

User Guide

SAP EH&S Expert Rule Editor

Document Version: 1.2 – 2022-05-25

CUSTOMER

Conditions for Safety Statements

A Functionality within SAP EH&S Rule Editor

Typographic Conventions

Type Style	Description
<i>Example</i>	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Textual cross-references to other documents.
Example	Emphasized words or expressions.
EXAMPLE	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
Example	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
Example	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE	Keys on the keyboard, for example, F2 or ENTER.

Document History

Version	Date	Change
1.0	2016-01-31	Initial version
1.1	2016-02-29	Export conditions and Filter found conditions functions added
1.2	2022-05-25	Product name change

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1 Introduction

The Conditions for Safety Statements (CoSSta) is a functionality within the EH&S Expert Rule Editor. Conditions created in CoSSta are used in the Rule for Safety Statements rule set. During secondary data determination for a specification, this rule set determines which conclusive phrases should be transferred to the specification. By using this function, you can assign phrases to a substantial number of characteristics to fill out material safety data sheets (MSDS), or standard operating procedure (SOP) documents.

You require the *3E EHS Regulatory Content* in order to use CoSSta. For more information, see [3E EHS Regulatory Content](#).

2 Getting Started

2.1 Choosing the Database

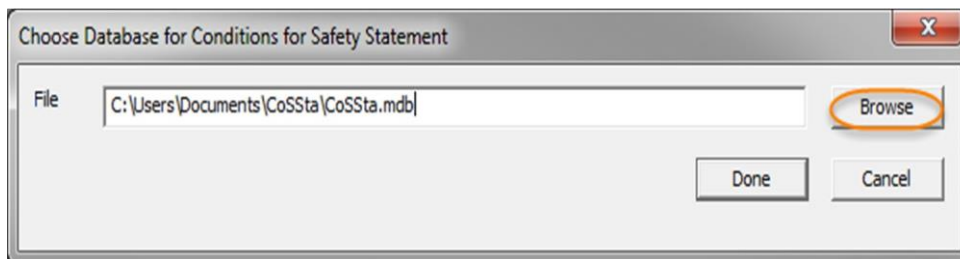


Figure 1 - Choosing a Database

First, you need to choose the database in which the conditions that you have created should be stored. Ensure the selected database is in a valid CoSSta access file format. The database should contain the following data:

- Conditions
- Supported characteristics for the conclusive phrases and facts.
- Supported identification types
- Supported predefined conditions
- Assignment of customer-specific characteristics
- Imported characteristics and phrases
- Usage profiles

Note

You will need authorization to modify the database when using the CoSSta functionality. The CoSSta access file is provided in the *SAP EHS Regulatory Content, Safety Data Sheets Authoring* package.

Recommendation

We recommend that you use the **CoSSta.mdb** access file as it contains standard values, such as supported characteristics which are used in the **Rule for Safety Statements**.

Recommendation

We recommend that you save the **CoSSta.mdb** access file locally to avoid waiting times during data migration and property tree import. For performance reasons, we recommend you save the **CoSSta.mdb** access file on the EH&S Expert Server when determining secondary data. For more information, see [Working with the EH&S Expert](#).

To connect to a database, proceed as follows:

1. Open the *Rule Editor* and choose *Conditions for Safety Statements* → *Choose Database*.
2. Select the access file **CoSSta.mdb** and choose *Done*.

2.2 Importing Property Tree and Phrases

The **Property Tree for Safety Statements** consists of two parts. These are:

- **CONCLUSION**
This defines the value assignments used in the *List of Sections* in the *Initial Screen*. The assigned characteristics are used as conclusive characteristics. This means that you can define conditions for each of these characteristics. The conclusive phrase is transferred to these characteristics.
- **FACTS**
This defines the value assignments and characteristics used in the property tree in the *Edit Condition* screen. The characteristics are used as facts. This means that you can use these to define condition parameters for your conditions.

To import a property tree and phrases, proceed as follows:

1. In the EHS system, start the substance workbench (transaction CGO2) and choose the **Property Tree for Safety Statements**.

Alternatively, you can change the parameter value of your user profile in the EHS system. In your EHS system, choose *System* → *User Profile* → *Own Data*. Select the *Parameters* tab and set the *Parameter Value* **RULCOSSTA** for the *SET/GET Parameter ID* **ES6**.

Open the *Rule Editor* and load the property tree from the EHS system. Choose *Tools* → *Property Tree* → *Reload From EH&S*.

Note

You can only load the property tree from the EHS system if the *Rule Editor* is connected to the EHS system. If the *Rule Editor* is disconnected, choose *Tools* → *Connect to System* to connect to the EHS system.

Recommendation

We recommend that you save the property tree locally after you have loaded it to the *Rule Editor*. In this way, the property tree does not need to be downloaded automatically each time you start CoSSta.

Carry out the following:

1. Choose *Tools* → *Property Tree* → *Save locally*
2. Choose *Tools* → *Options* → *General: Offline*

2. In the *Rule Editor*, choose *Conditions for Safety Statements* → *Import Property Tree*. The import can take up to several minutes.

Note

You can select the property tree language by choosing *Tools* → *Options* → *Property Tree* → *Language*.

Recommendation

We recommend that you select *English* for the import of the property tree.

2.3 Configuration

Before you are able to manage conditions, you have to configure the following functions:

- *Managing Phrases*
- *Managing Usage Profiles*
- *Editing Identification Types*
- *Editing Customer-Specific Characteristics*

3 Managing Conditions

1. Conclusion:


Here, you define the phrase which will be derived from the condition parameters with its usage. This will be transferred to the specification. You can select if an own value assignment instance should be created for the conclusive phrase in the characteristic in the specification.


If you select a conclusive phrase, its sort sequence, weight of importance and group is displayed. These values can be edited in the *Manage Phrases* screen.

The usage and the conclusive phrase are mandatory values.

2. Condition Parameter:

Here, you define the values for the condition parameter.

All facts with their logical operator and expressions are displayed in the list. You can edit an existing fact by either double clicking it or selecting it and choosing  (*Edit fact*). Alternatively, you can use the menu path [Condition → Edit Fact](#).

You can delete an existing fact by selecting it and choosing  (*Delete fact*). Alternatively, you can use the menu path [Condition → Delete Fact](#).

You can define if the condition parameter is always applicable by flagging the corresponding checkbox. Only facts with the logical operator NOT can be used in combination with this condition parameter.


You can define if the condition parameter is applicable if no other condition applies by flagging the corresponding checkbox. Other facts are not permitted in combination with this condition parameter.

3. Facts:

The facts are displayed in a tree structure in the same way as the **Property Tree for Safety Statements** on the right of the screen. Here, you can add new facts to the *Condition Parameter*.

To add a fact, expand the tree to the lowest level and select a characteristic.

