

# Technical Documentation - EHS Report

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## Access Management

## Roles & Access

Link to the BW Catalog of role

[https://drive.google.com/open?id=10GEfKYqrT1eeTO\\_uHYAheL1GX7L5y\\_pvH0KQU64qh5l](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.

| 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_EHS_A02 | Environment, Health and Safety Analysis - End User Role | Application Role: <ul style="list-style-type: none"> <li>• End User rights</li> <li>• gives access to infoproviders of Infoarea "AREA_EHSTR" (EHS - Transactional Data)</li> <li>• BI Analysis Authorization "ZBI_EHS" ("*" for authorization objects not relevant for the application)</li> </ul>                               |
| ZR_RCS_EHS_A08  | EHS - Convergence - End User Role                       | Application Role: <ul style="list-style-type: none"> <li>• End User rights</li> <li>• gives access to infoproviders of Infoarea "IA_EHS_DOC_GEN*" (IA_EHS_DOC_GEN) and "IA_EHS_RS_*" (Report Shipping)</li> <li>• BI Analysis Authorization "Z_CONV" ("*" for authorization objects not relevant for the application)</li> </ul> |
| ZR_RCS_EHS_A02  | Environment, Health and Safety Analysis - End User Role | <ul style="list-style-type: none"> <li>• End user rights</li> <li>• BI Analysis Authorization "Z_EHS"</li> </ul>                                                                                                                                                                                                                 |
| ZR_RCS_EHS_A03  | Environment, Health and Safety Analysis - Key User Role | <ul style="list-style-type: none"> <li>• End user rights</li> <li>• BI Analysis Authorization "Z_EHS_K"</li> </ul>                                                                                                                                                                                                               |
| ZP2_RCS_EHS_A02 | Environment, Health and Safety Analysis - End User Role | <ul style="list-style-type: none"> <li>• End user rights</li> <li>• BI Analysis Authorization "ZP2_EHS"</li> </ul>                                                                                                                                                                                                               |

## Authorization Objects

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.

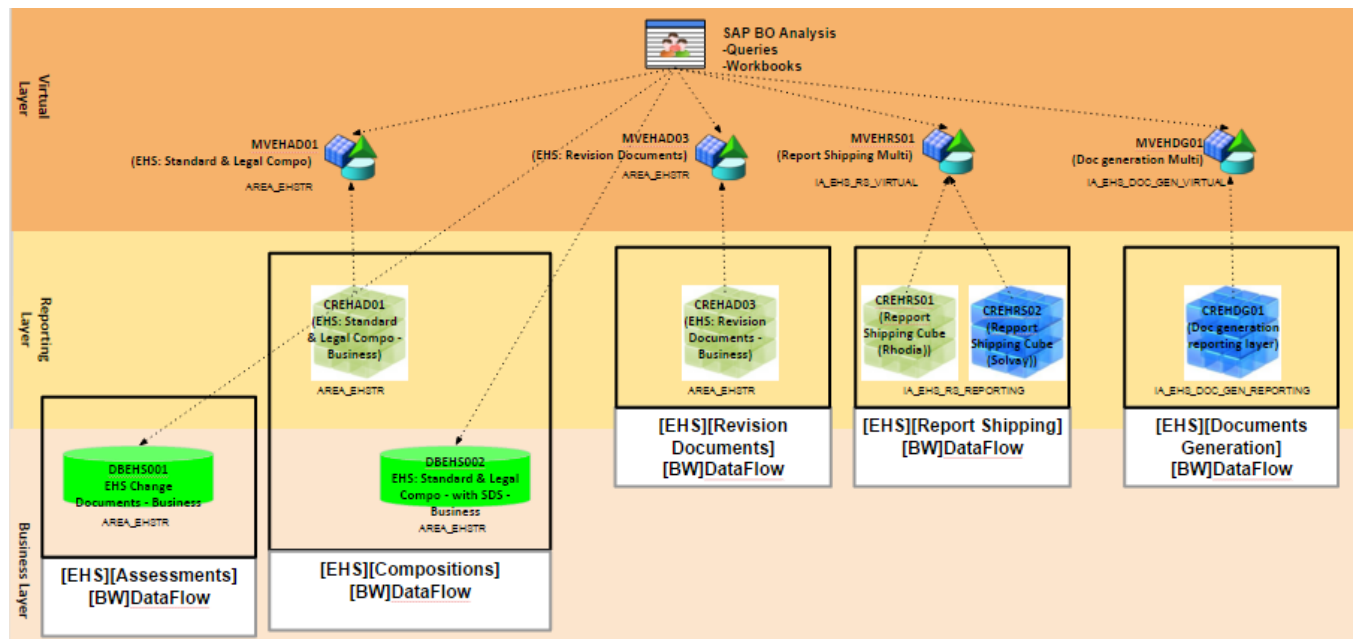
| Authorization object              | Explanation                           |
|-----------------------------------|---------------------------------------|
| CPFCTR1_2                         | GBU, role: ZR_*_CA_P05                |
| C_AUTHMA<br>0EHS_SPEC__C_AUTHMA   | Authorization scope role: ZR_*_CA_P00 |
| 0EHS_SPEC__0EHS_AUTH<br>0EHS_AUTH | Authorization group role: ZR_*_CA_P30 |

Link to the BW Catalog of role

[https://drive.google.com/open?id=10GEfKYqrT1eeTO\\_uHYAheL1GX7L5y\\_pvH0KQU64qh5I](https://drive.google.com/open?id=10GEfKYqrT1eeTO_uHYAheL1GX7L5y_pvH0KQU64qh5I)

## DataFlow

### Overview



[https://drive.google.com/file/d/15zmS2iu3Qyyomu8\\_yow-FgcACKwiLwNhhvhtP1kuM2M/view](https://drive.google.com/file/d/15zmS2iu3Qyyomu8_yow-FgcACKwiLwNhhvhtP1kuM2M/view)

Reporting documentation drive folder:

