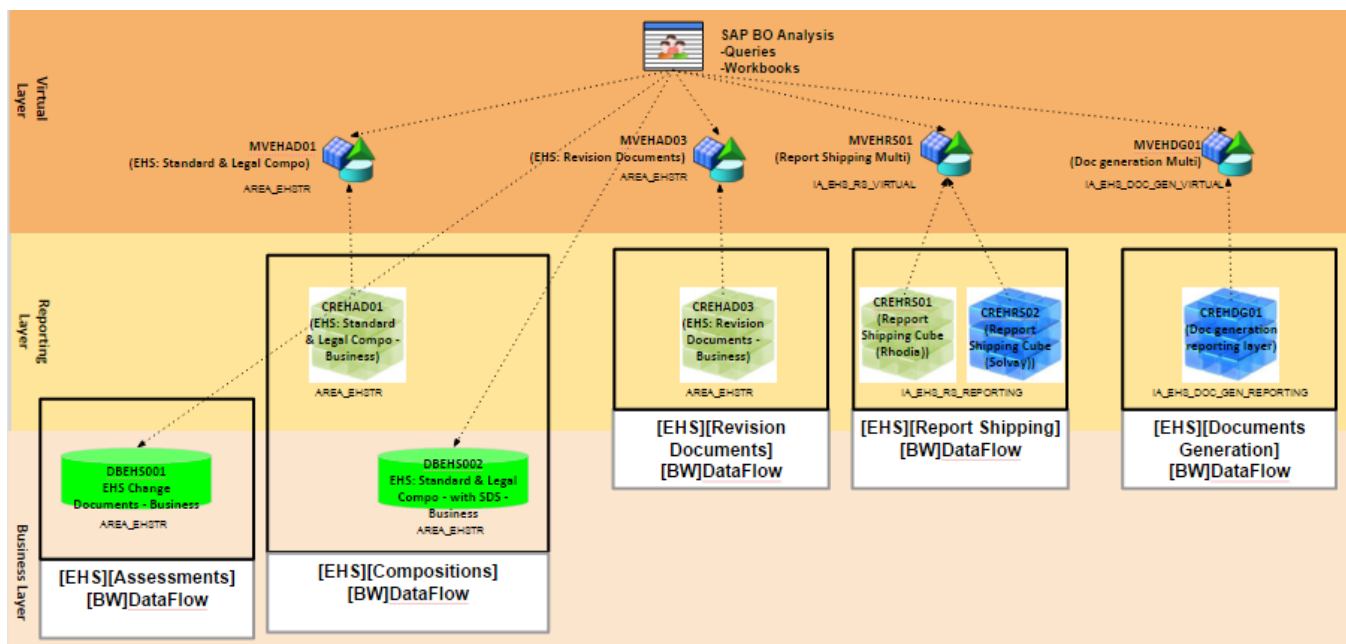
Authorization objects

Link to the BW Catalog of role

https://drive.google.com/open?id=10GEfKYqrT1eeTO_uHYAheL1GX7L5y_pvH0KQU64qh5l

*BI Analysis Authorization Z_CONV is given through role ZR_RCS_EHS_A08 : restriction on object 0EHS_SPEC__0EHS_AUTH using the variable V_0EHS_SPEC__0EHS_AUTH_0001 and on object 0EHS_AUTH using the variable \$V_0EHS_AUTH_0003. This method consists to read the DSO DPBWAU01 on tctiobjnm = "*EHS_AUTH*" and should not be used anymore.*

Dataflow overview



<https://drive.google.com/file/d/1KksDoy8hjxr9HWrxTPbmVxYeBPx-mUqPF8cEfUuoMvg/view>

Reporting documentation drive folder:

https://drive.google.com/drive/folders/1fsvq8cfnk_VshZ7AkPgji-OnUt6W1Xrg

Functional and Technical rules

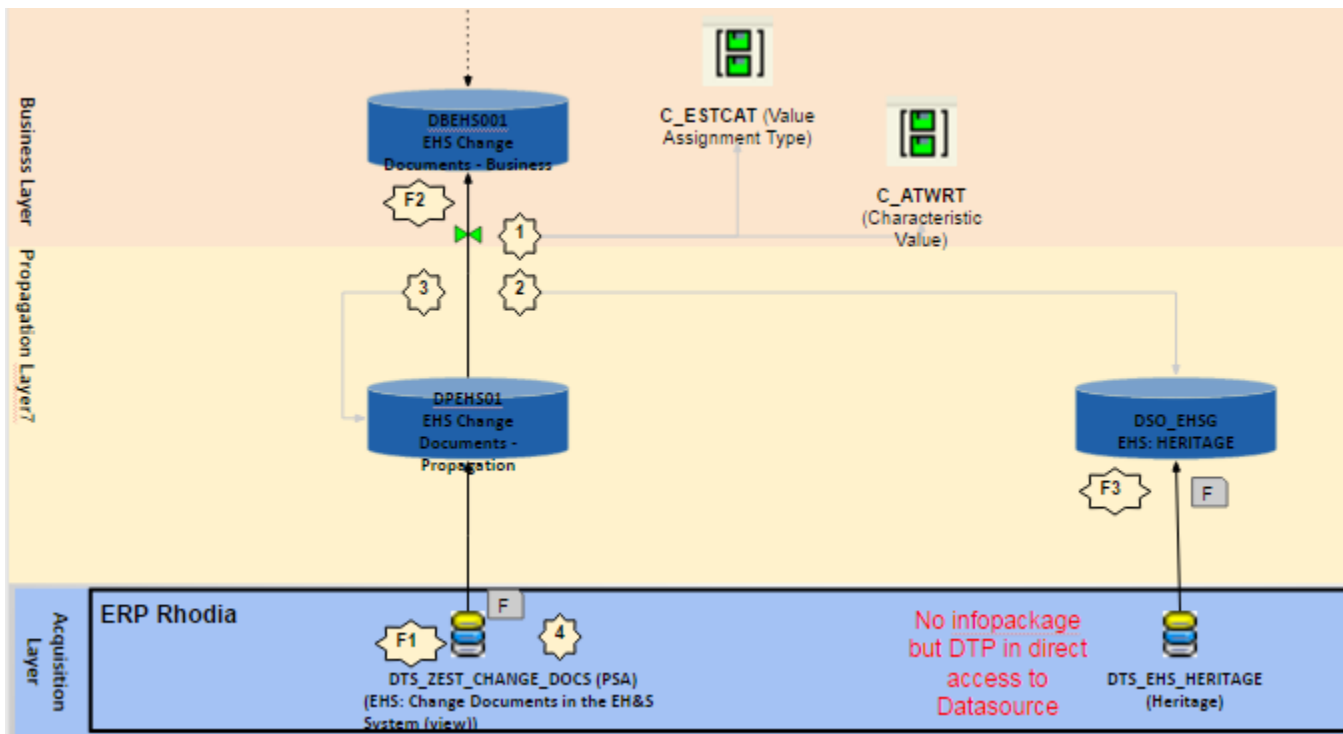
Rules & Explanations

Assessments dataflow

SAP system logs all the changes that are made within the Specification Management (changes on substances properties, compositions...). This flow extracts these changes, from the table EST_CHANGE_DOCS which updated using the program RC1_CHANGE_DOCS_GET.

Table EST_CHANGE_DOCS contains 2 years of data.

Program RC1_CHANGE_DOCS_GET is not automatically running in non productive systems.



https://drive.google.com/file/d/1vP9DQDERvGLGBX82JggA0S9lhi47_2r4mx0Ny1QG8zM/view

Zone determination (R1)

General case: the zone is obtained from the characteristics (C_ATWRT) attribute.

Special case: if the modification type is "Delete" and the characteristic value is empty, the zone is obtained from the Value Assignment Type (C_ESTCAT) attribute.

PURE_SUB determination when LIST_SUB inheritance (R2)

Some data are managed at LIST_SUB level and transfer to the PURE_SUB by inheritance link. In that case, the modification recovered in EST_CHANGE_DOCS table is at LIST_SUB level but not at PURE_SUB level.

In order to recover the LIST_SUB modifications at PURE_SUB level, the inheritance link are extracted into BW (DSO_EHSG). Each modification at LIST_SUB level is duplicated for each corresponding PURE_SUB. The LIST_SUB specification is kept in infoobject EHS_SPEC and the PURE_SUB specification in infoobject C_SPEC2. The flag "Inherited data" (C_SUBFLG) is filled.

Modification type (R3)

The field "Change Indicator Flag" (C_CHIND) is used to know how the EHS data have been modified: deletion, first load (insert), update, inactivation.

The change indicator field (CHNGIND) in source table EST_CHANGE_DOCS is used to determine a different value in C_CHIND, depending of the other lines on the change document:

- Modification type = Insert

If records with TABNAM = ESTCAT have CHNGIND = U, and have a record with TABNAM = ESTDU and CHNGIND = I and with same MASTER_RECNUM, then modification type field = Insert.

- Modification type = Update

If records with TABNAM = ESTCAT have CHNGIND = U, and do not have records with TABNAM = ESTDU with same MASTER_RECNUM, then modification type field = Update.

- Modification type = Delete

If records with TABNAM = ESTDU have CHNGIND = D, then modification type field = Delete.