Five fact types are available:

- Fact Type: Phrase-Enabled 

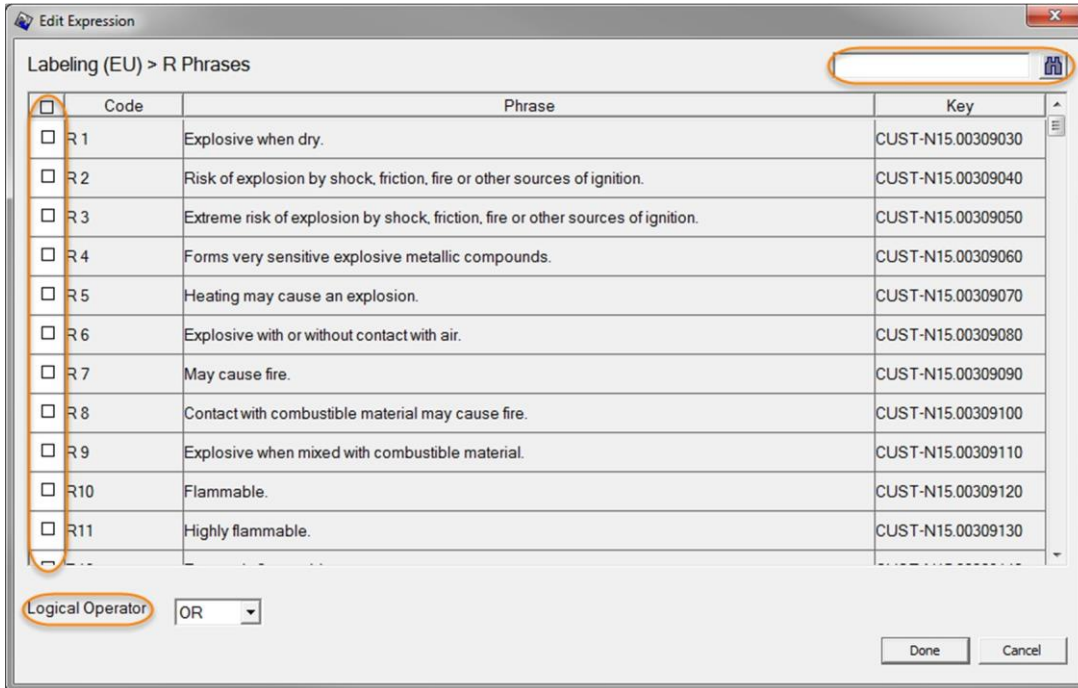


Figure 2 - Fact Type – Phrase-Enabled

You can assign several phrases as expressions to phrase-enabled facts. If you select several phrases, they are connected with the logical operator OR. Only one of the phrases needs to apply to verify the fact.

In the *Edit Expression* screen, a list of all phrases assigned to the characteristic of the fact is displayed.

Flag the checkbox to add one or several phrases to the fact. You can also select or deselect all phrases by selecting the column header of this column.

You can search for a specific phrase by entering the search term and choosing  (Search).

You can search by phrase key, code or text.

You have to select at least one phrase to add the fact to the *Condition Parameter*.

You can define the *Logical Operator* by making a selection from the dropdown list.

 Note

You can change the sort sequence within the column by selecting the column header.

- Fact Type: Numeric Value [12](#)

Figure 3 - Fact Type - Numeric Value

In numeric facts you define number ranges for the condition parameter.

You can add a *Lower Limit* with its operator and an *Upper Limit* with its operator by entering the values in the corresponding fields. You have to either select a *Lower Limit* with its operator or an *Upper Limit* with its operator to add the fact to the Condition Parameter.

The *Unit of Measure* for the characteristic is also provided. This is the unit assigned to the characteristic in the EHS system.

You can define the *Logical Operator* by making a selection from the dropdown list.

- Fact Type: Identifier [13](#)

Figure 4 - Fact Type - Identifier

This fact type provides the option to create a condition parameter based on the identification type in the specification.

Example: If the specification has CAS number <1330-20-7> assigned.

Enter a value for the Identifier. This field is mandatory.

You can also add values with placeholders such as "100*" to create condition parameters.

Example: If the specification has a CAS number assigned which starts with 100.

You can define the *Logical Operator* by making a selection from the dropdown list.

- Fact Type: Specification 



Figure 5 - Fact Type - Specification

This fact type provides the option to create a condition parameter based on the specification.

Example: If the specification has the Specification key <SUB_XYLOL> assigned.

This only makes sense if you add either placeholders in the specification value such as "D*" to find all specification which starts with a D.

Enter a value for the specification. This field is mandatory.

You can define the *Logical Operator* by making a selection from the dropdown list.

- Fact Type: Predefined Conditions 

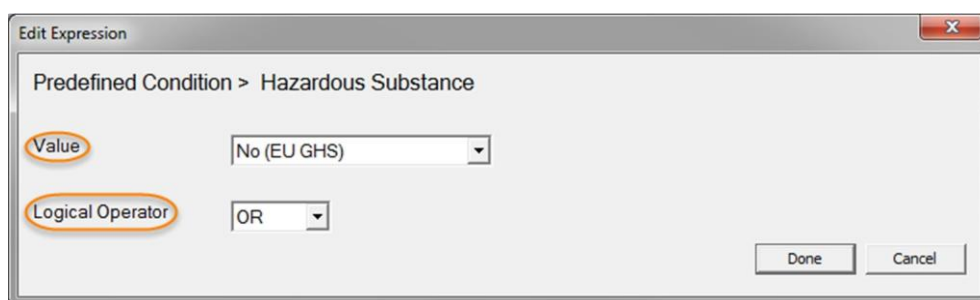


Figure 6 - Fact Type – Predefined Condition

Predefined condition is the combination of rules that are carried out in the **Rule for Safety Statements**. If the result of the predefined condition is equal to the entered value, the condition parameter applies.