<https://drive.google.com/drive/folders/1vt7JRYA2X3WxRiERMejawknn8waQ8al>

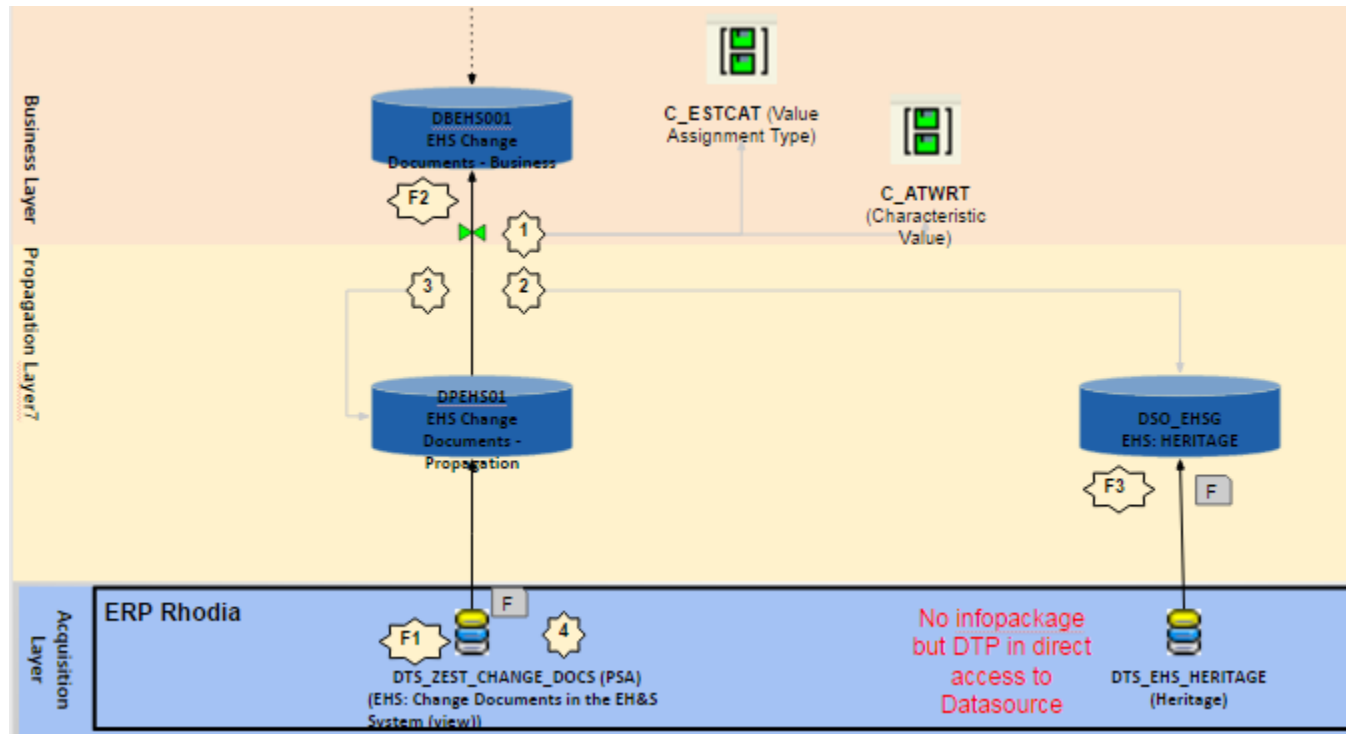
## Technical Rules on Workbench

## 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/1pY3hsqcG3AXULPO-2OBDHY5IyQaYoHS0MDVf\\_05oT1E/view](https://drive.google.com/file/d/1pY3hsqcG3AXULPO-2OBDHY5IyQaYoHS0MDVf_05oT1E/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\_RECNO, 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\_RECNO, 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, FNAME = 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 tablename = "ESTVA".

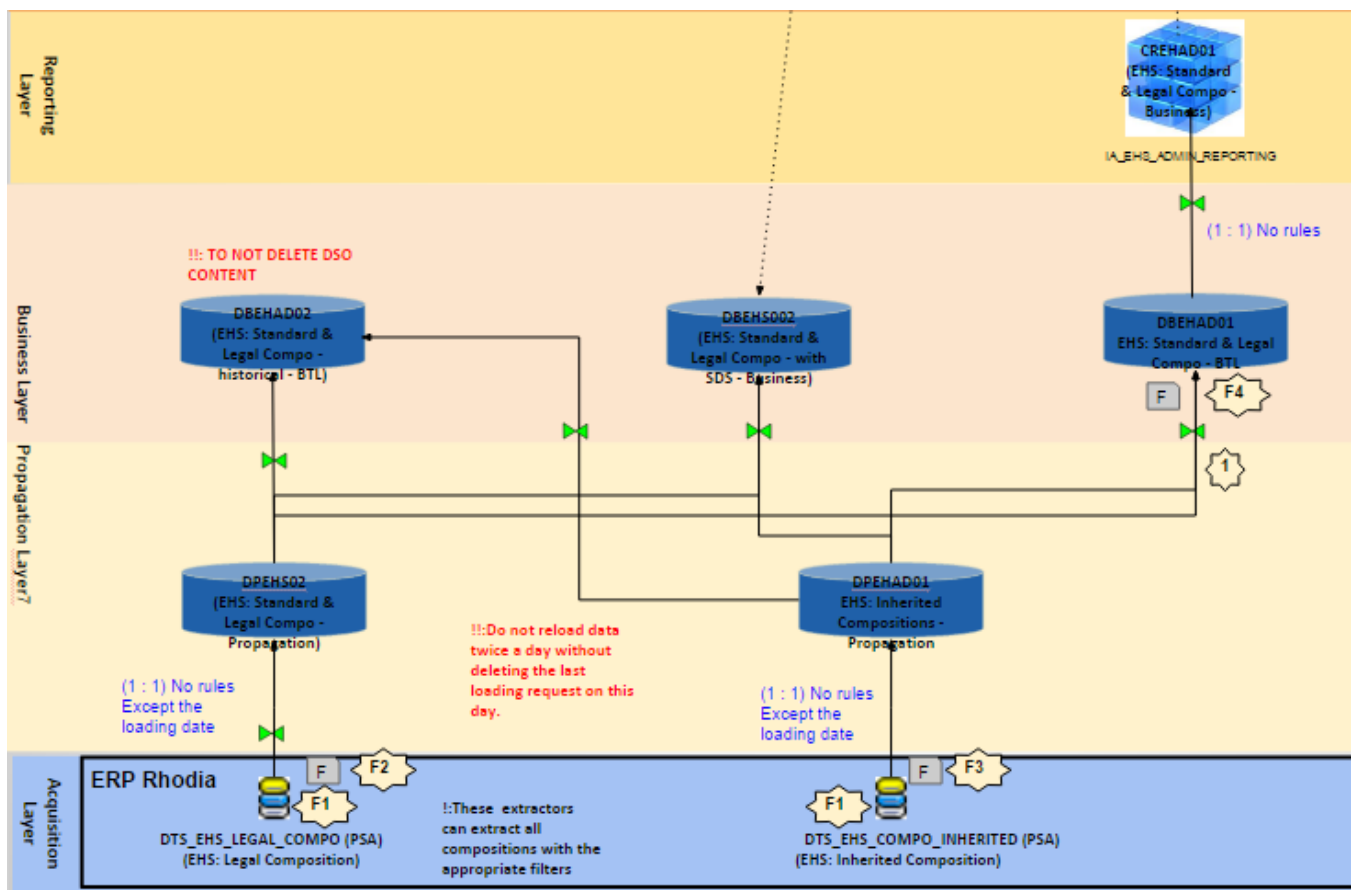
### Datasources customer exit:

- 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 tablename = "ESTVA" or "ESTCAT" when they are deleted.

### Legal and Standard Compositions dataflow (MVEHAD01)

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.



<https://drive.google.com/file/d/1bDooTO-LmbG7y9dzJ1VEgEph7zINLDOHlwFvaOkqEQ/view>

### To not delete Data Propagation / Business Transformation Layer DSO content

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

ODSO DPEHS034 -> ODSO DBEHAD01 & ODSO DPEHS02 -> ODSO DBEHAD01 & ODSO DPEHAD01 -> ODSO DBEHAD01

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.

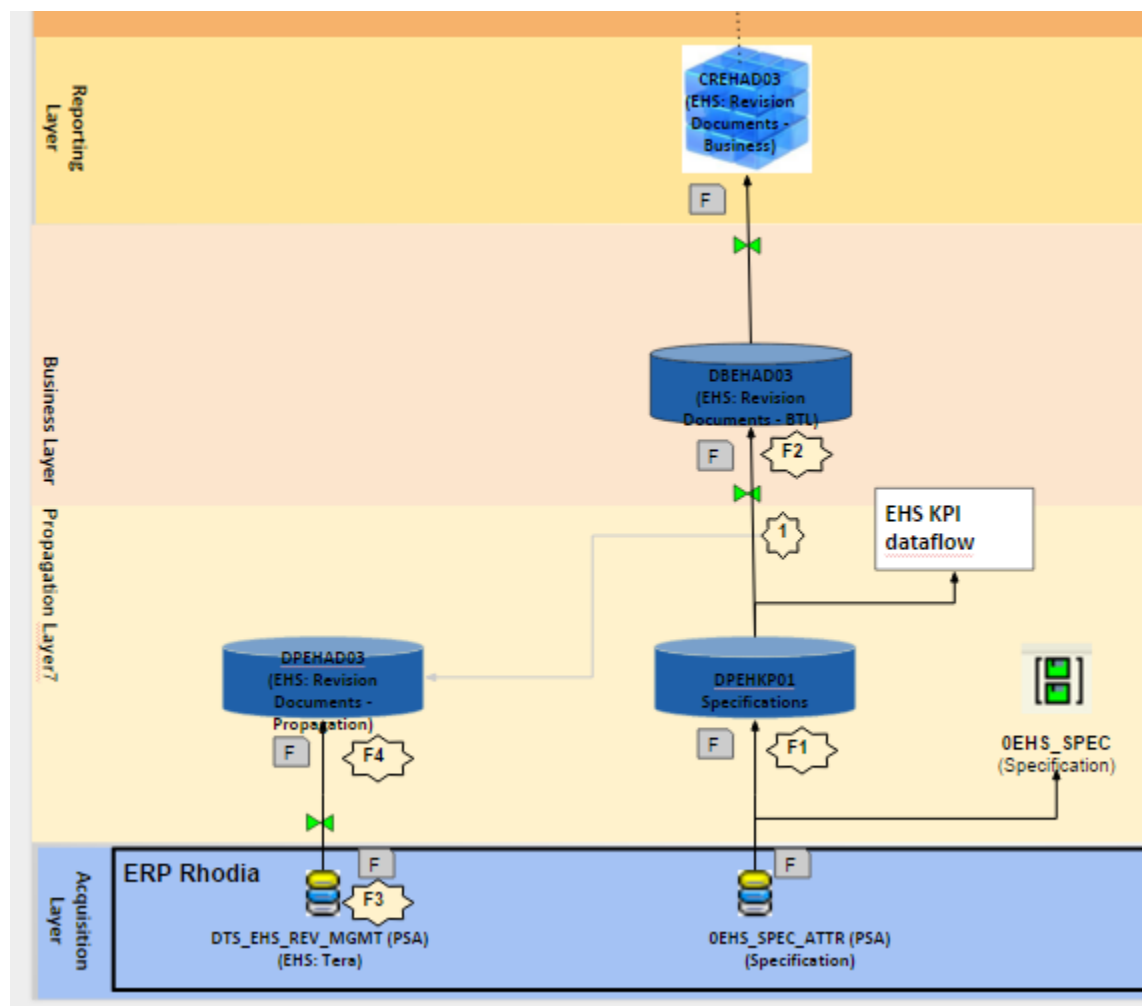
Else, the "general" authorization group is the authorization group.