- Modification type = Inactivate

If we have records with TABNAM = ESTDU, FNAM = ACTVFLG, VALUE_OLD = X and VALUE_NEW is empty, then modification type = Inactivate.

Instance ID determination (R3)

The instance ID on the lines concerning changes on characteristics value or usage is not filled in the table EST_CHANGE_DOCS. That is why the instance ID is determined in the extractor from ESTVA table. However, if the instance is deleted, the corresponding record is first flagged as "deleted" in the tables and then is physically removed from ESTVA. In consequence, to be able to retrieve the instance ID when the instance is deleted, we have to find it in the logs concerning ESTVA table changes => this is done by a look up in the propagation layer DSO DPEHS01 where tabname = "ESTVA".

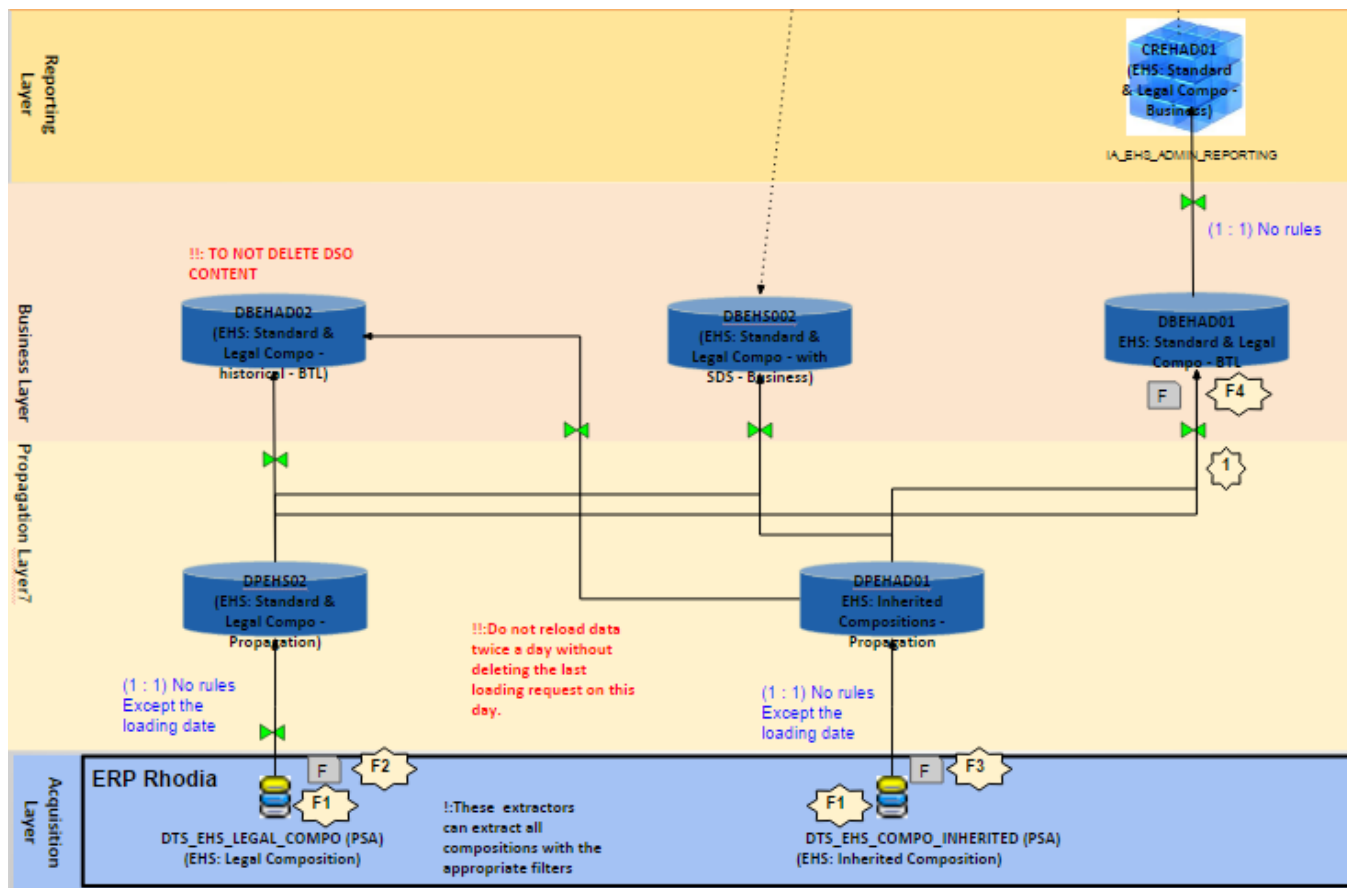
Datasources customer exit:

- **DTS_ZEST_CHANGE_DOCS (R4):**
 - determination of the instance (zzord) from table ESTVA. If this instance can't be determined because it was deleted from the table, a look up is done in BW (cf. Instance ID determination (R3))
 - determination of the usages (zzusage) from table ESTDU. If there are several usages, they are concatenated in the same field. The usages are not determined for lines with tabname = "ESTVA" or "ESTCAT" when they are deleted.