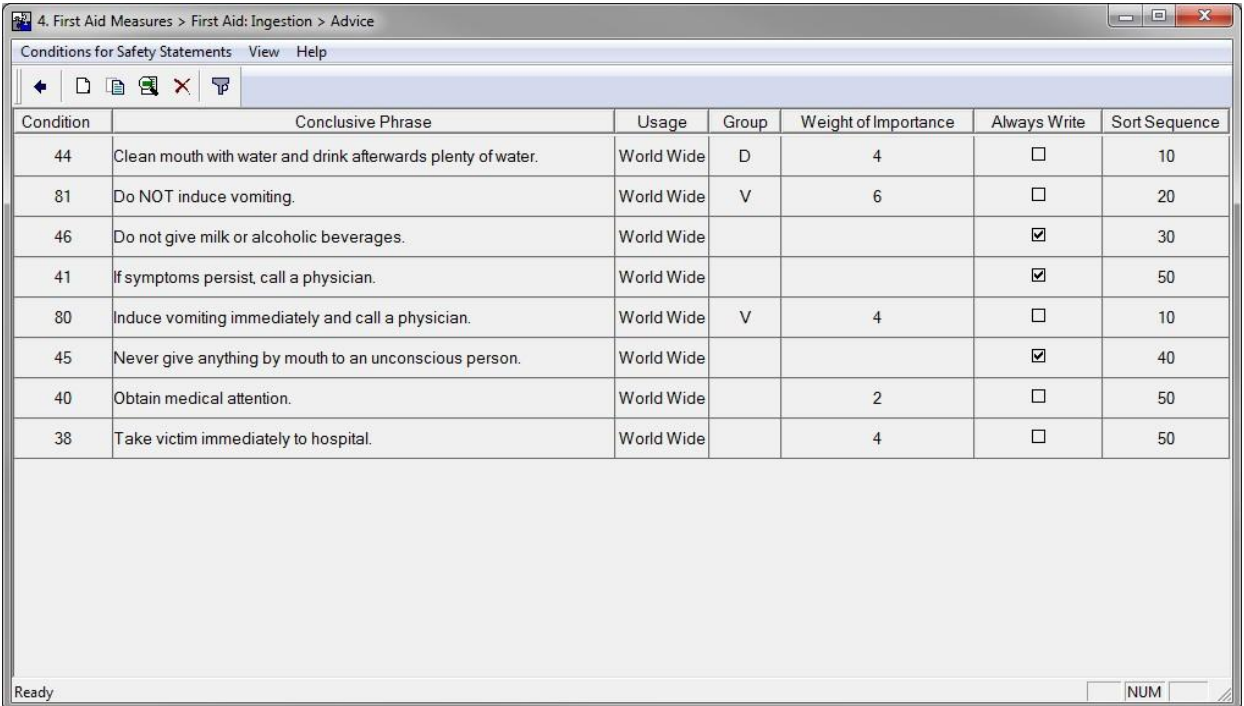
Select one value of the predefined value to add a predefined condition to the *Condition Parameter*.

For more information on predefined conditions, see [Predefined Conditions](#).

You can define the *Logical Operator* by making a selection from the dropdown list.

3.1 Overview of Conditions

All defined conditions for the characteristic which you selected in the *List of Results* are displayed here.



The screenshot shows a window titled '4. First Aid Measures > First Aid: Ingestion > Advice' with a sub-header 'Conditions for Safety Statements'. The window contains a table with the following data:


Condition	Conclusive Phrase	Usage	Group	Weight of Importance	Always Write	Sort Sequence
44	Clean mouth with water and drink afterwards plenty of water.	World Wide	D	4	<input type="checkbox"/>	10
81	Do NOT induce vomiting.	World Wide	V	6	<input type="checkbox"/>	20
46	Do not give milk or alcoholic beverages.	World Wide			<input checked="" type="checkbox"/>	30
41	If symptoms persist, call a physician.	World Wide			<input checked="" type="checkbox"/>	50
80	Induce vomiting immediately and call a physician.	World Wide	V	4	<input type="checkbox"/>	10
45	Never give anything by mouth to an unconscious person.	World Wide			<input checked="" type="checkbox"/>	40
40	Obtain medical attention.	World Wide		2	<input type="checkbox"/>	50
38	Take victim immediately to hospital.	World Wide		4	<input type="checkbox"/>	50

Figure 7 - Overview of Conditions


This provides you with an overview of all conditions, together with conclusive data for each characteristic.

In this screen, you have the option to create new conditions, edit or copy existing ones, delete them. You can also set or remove the filter for found conditions.


1. Create Condition:

Create a new condition by choosing  (Create condition) or via [Conditions for Safety Statements → Create Condition](#). You can edit the values for the new condition in the next screen.


2. Copy Condition:

Copy a condition by selecting it in the list of conditions and then choosing  (Copy condition). Alternatively, you can choose the menu path [Conditions for Safety Statements → Copy Condition](#).

3. Edit Condition:


Edit a condition by selecting it in the list of conditions by either double clicking it or selecting it and then choosing  (Edit condition). Alternatively, you can choose the menu path [Conditions for Safety Statements → Edit Condition](#).


4. Delete Conditions:

Delete a condition by selecting it in the list of conditions and choose  (Delete condition). Alternatively, use the menu path [Conditions for Safety Statements → Delete Condition](#). You can select several conditions for deletion.

5. Set Filter ↔ Remove Filter:

If you have searched for conditions by using the search function, the found conditions are displayed.

Display all conditions of the conclusive characteristic by choosing  (*Remove filter*). Alternatively, use the menu path *Conditions for Safety Statements* → *Remove Filter*.

Display found conditions using the search function. Choose  (*Set filter*). Alternatively, use the menu path *Conditions for Safety Statements* → *Set Filter*.

If you have searched for conditions via a section, the filter option is not available.