### Revision documents dataflow (MVEHAD03)

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 AUSP (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 (OEHS\_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/11jJXcxtsx58V5nZx9zRkqzTwMW31syuZV855VffR9bQ/view>

## Revision documents data (R1)

### ODSO DPEHKP01 -> ODSO DBEHAD03

The revision documents data are added to the corresponding substances in DBEHAD03 by a look up in the DSO DPEHAD03. This lookup is used to determine C\_FLESTDF (Flag for ESTDF-TEXTCAT), C\_SORT\_SQ (Sort Sequence ESTVA-SORT), C\_USG\_RW (Usage Concatenate Rating and Area), C\_VL\_USR (Characteristic VALUSER), C\_VL\_ASS (Characteristic ASSESSMENT), C\_VL\_DAT (Characteristic VALDAT), EHS\_RVLID (Validity Area), C\_ESTCAT (Value Assignment Type (CLASS)).

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

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 OEHS\_AUTH.

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

## Report shipping dataflow (MVEHRS01)

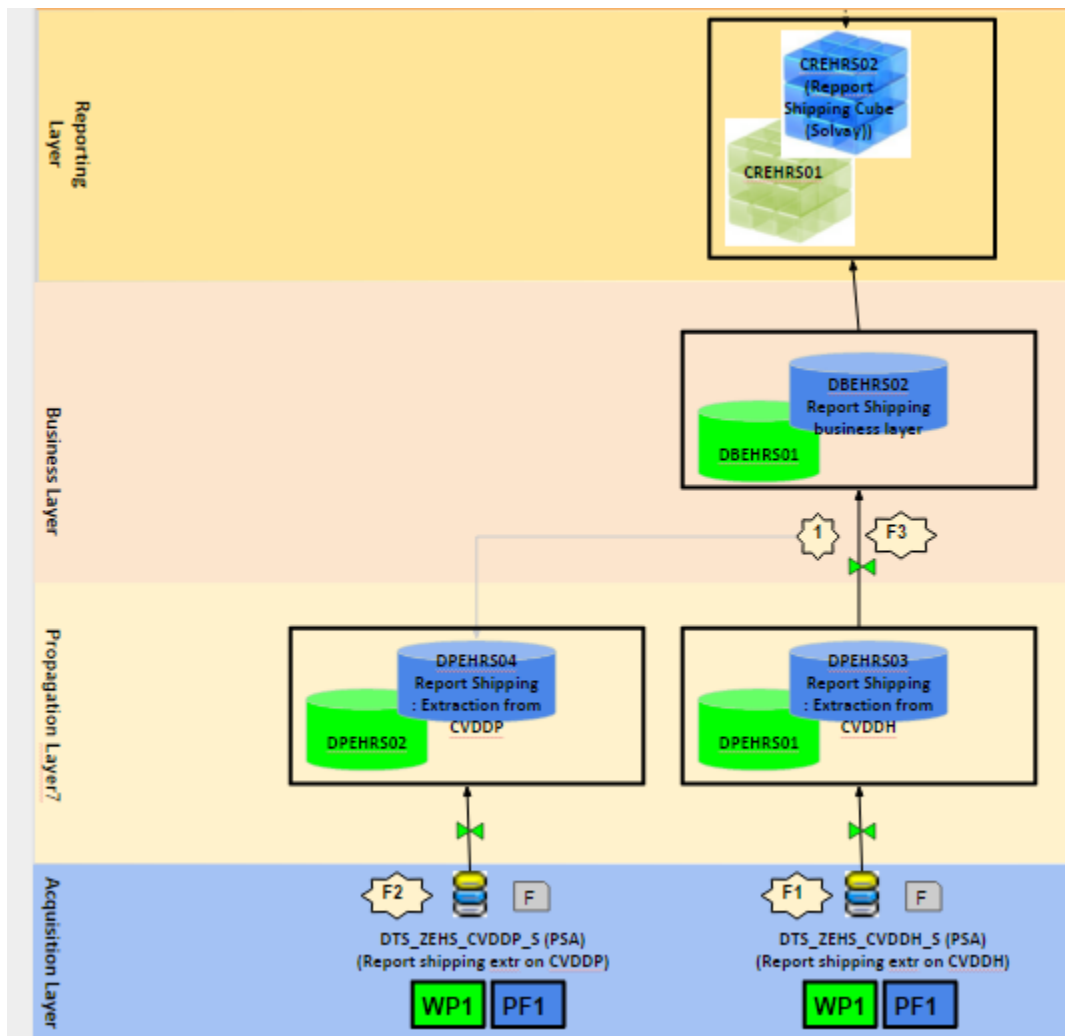
SAP shipping process send SDS (Safety Data Sheet) to customers when Rhodia Legacy or Solvay legacy sold a product to them

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.



<https://drive.google.com/file/d/1ZCM6U14wv43VZsfDctbQHa1sYvfxd7--LtgxZwnAnr0/view>

#### 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)

### TRSE: DPEHRS03 -> DBEHRS02 (Solvay)

The link between the report shipping order and the sales document exists in table CVDDP (EHS: Parameter Values for Report Shipping) DPEHRS04

Severals fields as VALUE (sales document), C\_SAL\_ORG, C\_SAL\_GRP, C\_SAL\_OFF, C\_DISTCHN, C\_DIVISN are filled in the field from the table CVDDP (dso DPEHRS04) lines with ATTRIB = "VBELN" if a correspondance is found with C\_REC2 and C\_PARVW = 'RE'.

C\_SOLDTO is filled from the table CVDDP (dso DPEHRS04) line with ATTRIB = "VBELN" if a correspondance is found with C\_REC2 and C\_PARVW = 'AG'.

C\_SHIPTO is filled from the table CVDDP (dso DPEHRS04) line with ATTRIB = "VBELN" if a correspondance is found with C\_REC2 and C\_PARVW = 'WE'.

We take the fields C\_PERSNUM C\_ADDR\_NO from dso dpehrs06 (with help of source field C\_RECIDP).

C\_EMAILID and C\_FLAGCOM come from dso dpehrs08 where addatefrom = '00010101' and c\_persnum & C\_ADDR\_NO founded in dpehrs06.