Legal and Standard Compositions dataflow

Compositions are extracted using specific datasources based on Infosets. A filter in the Value Assignment Type (ESTCAT) allows to restrict the extraction to Legal (EHS_1012_024) and Standard (SAP_EHS_1012_003) compositions.

Full loading is required because data can be deleted in source system database: deletion flags are filled but database entries can be deleted before the loading into BW so we could miss some deletion if we work with delta.



DSO DPEHS02 and DBEHAD02 content must not be deleted because deleted compositions and specifications are not kept in the source system, so it is not possible to recover historical data.

Historical data is only needed for the DSO DBEHAD02 which is used for EHS KPI.

Inherited compositions

Inherited compositions (from a template specification) are not extracted by the datasource "DTS_EHS_LEGAL_COMPO". Another datasource "DTS_EHS_COMPO_INHERITED" was created in order to extract these inherited compositions.

No technical rules were given to handle the case of breaking an inheritance as this case should not occur.

"General" authorization group (R1)

If the key of the authorization group is ZZ_BU*X or ZZ_BU*R, the "general" authorization group is the authorization group without the last character (example : authorization group = ZZ_BU_01R => "general" authorization group = ZZ_BU_01). We check the existence of the "general" authorization group in MD 0EHS_AUTH.

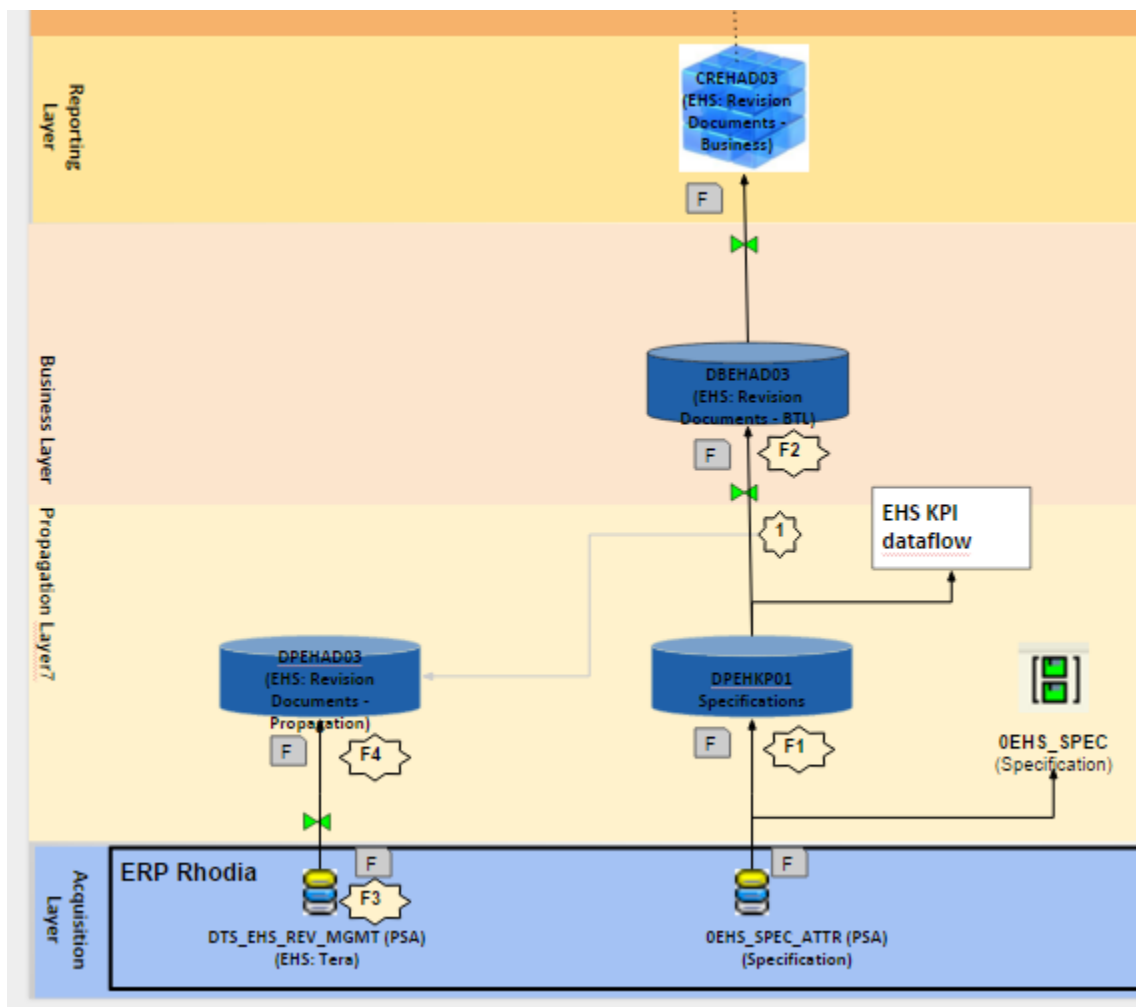
Else, the "general" authorization group is the authorization group.