3.2 Finding Conditions

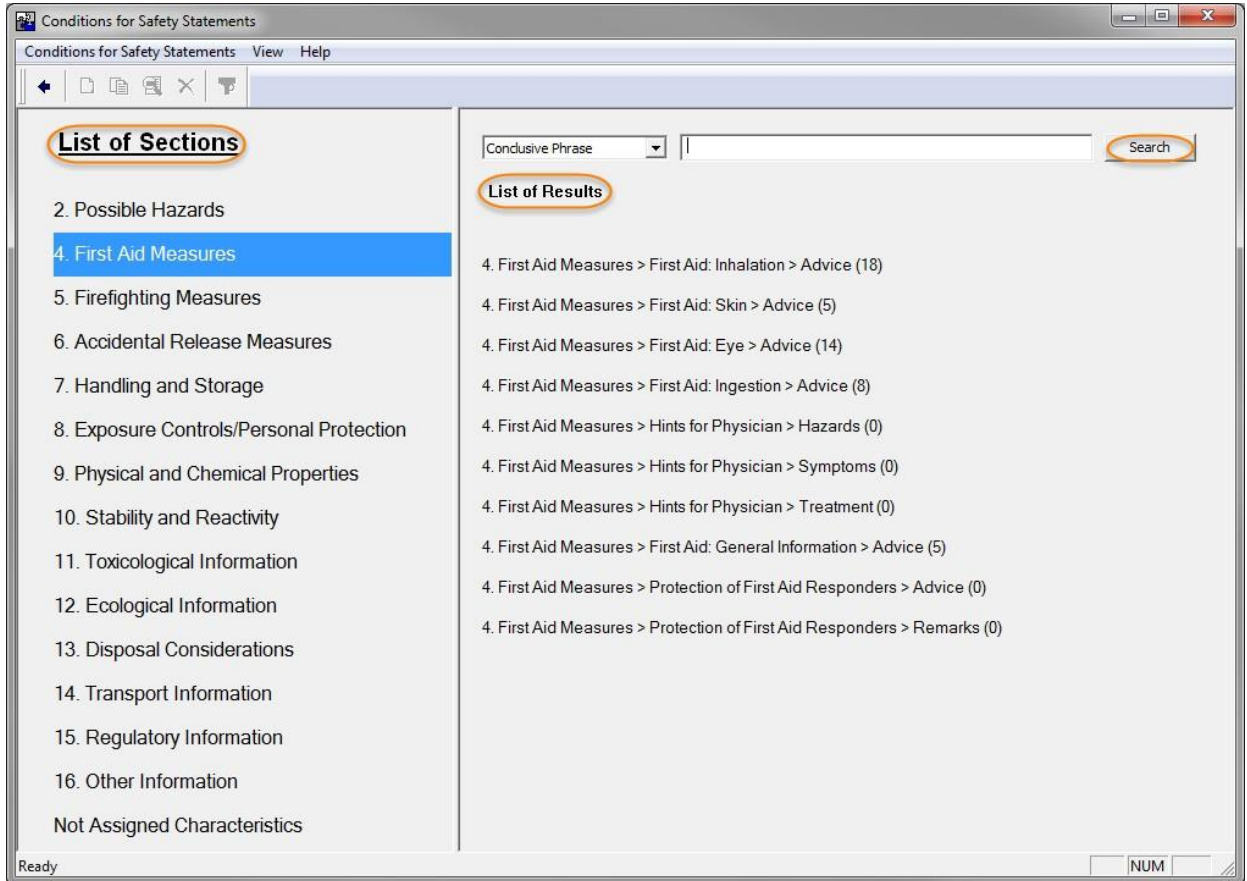


Figure 8 - Initial Screen

There are two options when searching for conditions.

1. Using the List of Sections.

Before you search for a condition, you have to know to which characteristic it is assigned. This is because all conditions are dependent on a single conclusive characteristic.

Select the section and the conclusive characteristic to find the condition.

2. Using the Search.

If you do not know exactly to which characteristic a condition is assigned, you can use search terms to find the characteristic for your condition.

The system carries out the search according to:

- *Conclusive Phrase*: The system compares the search term with the phrase text, code and key of the conclusive phrase of the conditions.
- *Condition*: The system compares the search term with the condition number.
- *Fact*: The system compares the search term with the characteristic of a fact assigned to the condition parameter of the condition.
- *Expression*: The system compares the search term with the phrase text, code and key of the expression assigned to a fact assigned to the condition parameter of the condition.
- *All*: The system combines all search options.

It is not necessary to use the full search term to find characteristics.

Example: If you want to search for the conclusive phrase **If symptoms persist, call a physician**, it is sufficient to enter the search term **physician**.



Regardless of whether you select a section or carry out a search for a term, the *List of Results* shows all associated characteristics in the following format:

Defined Tree Structure > Value Assignment Type > Characteristic

For example: *4. First Aid Measures > Hints for Physician > Treatment*

3.3 Creating Conditions

To create a new condition, proceed as follows:

1. In the *Rule Editor*, choose *Conditions for Safety Statements* → *Manage Conditions*.
2. On the *Initial Screen*, select the section and the conclusive characteristic to which you wish to add the new condition.
3. In the *Condition Overview screen*, choose  (*Create Condition*) to create the condition.
4. Modify the condition details.
 - a. *Conclusion* – The *Usage* and *Phrase* fields are mandatory.
 - b. *Condition Parameter* – Add at least one fact or flag one of the checkboxes.
Add a fact by double-clicking on it in the property tree.
For more information, see *Adding Facts in the Condition Parameter*.
5. When you have created the condition, choose  (*Go Back*) to return to the list of conditions.

Note

Instead of creating a new condition, you can copy an existing condition.

3.4 Editing Conditions

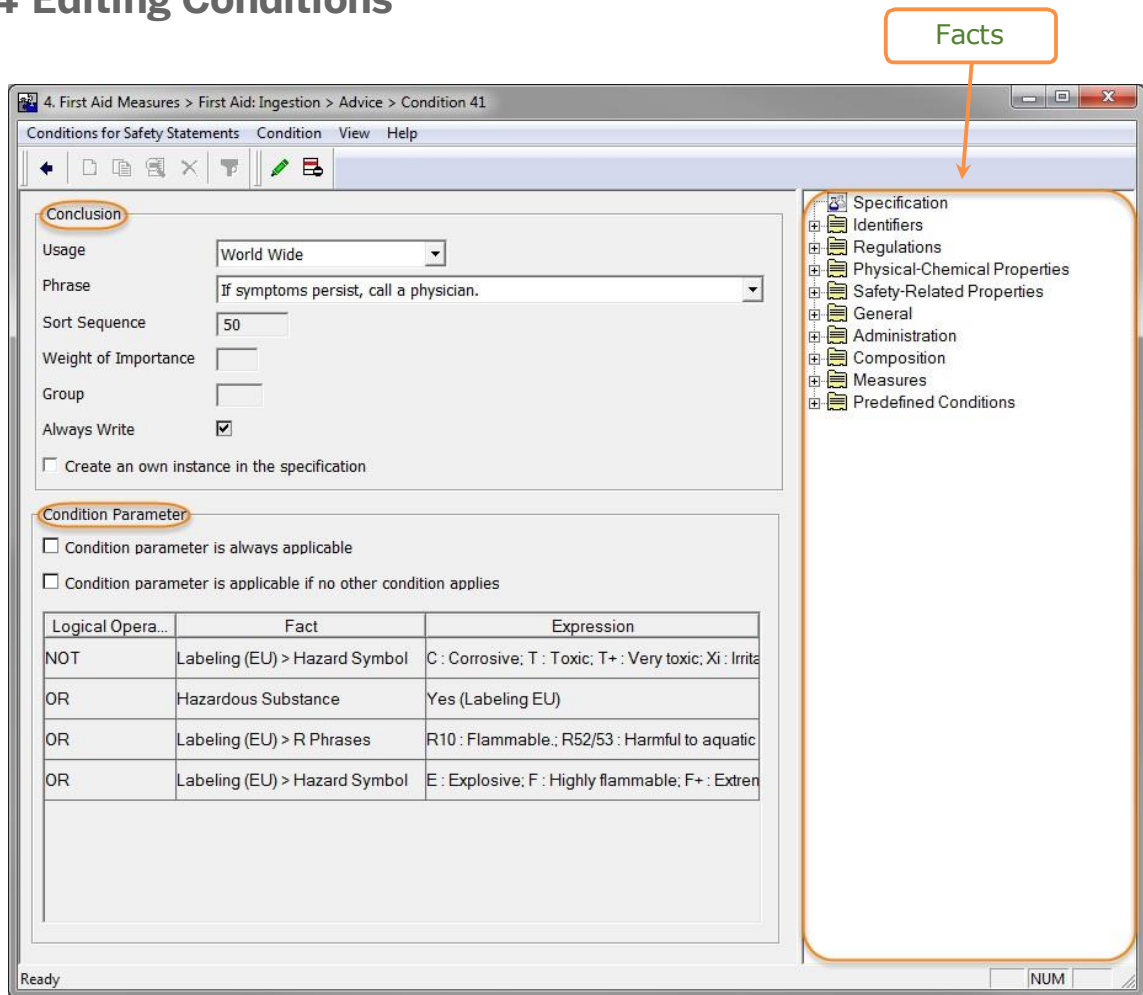





Figure 9 - Edit Conditions

To edit an existing condition, proceed as follows:

1. In the *Rule Editor*, choose *Conditions for Safety Statements* → *Manage Conditions*.
2. On the *Initial Screen*, choose the characteristic in which the condition that you need to edit is located.
3. Double click the condition that needs to be edited.
4. You can edit the conclusion or the condition parameter.
 - a. To edit the conclusion, choose the values from the dropdown lists.
 - a. To edit the condition parameter, choose  (*Edit fact*) or  (*Delete fact*) to delete a fact. If you wish to add facts to the condition, double click the fact in the property tree.
For more information, see *Adding Facts in the Condition* Parameter.
5. When you have edited the condition, choose  (*Go back*) to return to the list of conditions.