The d atasource 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".

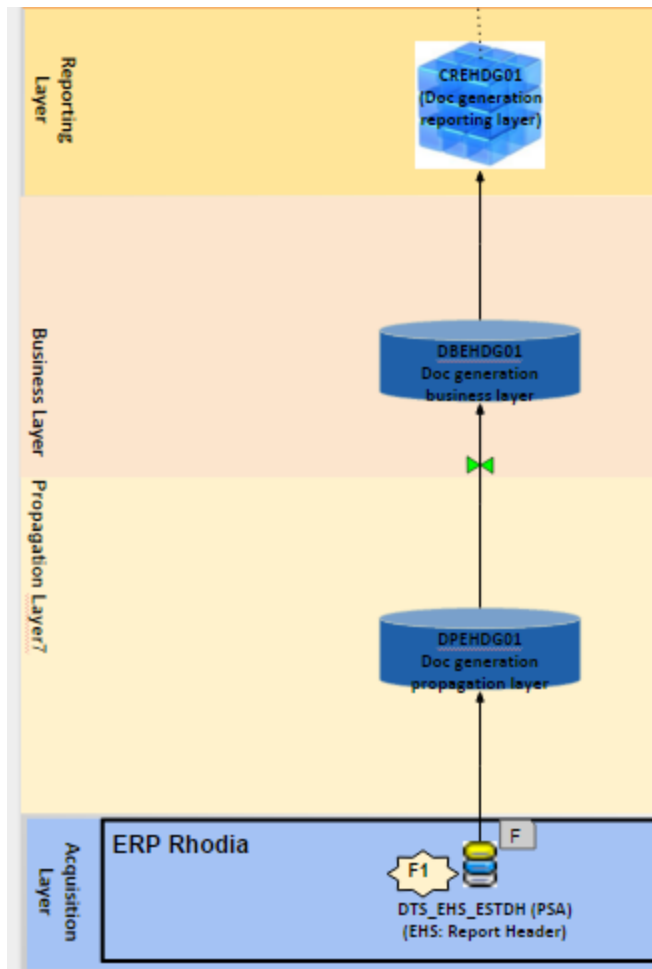
### TRSE: DBEHRS02 -> CREHRS02 (Solvay)

If C\_SHIPSTA = 'COMPLETED', K\_SUCESS = 1 else = 0.

## Document generation dataflow (MVEHDG01)

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/1EqkgJnBD-9jfF6osc7OXccgzcmM9iLLkpHVwYUTNOFE/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 (0EHS\_SPEC):

##### Attributes:

0EHS\_SPEC attributes are loading from the standard datasource 0EHS\_SPEC\_ATTR.

The following zones are updated by the customer exit:

- ZZIDTYPE = ESTRI-idtype for ESTRI-langu = "EN". (first value)
- ZZIDCAT = ESTRI-idcat for ESTRI-langu = "EN". (first value)
- ZZNUNCAS = ESTRI-ident for ESTRI-idtype= "NUM", ESTRI-idcat="CAS" and ESTRI-langu = "".
- ZZNANINT = ESTRI-ident for ESTRI-idtype= "NAM", ESTRI-idcat="Z\_INTERNAL" and ESTRI-langu = "".
- ZZNUNCE = ESTRI-ident for ESTRI-idtype= "NUM", ESTRI-idcat="EINECS" and ESTRI-langu = "" or for ESTRI-idtype= "NUM", ESTRI-idcat=" CE" and ESTRI-langu = "" or for ESTRI-idtype= "NUM", ESTRI-idcat="Z\_LISTNUM" and ESTRI-langu = "".
- ZZNANPLC = ESTRI-ident for ESTRI-idtype= "NAM", ESTRI-idcat="Z\_PLC" and ESTRI-langu = "".
- 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 = ESTRI-CRDAT.

C\_AUTHMA and C\_PFCTR1\_2 come from master data EHS\_AUTH.

### 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)

#### Attributes:

C\_ATWRT attributes are loading from a flat file (DTS\_C\_ATWRT\_FF).

This loading is not scheduled.

The file contains 2 attributes :

- Magnitude Geographie / Zone (C\_ZONE): it contains the zone (AP, EU, LA, NA, WW) used for the Assessment report (first tab).
- Assessment report flag (C\_ASSRFLG): "X" if the characteristic must be included in the Assessment report.

Flat file directory: <https://drive.google.com/drive/folders/13HENIz7pwLxxDBzZn3stjluohwJEN65p>

Updated by EHS admin or IT.

### Value Assignment Type (CLASS) (C\_ESTCAT):

#### Attributes:

C\_ESTCAT attributes are loading from a flat file (DTS\_C\_ESTCAT\_FF): ~~RSDS DTS\_C\_ESTCAT\_FF PC\_FILE -> IOBJ C\_ESTCAT~~

The file loading is not scheduled.

The file contains 3 attributes :

- Magnitude Geographie / Zone (C\_ZONE): it contains the zone (AP, EU, LA, NA, WW) used for the Assessment report (first tab) for the modification type "Delete" when the characteristic value is empty.
- Assessment report flag (C\_ASSRFLG): "X" if the characteristic must be included in the Assessment report.
- IH Report flag (C\_IHFLG): "X" if the characteristic must be included in the IH report.

Flat file directory: <https://drive.google.com/drive/folders/13HENIz7pwLxxDBzZn3stjluohwJEN65p>

Updated by EHS admin or IT.

Another transformation comes from datasource DTS\_EHS\_TCG12\_TEXT (WP1). This transformation is used to put 1 as constant in attribute C\_COUNTNR.

### Report Generation Variant (C\_SBGVID)

#### Attributes:

C\_SBGVID attributes are loading from a flat file (DTS\_C\_SBGVID\_ATTR).

The file loading is not scheduled.

The file contains 2 attributes :

- Magnitude Geographie / Zone (C\_ZONE): it contains the zone (AP, EU, LA, NA, WW) used for the Documents generation report.

- Report Type (C\_DREPTY): it contains the doc type (EU Label, certificate, TDS,...) used for the Documents generation report.