Revision documents dataflow

Revision documents data are extracted using a specific datasources based on the Function Module Z_WBW_DTS_EHS_REV_MGMT. It extracts data from tables ESTRH (EHS: Specification Header), ESTVH (EHS: Specification - Value Assignment Type Assignment), ESTVA (EHS: Value Assignment), ESTDU (EHS: Additional Information: Value Assignment Usage), ESTDF (Additional Information - User-Defined Text), CABN (Characteristic) and AUSEP (Characteristic Values).

The need for reporting is to see all PURE_SUB even if there is no revision document for the substance. That is why the flow is based on the extractor of the specifications (0EHS_SPEC_ATTR) and that a look up is done in the DSO DPEHAD03 to retrieve the Revision documents data.

Full loading is required because data can be deleted in source system database: deletion flags are filled but database entries can be deleted before the loading into BW so we could miss some deletion if we work with delta.



https://drive.google.com/file/d/1k8gVkXKaoApNBAYJkbSz_Y4TZWnHrfo0hOlpocej_Dc/view

Revision documents data (R1)

The revision documents data are added to the corresponding substances in DBEHAD03 by a look up in the DSO DPEHAD03.

If there are several revision document instances, only data from the last instance are taken.

Report shipping dataflow

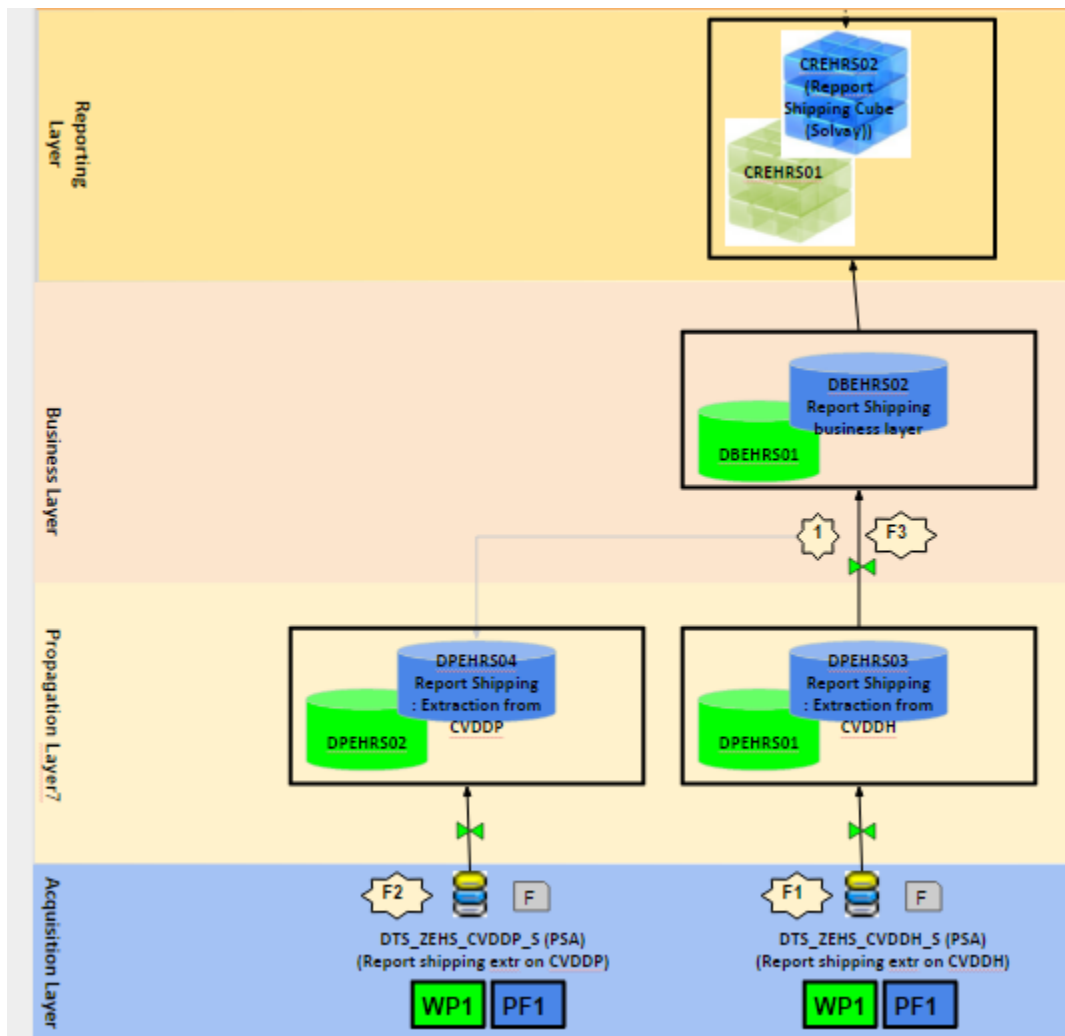
SAP shipping process send SDS (Safety Data Sheet) to customers when Rhodia Legacy or Solvay legacy sold a product to them