3.4.1 Adding Facts in the Condition Parameter

To add a new *Fact* to the condition parameter, proceed as follows:

1. In the property tree, select the fact you wish to add.
2. Double click the fact.
3. Select the values and confirm.

The following results are possible:

1. If the *Fact* with the same *Logical Operator* already exists in the list of facts, this expression is overwritten. For phrase-enabled facts, the phrases are added to the expression.
2. If the fact does not already exist, a new entry is added to the list of facts.

3.4.2 Editing Facts in the Condition Parameter

To edit an existing *Fact* from the list, proceed as follows:


1. Double click the *Fact* you wish to edit.
2. Select the values and confirm.

The following results are possible:

1. If you change the expression and not the *Logical Operator*, only the expressions are updated.
2. If you change the *Logical Operator* and another entry with the same *Fact* and *Logical Operator* already exists, the existing entry is overwritten. For phrase-enabled facts, the first and second entries are merged.

3.4.3 Deleting Facts in the Condition Parameter

To delete an existing *Fact*, proceed as follows:

1. Select the *Fact* in the list. You can select more than one entry.
2. Choose  (*Delete fact*) to delete the selected facts.

3.5 Deriving Conclusive Phrases

The system needs to carry out two steps to derive a conclusive phrase. Firstly, in the *Condition Parameter* section, either one of the checkboxes has to be flagged, or the facts listed beneath the checkboxes have to be fulfilled. The system determines all relevant conclusive phrases from the conditions for one conclusive characteristic. The system then determines the phrases that should be transferred to the characteristic according to the weight of importance, group and usage.

For an example, see [Example for Deriving Conclusive Phrase](#).

3.5.1 Deriving Conclusive Phrases by Condition Parameter

The condition parameter consists of facts with their expressions and logical operators, as well as the two parameters *Condition parameter is always applicable* and *Condition parameter is applicable if no other condition applies*.

- *Condition parameter is always applicable:*
If this checkbox is flagged, the conclusive phrase is always derived. It can only be combined with facts using the logical operator NOT to create condition parameters, such as "Always applicable except if ..."
- *Condition parameter is applicable if no other condition applies:*
If this checkbox is flagged, the conclusive phrase is derived if no other condition parameter for other conditions for the conclusive characteristic applies. Using this condition parameter, you can define a fallback conclusive phrase such as "If nothing else applies, then ...". This condition parameter cannot be combined with any other condition parameter.

A fact is a criterion that is applied to a condition parameter. Each fact has an expression that is the value which is compared to the value of the characteristic of the fact in the specification. If you add several facts to the condition parameter, these are connected with logical operators to express logical terms.

In CoSSta there are three logical operators which connect the facts.

In the following examples the terms S Phrases, Symbols, State of Matter, Chemical Characterization, R Phrases and Type of Substance are used as a placeholder for facts with assigned expressions.

- OR:
The facts are connected with OR. If one of the facts is true, the condition parameter applies.
For example:
S Phrases OR Symbols → If either S Phrases or Symbols is true, the condition parameter applies.
- AND:
The facts are connected with AND. If all of the facts are true, the condition parameter applies. For example:
State of Matter AND Chemical Characterization → If State of Matter and Chemical Characterization are true, the condition parameter applies.
- NOT:
The facts are connected with NOT. If all of the facts are false, the condition parameter applies.
For example:
NOT R Phrases AND NOT Type of Substance → If R Phrases and Type of Substance are false, the condition parameter applies.

If you select several facts with different logical operators, they are grouped according to the logical operator. These facts are connected with the logical operator AND. In this way, all results of the different logical operators have to be true to apply the condition parameter.

Example:

- (S Phrases OR Symbols)
AND (State of Matter AND Chemical Characterization)
AND (NOT R Phrases AND NOT Type of Substance)
→ If all grouped facts are true, the condition parameter applies.

If you select several phrases as an expression for a phrase-enabled fact, the phrases are connected with the logical operator OR. If the characteristic value in the specification contains one of the selected phrases, the fact applies.

Example:

- Expressions for characteristic R Phrases:
R11 OR R12 OR R14 OR R35 → If the characteristic value in the specification contains at least one of the phrases, the fact applies.

3.5.2 Determining Phrases to Transfer to the Conclusive Characteristic

The conclusive phrase is derived by the condition parameter and by the defined additional phrase parameters for the conclusive phrase.

The condition parameter determines whether the single condition applies. For this reason, the conclusive phrase is relevant for the conclusive characteristic.

The additional phrase parameters of the conclusive phrase determine which conclusive phrases are relevant for all conditions assigned to the conclusive characteristic with its usage. These are transferred to the characteristic in the specification.

The following functions are applicable to one conclusive characteristic only.

- *Weight of Importance:*
The weight of importance ensures that the phrase with the highest number has the highest priority. Only, the phrase with the highest priority is transferred to the conclusive characteristic in the specification. For example (the condition parameter applies):

Condition	Usage	Conclusive Phrase	Weight of Importance	Group	Always Write	Sort Sequence
1		Phrase A	10			
2		Phrase B	20			
3		Phrase C	30			

→ Only phrase C is transferred.

- *Group:*

This clusters phrases that are relevant for a specific area. Only the phrase with the highest number in the weight of importance within the group is transferred to the conclusive characteristic in the specification. The group is case insensitive.

For example (the condition parameter applies):

Condition	Usage	Conclusive Phrase	Weight of Importance	Group	Always Write	Sort Sequence
1		Phrase A	10	A		
2		Phrase B	20	A		
3		Phrase C	30	B		
4		Phrase D	40	B		

➔ Phrase B and Phrase D are transferred.

- *Always Write:*

This defines that this phrase is always transferred to the conclusive characteristic if the condition parameter applies, and has no impact on the determination of other phrases to be transferred.