Flat file directory: <https://drive.google.com/drive/folders/13HENIz7pwLxxDBzZn3stjluohwJEN65p>

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 Receip 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)

CREHRS01 Repport Shipping Cube (Rhodia)

DBEHRS01 Report Shipping business layer (Rhodia)

The field imapcted is C\_EMAILID E-Mail Address

|                                     |            |
|-------------------------------------|------------|
| ▼ Date                              | MVEHRS014  |
| ▼ Communication Type                | MVEHRS015  |
| Reason type                         | C_RETYP    |
| E-Mail Address                      | C_EMAILID  |
| Indicator: E-Mail Address(es) Maint | C_FLAGCOM  |
| SDS Receiver Email                  | C_SDSEMAIL |
| Communication Type                  | C_COM_ART  |

This development was done in the scope of the following of **SDS** reports ( **Safety Data Sheet**) . The report are mandatory in the REACH program (European reglementation)

SDS reports are produced either sent to customer legal provision to customer who purchased Solvay products+ we must send the SDS for all the major changes for all the buyer customers in the last 12 months.

The GBU can used the BW report or directly on the ECC system in the mail error address generated each time the sending to the customer is not working, BW reports provide the mail of the customer. (

from PF1 system is customer Sold to and WP1 customer Ship to)

## Useful transactions / programs

| Transaction | Description | Corresponding table | Comments |
|-------------|-------------|---------------------|----------|
|-------------|-------------|---------------------|----------|

|      |                     |                         |  |
|------|---------------------|-------------------------|--|
| CG02 | Substance Workbench | ESTRH, ESTVA, ESTDU.... |  |
|------|---------------------|-------------------------|--|

## Reporting

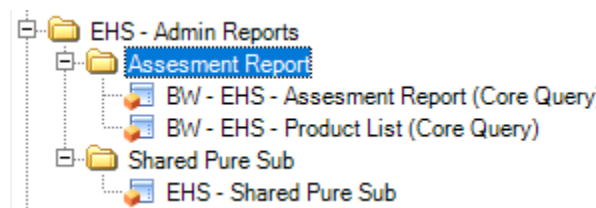
### List of queries

| Query                        | Description                                                  |
|------------------------------|--------------------------------------------------------------|
| BW_QRY_CREHRS01_002          | BW – EHS - Report Shipping details (Core Query)              |
| BW_QRY_CREHRS01_001          | BW – EHS - Report Shipping dashboard (Core Query)            |
| BW_QRY_MVEHDG01_001          | BW - EHS - Spec & reports per GBU (Core Query)               |
| BW_QRY_MVEHDG01_002          | BW - EHS - Report generation (Core Query)                    |
| BW_QRY_MVEHAD01_0001         | EHS - Shared Pure Sub                                        |
| BW_QRY_MVEHDG01_003          | BW - EHS - Report generation (Broadcast)                     |
| BW_QRY_MVEHAD03_0001         | EHS: Revision Documents                                      |
| BW_QRY_CREHRS01_004          | BW-EHS-Shipping Report Details, 90 days (Core query)         |
| BW_QRY_CREHRS01_003          | BW-EHS-Shipping Report Dashboard, 90 days, SalesOrg (Core qu |
| QVRCSKPI_BW_QRY_MVEHDG01_002 | BW - EHS - Report generation (QlickView)                     |
| BW_QRY_CREHRS01_005          | BW-EHS-Shipping Report Dashbd, 30 days, SalesOffice (Core qu |
| BW_QRY_CREHRS01_006          | BW-EHS-Shipping Report Dashboard, 30 days (Core query)       |

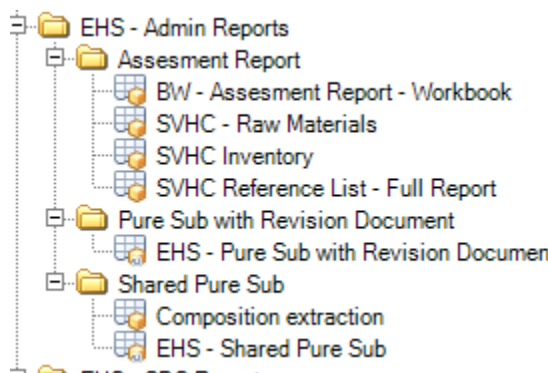
All reports are available via workbooks published in the Roles menu.

### Role menu "EHS Reporting - ADMIN Reports" (ZR\_RCS\_CA\_M51)

#### Queries

|                                                                                     |                                                                                                                   |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
|  | ZR_RCS_CA_M51<br>0000005378<br>BW_QRY_DBEHS001_0001<br>BW_QRY_DBEHS002_0001<br>0000005382<br>BW_QRY_MVEHAD01_0001 |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|

#### Workbooks

|                                                                                     |                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | ZR_RCS_CA_M51<br>ZR_RCS_CA_M51<br>BW_WB_EHS_0001<br>BW_WBK_SVHC_030<br>BW_WBK_SVHC_020<br>BW_WBK_SVHC_010<br>ZR_RCS_CA_M51<br>BW_WBK_EHS_0003<br>ZR_RCS_CA_M51<br>BW_WBK_EHS_0004<br>BW_WBK_EHS_0002 |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- Assessment Report

When modifying data in the Pure Substances, it may have an impact on the Safety Data Sheet.

In order to simplify the communication process between the HazCom team and the SDS Writers, a report has been designed in BW that 1) lists in the first tab the changes made to the Pure Substances. A change can be a deletion, an insertion or an update (in which case the old and new value are displayed)

2) lists in the following tabs all the products that contain these Pure Substances and at which concentration AND that have a released SDS in the zone

Then the Zone SDS Writer can easily identify which products may be impacted by the change and if the SDS needs to be revised accordingly.

This report is only available to the Admin team, it will be sent to the SDS Writers when needed.

Tab 1:

BEx Query = BW - EHS - Assesment Report (Core Query) (BW\_QRY\_DBEHS001\_0001)

List of EHS classes and characteristics displayed in the report are filtered using the attributes

C\_ATWRT\_\_C\_ASSRFLG and C\_ESTCAT\_\_C\_ASSRFLG.