SDS shipping trigger is the sale order. When a sale order is created, the SDS is sent to customer.

This flow extracts these shipping data from tables CVDDH (EHS: Report shipping orders), CVDDP (EHS: Parameter Values for Report Shipping) and VBAK (Sales Documents).

Full loading is required because data in EHS tables can be deleted in source system database: deletion flags are filled but database entries can be deleted before the loading into BW so we could miss some deletion if we work with delta.

To avoid a daily complete deletion and reloading, a selective deletion of the 12 last months in DSO and cubes is done and only this perimeter is reloaded.



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Filter on status (C_ESTATUS) in Business Propagation Layer

Only status required for the reporting are updated:

- "{8}" (Completed)
- "{9}" (Historical)
- "{B}" (Error found)

Filter on document types (C_EHDOKAR) in Business Propagation Layer

The following type are **excluded**:

- "DBE" (Cover Sheet Template)
- "DBV" (Cover sheet - final version)

Data from sales documents (sales org, sales group, sales office) (R1)

The link between the report shipping order and the sales document exists in table CVDDP (EHS: Parameter Values for Report Shipping).

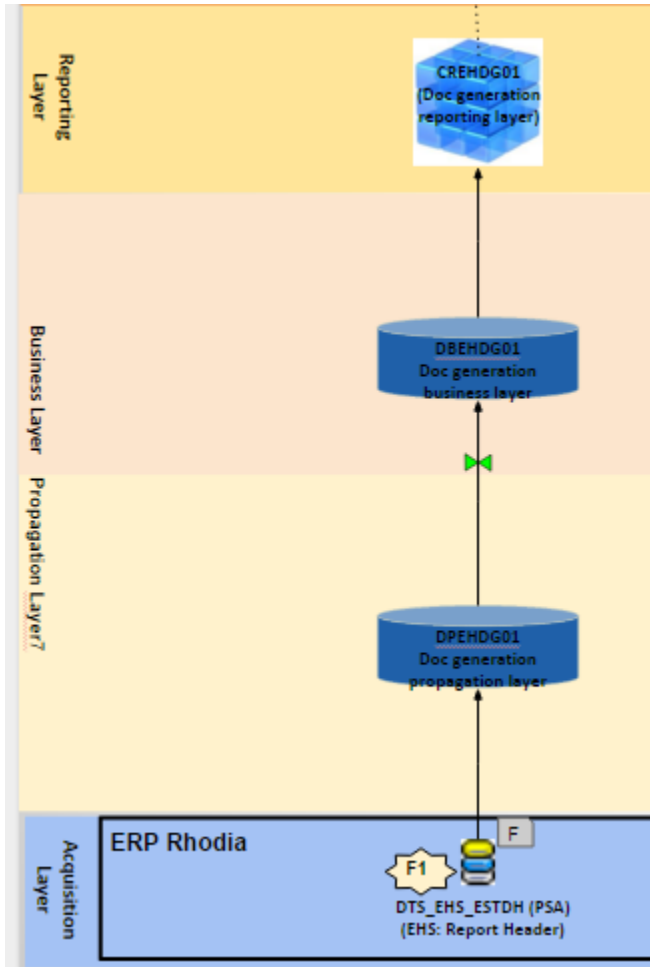
The sales document is filled in the field VALUE of the table CVDDP lines with ATTRIB = "VBELN".

The datasource DTS_ZEHS_CVDDP_S (resp. DTS_ZEHS_RS_CVDDP for Rhodia) is based on a view on tables CVDDP and VBAK (Sales Documents), restricted on CVDDP-ATTRIB = "VBELN".

Document generation dataflow

Through SAP EHS, a lots of EHS documents can be generated, e.g. SDS (Safety Data Sheet), Label (Sample Label, Transportation Label, GLM Label), TDS (Technical Data Sheet).