For example (the condition parameter applies):

Condition	Usage	Conclusive Phrase	Weight of Importance	Group	Always Write	Sort Sequence
1		Phrase A	10			
2		Phrase B			Yes	
3		Phrase C	20			

➔ Phrase B and Phrase C are transferred.

- *Sort Sequence:*

This defines the order in which the derived phrases are transferred to the conclusive characteristic in the specification.

For example (the condition parameter applies):

Condition	Usage	Conclusive Phrase	Weight of Importance	Group	Always Write	Sort Sequence
1		Phrase A			Yes	10
2		Phrase B			Yes	20
3		Phrase C			Yes	30

➔ The phrases are transferred in the following order: Phrase A, Phrase B, Phrase C.

- *Usage:*

The usage specifies which usage is used when the phrase is transferred to the specification. The additional phrase parameters of the conclusive phrase are evaluated per usage.

For example (the condition parameter applies):

Condition	Usage	Conclusive Phrase	Weight of Importance	Group	Always Write	Sort Sequence
1	Usage A	Phrase A	10			
2	Usage A	Phrase B	20			
3	Usage B	Phrase C	30			
4	Usage B	Phrase D	40			

➔ Phrase B and Phrase D are transferred.

4 Determining Secondary Data

4.1 Working with the EH&S Expert

Before you can use the **Rule for Safety Statements**, you need to copy the required files and register the rule set to the EH&S Expert Server. You can register the rule set as follows:

- For more information on EH&S Expert Administration, see the documentation for the Customizing activity *Set Up Windows Registry* under *Environment, Health and Safety* → *Basic Data and Tools* → *Tools* → *EH&S Expert*
- For more information on EH&S Service Administration, see *Basic Data and Tools* → *Tools* → *EH&S Service Administration*



Recommendation

For performance reasons, SAP recommends you locate both the **Rule for Safety Statements** and the CoSSta access file on the EH&S Expert server. However, other locations are also possible provided they can be accessed by the EH&S Expert server without restrictions.

The CoSSta access file is assigned in the record mapping table of the **Rule for Safety Statements** rule set. The rule set contains the regulations for mapping records in this set of rules. If you renamed the CoSSta access file, you need to change the assignment in the record mapping table of the **Rule for Safety Statements** rule set. Proceed as follows:

1. Open CoSSta_MSDS.mdb using *Microsoft Office Access*.
2. Open the record mapping table ExpRecordMap.
3. Edit the *External_id* field with the Syntax T:<Table>/<Database> for the data record with *Internal_id* **definitions**.

Change the database name to the renamed access file name (case sensitivity).

Internal_id	Group	External_id	Lar	Description	Version
definitions		T:INTERFACE_TAB/CoSSta.mdb		Interface table with crit. Definitions	CoSSta c

Figure 10 – Record Mapping Table in the CoSSta_MSDS.mdb

For more information, see *Basic Data and Tools* → *Specification Editing* → *Secondary Data Determination* → *EH&S Expert* → *How the EH&S Expert Works* → *Mapping Table* → *Record Mapping*.

4.2 Assigning Rules for Safety Statements in the EHS System

The **Rule for Safety Statements** from the EH&S Expert Server has to be registered in the user exit management in the EHS system.

Start the Customizing activity *Manage User Exits* under [Environment, Health and Safety → Basic Data and Tools → Basic Settings](#). Create a user exit of the user exit category SUB_SEDACCA and enter the reference module. Assign the **Rule for Safety Statements** rule set to the parameter EXPERT_RULE_SET.

For more information, see the documentation in the Customizing activity for *Extend Entry in Secondary Data Determination* under [Environment, Health and Safety → Basic Data and Tools → Tools → EH&S Expert](#).

➔ Recommendation

When you carry out the **Rule for Safety Statements** rule set within the rule set sequence, specify the **Rule for Safety Statements** rule set at the end of this rule set sequence.

For more information, see the documentation in the Customizing activity *Configure Call of Rule Sets in a Rule Set Sequence* under [Environment, Health and Safety → Basic Data and Tools → Tools → EH&S Expert](#).

4.3 Starting the Determination

To determine the secondary data with the **Rule for Safety Statements** rule set in EHS system, proceed as follows:

1. Go to *Specification Workbench* (Transaction CG02BD).
2. Search for specifications for which you want to determine secondary data.
3. In the hit list, select the required specification and choose [Utilities → Secondary Data → Determination](#).
4. Select the *User Exit* for **Rule for Safety Statements** and choose ✓ (Transfer).
5. Enter the parameter and choose ✓ (*Start data determination*) to start the secondary data determination.

For more information, see the documentation under [Basic Data and Tools → Specification Editing → Secondary Data Determination → EH&S Expert → How the EH&S Expert Works → Determining Secondary Data with the EH&S Expert](#).

5 Managing Phrases

CoSSta distinguishes between conclusive phrases and condition parameter phrases. Both phrase types consist of the following:

- Phrase Key: Identifies the phrase in the EHS System.
- Phrase Code: Is a language-dependent abbreviation for a phrase.
- Phrase Text: Specifies the first 132 characters contained in a phrase.

To open the *Manage Phrase* screen, choose [Conditions for Safety Statements](#) → [Manage Phrases](#) in the *Rule Editor*.

Note

You can change the sort sequence within the column by selecting the column header.

The conclusive phrase is used in the conclusion of a condition. This is the phrase which is transferred to the characteristic in the selected specification.

The conclusive phrase also consists of the following:


1. Group:
If several conditions for the selected characteristic match and the grouping of phrases have been specified, the phrase with the highest weight of importance from each group is transferred to the characteristic in the selected specification.
2. Weight of Importance:
The phrase with the highest number has the highest priority. For example, a phrase with a weight of 30 takes priority over a phrase with a weight of 10.
If several conditions for the selected characteristic match, the phrase from the same usage with the highest weight of importance is transferred to the characteristic in the selected specification.
3. Sort Sequence:
If several conditions for the selected characteristic match, phrases with the same usage are transferred in the specified sort sequence to the characteristic in the selected specification.
If the sort sequence of a phrase has not been specified, the phrase is transferred last.
4. Always Write:
If several conditions for the selected characteristic match, phrases with the same usage and specified with 'Always Write' are always transferred to the characteristic in the selected specification.
5. Hide:
The phrase is hidden in the phrase selection of the conclusive phrase. It can no longer be selected. This has no effect on existing conditions. Use this function to reduce the number of phrases that can be selected to the ones you need, without the need to delete them.

You can manage conclusive phrases or condition parameter phrases.

You can display an overview of the existing phrases for both types by selecting the characteristic in the property tree on the left side of the screen.

 Note

In the predefined settings, the list is sorted by phrase code and phrase text. However, you can change the sort sequence within the column by selecting the column header.

You can delete existing phrases in the characteristic by selecting the phrase or phrases and then choosing  (*Delete phrase*). Alternatively, you can use the menu path *Phrases -> Delete Phrase*.