Tab 2:

BEx Query = BW - EHS - Product List (Core Query) (BW\_QRY\_DBEHS002\_0001)

Exception aggregation "First value" for the ratio "Substance % in Material" for the Ref. Characteristic "C\_SBGVID".

Filter on substances (C\_SPEC2) : replacement path on query BW\_QRY\_DBEHS001\_0001

- Shared Pure Sub

The aim of this report is to see which Authorization group are using which Pure Sub in their Prod com.

The report is based on the Legal and Standard compositions of the Prod com. The Pure substances in the compositions are displayed by the "general" authorization groups of the Prod com.

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".

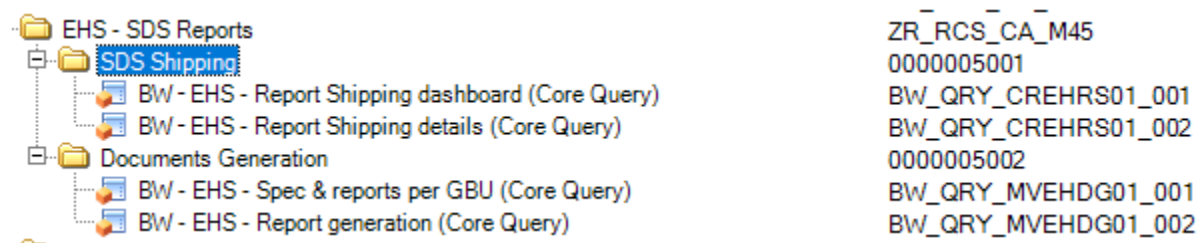
- Pure Sub with Revision Document

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.

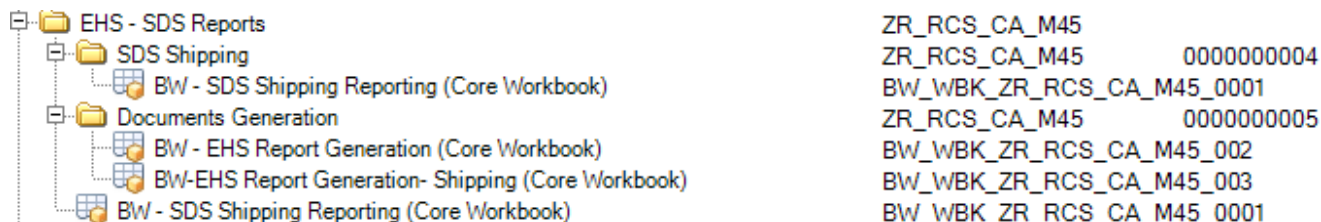
BEx Query = EHS: Revision Documents (BW\_QRY\_MVEHAD03\_0001)

## Role menu "EHS Reporting - SDS Reports" (ZR\_RCS\_CA\_M45)

Queries:



Workbooks:



- EHS Report Generation

This report lists all the EHS documents with a released status: SDSs but also labels, transport documents, composition report and certificates.

The status of the product (obsolete or not) is also displayed, which is a good tool to check that we don't keep active documents for obsolete products.

The first tab is a dashboard that gives a summary and the second one provides the details of each document published: which language, created by whom and when. So it is also a good tool to check that there are no SDSs that were created more than 3 years ago.

Tab 1:

BEx Query = BW - EHS - Spec & reports per GBU (Core Query) (BW\_QRY\_MVEHDG01\_001)  
Type of reports is an attribute of the Report generation variant (C\_SBGVID\_\_C\_DREPTYP).

Tab 2:

BEx Query = BW - EHS - Report generation (Core Query) (BW\_QRY\_MVEHDG01\_002)  
Ratio "Last validation" = current day - generation date.

- SDS Shipping Reporting

This report lists all the orders that triggered a successful SDS sending or an error. In case of error, the reason is clearly explained: "SDS missing", "Technical error", "Occasional customer".

It is similar to the transaction CVD1 but offers several advantages: search by GBU, easy export to Excel, additional data (order number, customer). Another advantage of having the report in BW is that we included directly some data from the order: especially the order number and customer information. It therefore becomes very easy to check how many SDSs were sent to a particular customer in a given period of time for example. First tab is an overview page and second tab is a detailed view, where each line corresponds to one sales order.

Tab 1:

BEx Query = BW – EHS - Report Shipping dashboard(Core Query) (BW\_QRY\_CREHRS01\_001)

Tab 2:

BEx Query = BW – EHS - Report Shipping details(Core Query) (BW\_QRY\_CREHRS01\_002)

## Broadcast

### IH report

- EHS - IH Report Weekly Broadcast (BD\_EHS\_001):

Technical name of object = BW\_QRY\_DBEHS001\_0002

This query is similar to "BW - EHS - Assessment 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 occurred 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

- Quarterly SDS generation report to Product Stewards - HazCom (BD\_EHS\_DG\_001).
- Quarterly SDS generation report to Product Stewards - SSP (BD\_EHS\_DG\_002).
- Quarterly SDS generation report to Prod. Stewards - Polyamide (BD\_EHS\_DG\_003).
- Quarterly SDS generation report to Prod. Stewards - Novecare (BD\_EHS\_DG\_004).
- Quarterly 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 is based on the queries "BW - EHS - Spec & reports per GBU (Core Query)" (BW\_QRY\_MVEHDG01\_001) and "BW - EHS - Report generation (Broadcast)" (BW\_QRY\_MVEHDG01\_003). An exception in the query BW\_QRY\_MVEHDG01\_003 highlights the reports generated more than 3 years ago.

Format = XLS

Variable Assignment = filter on a list of Autorization groups (the list is different for each Broadcast)

Scheduling = every quarter, executed via the Process Chain PC\_EHS\_DG\_BCAST\_001.

Destination = Sent by email to EHS HazCom support and a list of product stewards (the list is different for each Broadcast).

## Dependencies with other applications

DSO DPEHKP01 and DBEHAD02 are used for the RCS KPI application (EHS KPI).