This flow extracts data from tables ESTDH (EHS: Report Header) and DRAP (Document Log File).



<https://drive.google.com/file/d/1wwwk0yRRjtsdx3zAdH1Fdsu23IfTvKFz4UrP269WfMc/view>

Datasources :

- DTS_EHS_ESTDH (EHS: Report Header): extracts data from table ESTDH via the Function Module Z_WBW_DTS_EHS_ESTDH. The date of status change ZREPRDAT is obtained by look up in table DRAP.

Master Data dataflow

Specifications (0E

- ZZOWNER = ESTRI-ident for ESTRI-idtype= "NAM", ESTRI-idcat="Z_OWNER" and ESTRI-langu = "".
- ZZPORTFO = ESTRI-ident for ESTRI-idtype= "NUM", ESTRI-idcat="Z_PORTFO" and ESTRI-langu = "".
- ZZOBSFLG = "X" if:
 - ESTRI-ident = "OBSOLETE" for ESTRI-idtype= "NAM", ESTRI-idcat="Z_PLC" and ESTRI-langu = "".
 - ESTRI-ident = " *OBS*" for ESTRI-idtype= "NAM", ESTRI-idcat="PROD" and ESTRI-langu = "" or "E".
- ZZCRDAT = ESTRH-CRDAT.

Phrases extraction (texts of the classes characteristics) :

One datasource DTS_ZBW_ESTPP is used to update the texts of the EHS properties. The InfoObjects concerned are:

- C_OLDVAL "Old value"
- C_NEWVAL "New value"
- C_EHSRMK "Remarks" (do not concern this application)
- C_EXREASN "Reason of exemption" (do not concern this application)
- C_NOTEXR "Reason of notif exemption" (do not concern this application)
- C_TYPEDOSS "Type of dossier" (do not concern this application)
- C_USAGEJP "Product Usage Code" (do not concern this application)

The texts of the InfoObjects are updated only if the SID already exists.

The datasource DTS_ZBW_ESTPP is based on the view ZBW_ESTPP between ESTPH (EHS: Phrase Header) and ESTPP (EHS: Phrase Item).

It is restricted to the customer phrase library (ESTPH-catpin= "CUST") and to english texts (ESTPP-langu = "E").

Characteristic (C_ATWRT)

Flat file directory: https://drive.google.com/drive/folders/1_dMH1_FHb0iYkO5r_dag_AFcBMOSX1ye

Updated by EHS admin or IT.

Partner Email information :

GDPR

The Partner's Email information come from ADR6 table (stored in DSO DPEHRS07 from WP1 and DPEHRS08 from PF1), this information is filled only for EHS Partners.

The information is filled by lookup in Report Shipping flow between the Propagation and Business Layer (DBEHRS01 on WP1 and DBEHRS02 on PF1).

The Logic used in the lookup is the following :

- We read KNVK information stored in DSO DPEHRS05, to take the Partner information with the condition : CVDDH Receipt ID = KNKV Contact Personn.
- The corresponding KNVK lines are used to read data from ADR6 table with the following condition :
 - IF KNVK Person Number = ADR6 Person Number AND KNVK Address Number = ADR6 Address Number Email information filling
 - Else : KNVK Person Number = ADR6 Person Number Email information filling
 - Else KNVK Address Number = ADR6 Address Number Email information filling

The information is stored in the BW targets below : so all queries created on the BW targets below could integrate the email address data

MVEHRS01 Report Shipping Multi

CREHRS02 Repport Shipping Cube (Solvay)

DBEHRS02 Report Shipping business layer (Solvay)

Info providers and objects loaded

Main Process Chains

Process Chain	Code	Type	Frequency	Comments
EHS Daily Transaccional	EHS_TRAN SACIONAL	SLAVE	- launched by RSP_DAILY - Daily - Sunday night to thursday night, around 7:00am - Whole chain lasts around 2h30	- RCS systems - From datasources to cubes - EHS Master Data and transactional data, except concerning Reports generation and SDS shipping dataflow
EHS Assessment Report	PC_EHS_A SSESSMENT	SLAVE	- launched by EHS_TRANSACIONAL - Daily - Sunday night to thursday night, around 6:30am - Whole chain lasts around 20 minutes	- RCS system - From datasources to DSO - Inheritance links (DSO_EHSG), standard and legal compositions to propagation layer and "with SDS" DSO (DBEHS002) and Assessments.
EHS: TD - D - Admin	PC_EHS_A DMIN_01	SLAVE	- launched by EHS_TRANSACIONAL - Daily - Sunday night to thursday night, around 7:15am - Whole chain lasts around 5 minutes	- RCS systems - From Propagation Layer to cubes - EHS standard and legal compositions.
EHS Revision Documents	PC_EHS_R EV_DOC	SLAVE	- launched by EHS_TRANSACIONAL - Daily - Sunday night to thursday night, around 9:30am - Whole chain lasts around 5 minutes	- RCS systems - From datasources to cubes - EHS revision documents data on PURE_SUB
EHS: TD - D - Document Generation	PC_EHS_D G_MAIN_001	SLAVE	- launched by RSP_DAILY - Daily - Sunday night to thursday night, around	