5.1 Conclusive Phrases

The screenshot shows the SAP 'Manage Phrases - Conclusive Phrases' window. The left pane displays a tree view of hazard categories, with 'Eyes' selected under 'Possible Hazards (Summary)'. The right pane displays a table of phrases with the following columns: C..., Phrase, Key, Gr..., Weight..., Sort Seque..., Always Wr..., and Hide. The table contains 17 rows of data, each representing a specific phrase and its associated key and settings.

C...	Phrase	Key	Gr...	Weight...	Sort Seque...	Always Wr...	Hide
	Causes eye burns.	CUST-N11.00222020				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Causes eye burns.	CUST-U11.00000081				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Causes eye irritation.	CUST-U11.00000101				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Causes frostbite burns to eyes	CUST-U11.00000186				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Causes severe burns - effects	CUST-U11.00000182				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Causes severe eye burns.	CUST-U11.00000082				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Contact with undiluted material	CUST-N11.00200175				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	May be fatal or cause blindness	CUST-U11.00000187				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	May cause blindness.	CUST-U11.00000183				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	May cause eye injury - effects	CUST-U11.00000185				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	May cause eye irritation.	CUST-U11.00000102				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	May cause permanent eye inju	CUST-U11.00000184				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	May irritate eyes.	CUST-N11.00200065				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Contact with liquid or refrigerat	CUST-N11.00221815				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Dust contact with the eyes can	CUST-N11.00200015				<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Mechanical irritation of the eye	CUST-N11.00200017				<input checked="" type="checkbox"/>	<input type="checkbox"/>

Figure 11 – Manage Phrases - Conclusive Phrases

If you select *Conclusive Phrases* in the dropdown list, the conclusive characteristics are displayed in the property tree. If you select a characteristic, all phrases of this characteristic are displayed in the *Phrase List*.

You can define the group, weight of importance, sort sequence, always write and hide values of the phrases in the corresponding fields.

i Note

Changes made to entries are saved in the system without a prompt. These changes have no effect on existing conditions.

5.2 Condition Parameter Phrases

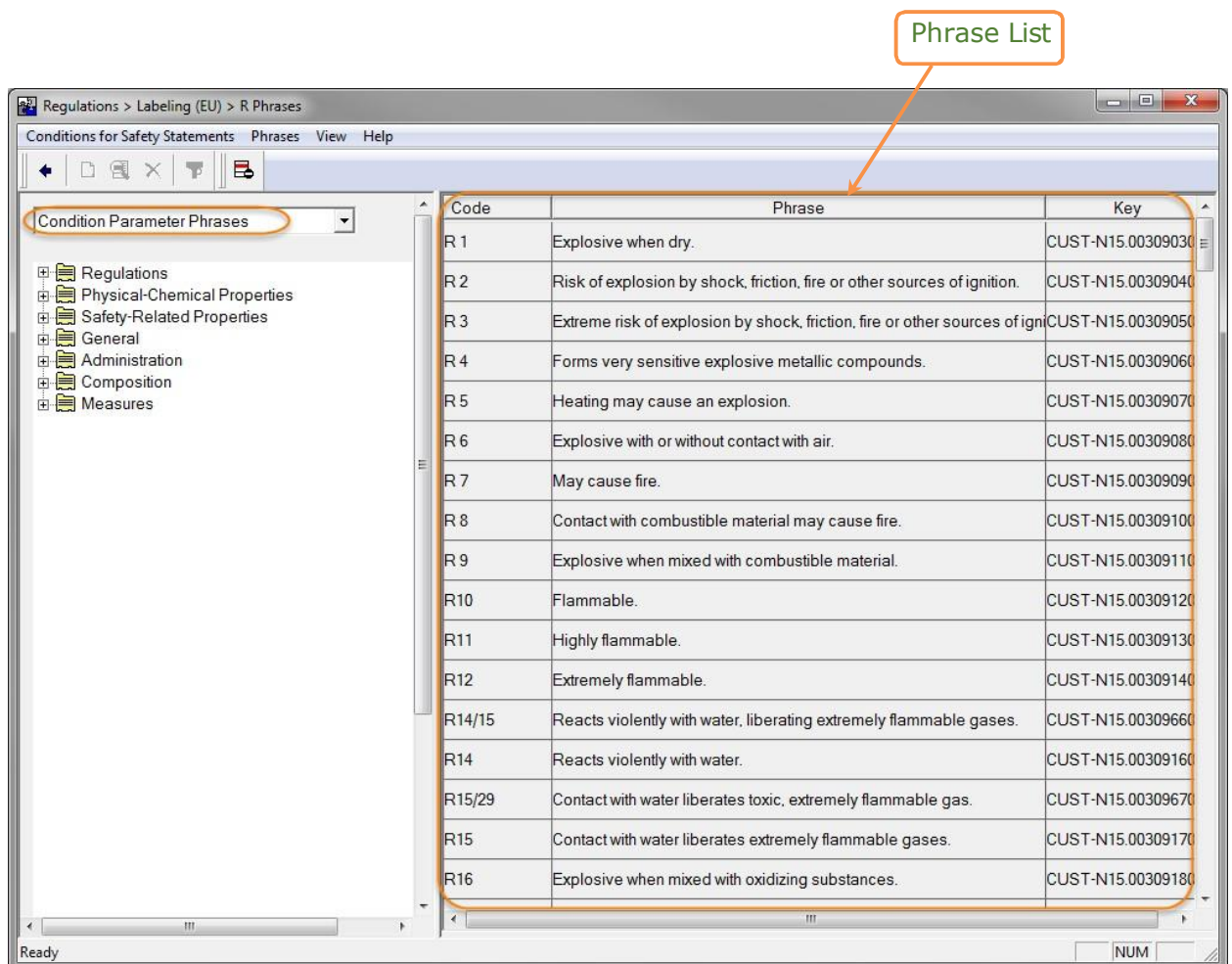


Figure 12 – Manage Phrases - Condition Parameter Phrases

If you select *Condition Parameter Phrases* in the dropdown list, the characteristics are displayed in the property tree. If you select a characteristic, all phrases of this characteristic are displayed in the *Phrase List*.

You can only delete phrases here.

5.3 Editing Conclusive Phrases

To edit an existing *Conclusive Phrase*, proceed as follows:

1. Open the *Manage Phrases* screen in the *Rule Editor* by choosing [Conditions for Safety Statements](#) → [Manage Phrases](#).
2. Choose the entry **Conclusive Phrases** from the dropdown list.
3. Select the characteristic for which you wish to edit the phrases. The list of phrases is displayed for the characteristic.
4. Search for the phrase you wish to edit and change the values. The changes are saved immediately and have no effect on existing conditions.

Note


You have to flag either the *Always Write* checkbox or define the *Weight of Importance*. The *Weight of Importance* field must not be empty, and the *Always Write* checkbox must not be flagged, if you maintain a *Group*.

Note

If you change the phrase parameters, the changes are transferred to existing conditions.