## Data Loading

### Info Providers and objects loaded

#### Main Process Chains

| Process Chain                                 | Code                    | Type  | Frequency                                                                                                                                                                                  | Comments                                                                                                                                                                                                                             |
|-----------------------------------------------|-------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EHS Daily Transaccional                       | EHS_TRANSA<br>CIONAL    | SLAVE | <ul style="list-style-type: none"><li>launched by RSP_DAILY</li><li>Daily (not week-end)</li><li>Start at around 2: 50 am</li><li>Whole chain lasts around 3h30 minutes</li></ul>          | <ul style="list-style-type: none"><li>RCS systems</li><li>From datasources to cubes</li><li>EHS Master Data and transactional data, except concerning Reports generation and SDS shipping dataflow</li></ul>                         |
| EHS Assessment Report                         | PC_EHS_ASS<br>ESSMENT   | SLAVE | <ul style="list-style-type: none"><li>launched by EHS_TRANSACI<br/>ONAL</li><li>Daily (not week-end)</li><li>Start at around 3 am</li><li>Whole chain lasts around 10 minutes</li></ul>    | <ul style="list-style-type: none"><li>RCS system</li><li>From datasources to DSO</li><li>Inheritance links (DSO_EHSG), standard and legal compositions to propagation layer and "with SDS" DSO (DBEHS002) and Assessments.</li></ul> |
| EHS: TD - D - Admin                           | PC_EHS_ADM<br>IN_01     | SLAVE | <ul style="list-style-type: none"><li>Daily (not week-end)</li><li>1:30 am</li><li>Whole chain lasts around 10 minutes</li></ul>                                                           | <ul style="list-style-type: none"><li>RCS systems</li><li>From Propagation Layer to cubes</li><li>EHS standard and legal compositions.</li></ul>                                                                                     |
| EHS Revision Documents                        | PC_EHS_REV<br>_DOC      | SLAVE | <ul style="list-style-type: none"><li>launched by EHS_TRANSACI<br/>ONAL</li><li>Daily (not week-end)</li><li>Start at around 5 am</li><li>Whole chain lasts around 10 minutes</li></ul>    | <ul style="list-style-type: none"><li>RCS systems</li><li>From datasources to cubes</li><li>EHS revision documents data on PURE_SUB</li></ul>                                                                                        |
| EHS: TD - D - Document Generation             | PC_EHS_DG_<br>MAIN_001  | SLAVE | <ul style="list-style-type: none"><li>aunched by EHS_TRANSACI<br/>ONAL</li><li>Daily (not week-end)</li><li>Start at around 6: 30 am</li><li>Whole chain lasts around 30 minutes</li></ul> | <ul style="list-style-type: none"><li>RCS systems</li><li>From datasources to cubes</li><li>EHS Reports header</li></ul>                                                                                                             |
| EHS: BRC - D - Document Generation Broadcasts | PC_EHS_DG_<br>BCAST_001 | SLAVE | <ul style="list-style-type: none"><li>Not scheduled</li></ul>                                                                                                                              | <ul style="list-style-type: none"><li>RCS systems</li><li>Only broadcasts of EHS Documents generation report</li></ul>                                                                                                               |

|                               |                     |       |                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------|---------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EHS: TD - D - Report Shipping | PC_EHS_RS_MAIN_001  | SLAVE | <ul style="list-style-type: none"> <li>launched by EHS_TRANSACI ONAL</li> <li>Daily (not week-end)</li> <li>Start at around 6:30 am</li> <li>Whole chain lasts around 20 minutes</li> </ul> | <ul style="list-style-type: none"> <li>RCS and Solvay systems <ul style="list-style-type: none"> <li>From datasources to cubes</li> <li>EHS Report shipping orders</li> </ul> </li> </ul>                                                                                                                                                                          |
| EHS Daily MD Attributes       | EHS_MASTER_DATA     | SLAVE | <ul style="list-style-type: none"> <li>launched by EHS_TRANSACI ONAL</li> <li>Daily (not week-end)</li> <li>Start at around 3 am</li> <li>Whole chain lasts around 2h30 minutes</li> </ul>  | <ul style="list-style-type: none"> <li>RCS systems</li> <li>From datasources to cubes</li> <li>EHS Master Data attributes (0EHS_SPEC, C_PROD, C_OBJEK) + Propagation Layer DSO for EHS KPI and Revision documents from datasource 0EHS_SPEC_ATTR.</li> <li>+ DSO for REACH characteristics multi values</li> <li>Infopackage 1CL_OEHS002 FULL lasts 2h!</li> </ul> |
| EHS Daily MD Text             | EHS_MASTER_DATA_TXT | SLAVE | <ul style="list-style-type: none"> <li>launched by EHS_TRANSACI ONAL</li> <li>Daily (not week-end)</li> <li>Start at around 5:30 am</li> <li>Whole chain lasts around 45 minutes</li> </ul> | <ul style="list-style-type: none"> <li>RCS systems</li> <li>EHS Master Data texts (include Phrases extraction)</li> </ul>                                                                                                                                                                                                                                          |

## Data Quality Control

## Operational Documentation

### Procedures

<Describe the recurring procedures needed to operate the application (eg. start/pause/terminate/restart the app processes, data preparation, data ingestion, ETL, data visualization, data export, other manual activities)>

### Scheduling

<Describe the scheduling in place for the application (eg. existing jobs, trigger time/event based, dependencies)>

### Monitoring

<Describe the monitoring checks to confirm the application is performing well (eg. check the overall status, check performance metrics like runtime /data volume/memory/disk/CPU, maintain and react to alerts/notifications)>

### Error Handling

<Describe how to handle errors (eg. error codes, description and respective resolution, alert users)>

### Known Bugs

<List the existing bugs, its criticality, workarounds and resolution plan.>

### Roadmap

- A new report based with Legal and Standard compositions should be delivered soon in the EHS - Admin report menu.
- Broadcasts "SDS generation report to Prod Steward" to reschedule every months (instead of quaterly).