Average performance

Key Figure	Estimation
~ Average Process Chain Runtime	
~ Average nb of rows loaded per load	
~ Total nb of rows loaded (if full)	
~ Average Runtime for 10k lines	

Record Keeping

All records.

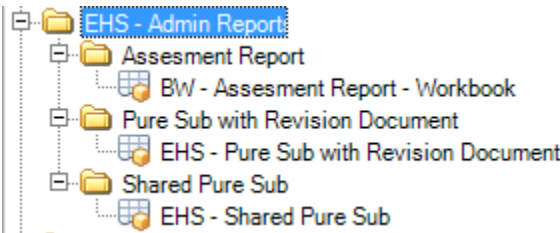
Reporting

Queries End User Documentation

Main queries

All reports are available via workbooks published in the Roles menu.

Role menu "EHS Reporting - ADMIN Reports" (ZR_RCS_CA_M51)



EHS - Admin Report	ZR_RCS_CA_M51
Assesment Report	ZR_RCS_CA_M51
BW - Assesment Report - Workbook	BW_WB_EHS_0001
Pure Sub with Revision Document	ZR_RCS_CA_M51
EHS - Pure Sub with Revision Document	BW_WBK_EHS_0003
Shared Pure Sub	ZR_RCS_CA_M51
EHS - Shared Pure Sub	BW_WBK_EHS_0002

- Assessment Report

The ratio "NB Authorization Group" count the number of times that a distinct "General" Authorization group uses the Pure Sub.

BEx Query = EHS - Shared Pure Sub (BW_QRY_MVEHAD01_0001)

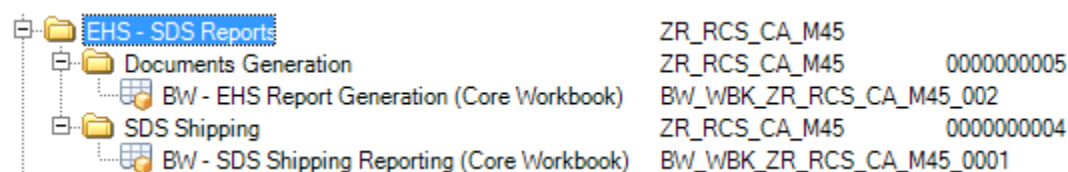
Exception Aggregation "Count for all detailed values" for the ratio "NB Authorization Group" for the Ref. Characteristic "C_EHSAUTG".

- Pure Sub with Revision Document

The aim of this report is to see which Pure Sub have a Revision document in SAP. When a substance has a revision document, some details on the document are displayed.

BEx Query = EHS: Revision Documents (BW_QRY_MVEHAD03_0001)

Role menu "EHS Reporting - SDS Reports" (ZR_RCS_CA_M45)



Technical name of object = BW_QRY_DBEHS001_0002

This query is similar to "BW - EHS - Assesment Report (Core Query)" (BW_QRY_DBEHS001_0001) (first tab of the workbook Assessment report) but restricted to some Value Assignment Types (flag c_ihflg = "X") and to the changes that occured the previous week.

Format = XLS_XML

Variable Assignment = no filter in the broadcast settings

Scheduling = every monday at 8:00am

Destination = Sent by email to Nathalie Berne.

Documents generation

The documents generation report is split into 5 quarterly broadcasts sent by email to the product Stewards

- [Quaterly SDS generation report to Product Stewards - HazCom \(BD_EHS_DG_001\).](#)
- [Quaterly SDS generation report to Product Stewards - SSP \(BD_EHS_DG_002\).](#)
- [Quaterly SDS generation report to Prod. Stewards - Polyamide \(BD_EHS_DG_003\).](#)
- [Quaterly SDS generation report to Prod. Stewards - Novecare \(BD_EHS_DG_004\).](#)
- [Quaterly SDS generation report to Prod. Stewards - Others \(BD_EHS_DG_005\).](#)

Technical name of object = 7919WZ35DF7VENEQZTYBT0HBH (BW_WBK_EHS_0001).

It is an Analyser workbook similar to the Analysis workbook "EHS Report Generation", only the second tab is not based on the same query in order to filter on the reports that were generated before 2 years ago. The workbook