5.4 Deleting Phrases

To delete either a conclusive phrase or a condition parameter phrase, proceed as follows:

1. Open the *Manage Phrases* screen in the *Rule Editor* by choosing [Conditions for Safety Statements](#) → [Manage Phrases](#).
2. Choose either **Conclusive Phrases** or **Condition Parameter Phrases** from the dropdown list.
3. Select the phrase you wish to delete.
4. Choose  (*Delete phrases*) to delete the entry. You can delete several phrases at once.

Note

The system checks if the phrase is being used in a condition and prevents the deletion of the phrase in the characteristic if this is the case. For this reason, you need to delete all dependencies to conditions before the phrase can be deleted.

5.5 Importing Phrases

To import conclusive phrases and condition parameter phrases into CoSSta, you have to import the **Property Tree for Safety Statements**. For more information, see [Importing Property Tree and Phrases](#).

The phrases are automatically imported for all conclusive characteristics and all phrase-enabled condition parameter characteristics of the property tree.

i Note

If a phrase already exists the *Phrase Text* and *Code* are updated.

i Note

If a conclusive phrase is new, all phrase parameter are empty. However, the *Always Write* checkbox is flagged.

6 Advanced Functions

In the *Rule Editor*, choose [Conditions for Safety Statements → Advanced Functions](#). Here, you can manage usage profiles, edit identification types, edit customer-specific characteristics, export conditions and migrate the MSDS-Maker database that CoSSta replaces.

6.1 Managing Usage Profiles

The usages defined in a usage profile are transferred to the conclusive characteristic together with the conclusive phrase. If several conditions for the conclusive characteristic match, the conclusive phrase from the same usage is transferred to the characteristic in the selected specification.

SIXI Rating	Description for Rating	Active	Relevant
<input checked="" type="checkbox"/>	PUBLIC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

S	ValAreaCat	Validity Area	Excluding
<input type="checkbox"/>	REGION	CA Canada	<input type="checkbox"/>
<input type="checkbox"/>	REGION	US USA	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/>

Figure 13 – Usage in the Specification Workbench

A usage consists of the following elements:

- Rating
- Validity Area
- Active
- Excluding

For more information, see [Environment, Health and Safety → Basic Data and Tools → Specification Management → Additional Information for Value Assignment → Usage](#) in the Customizing of your EH&S system.

To open the *Manage Usage Profile* function of CoSSta in the *Rule Editor* choose *Conditions for Safety Statements* → *Advanced Functions* → *Manage Usage Profiles*.

6.1.1 Overview

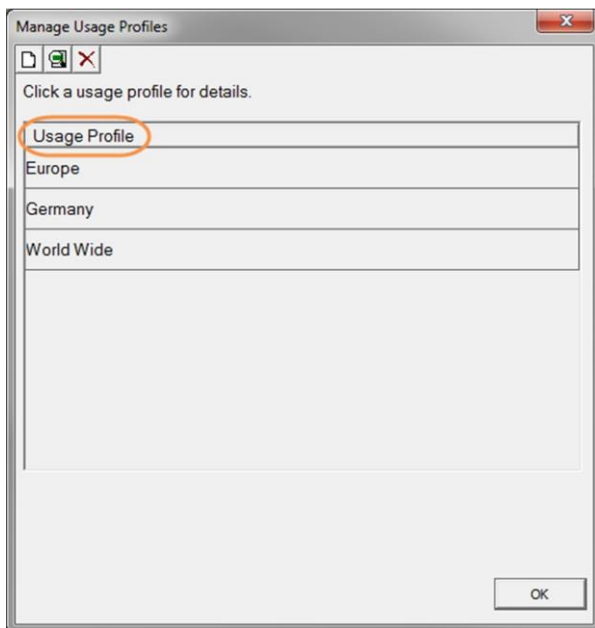


Figure 14 - Manage Usage Profiles - Overview

This screen provides all usage profiles available in CoSSta.

You can create a new usage profile, edit an existing one or delete a usage profile.

6.1.2 Edit Usage Profile

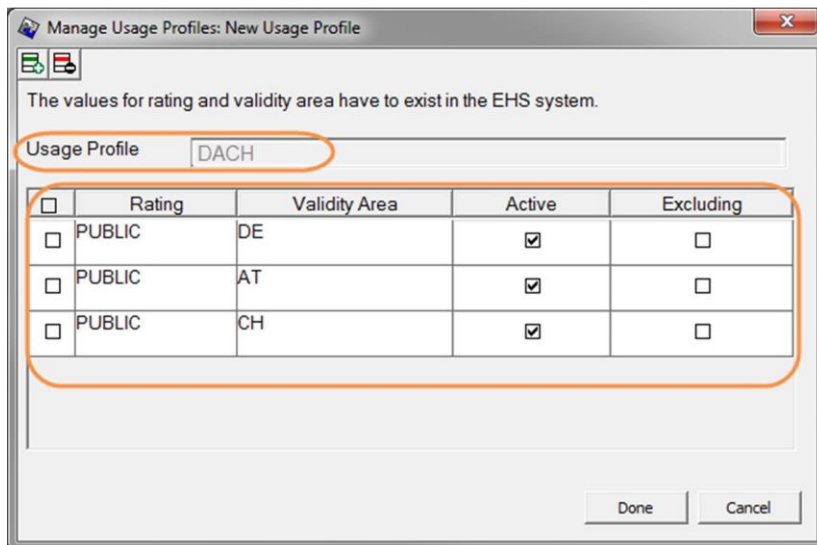


Figure 15 - Manage Usage Profiles - Edit Usage Profile

In the *Edit Usage Profile* screen, you define usages.

Each usage profile requires a unique name. Each entry in the list represents one usage and is assigned to this usage profile.

To edit an existing *Usage Profile*, proceed as follows:

1. Open the *Manage Usage Profiles* screen.
2. Select the *Usage Profile* you wish to edit by double clicking it.
3. Edit the values you wish to change and confirm your entries by choosing *Done*. The changes are saved immediately.

i Note



You cannot change the name of the *Usage Profile*. To change the name, you need to create a new *Usage Profile*.

i Note

If you change the usages in the *Usage Profile*, the changes are transferred to existing conditions.

6.1.3 Creating Usage Profiles

To create a usage profile, proceed as follows:

1. Open the *Manage Usage Profiles* screen.
2. Choose  (*Create usage Profile*). You will proceed to the next screen to edit the values for the *Usage Profile*.
3. Enter a unique name for the *Usage Profile*.
4. Enter values. Choose  (*Add usage*) to add more usages.
5. Choose *Done* to save your entry.

Note


The *Rating* and the *Validity Area* are mandatory for each usage and have to exist in the corresponding EHS system. The rating and validity area are not checked in CoSSta.

To manage the *Rating* in your EHS system, carry out the Customizing activity *Specify Ratings* under [Environment, Health and Safety → Basic Data and Tools → Specification Management → Additional Information for Value Assignment](#).

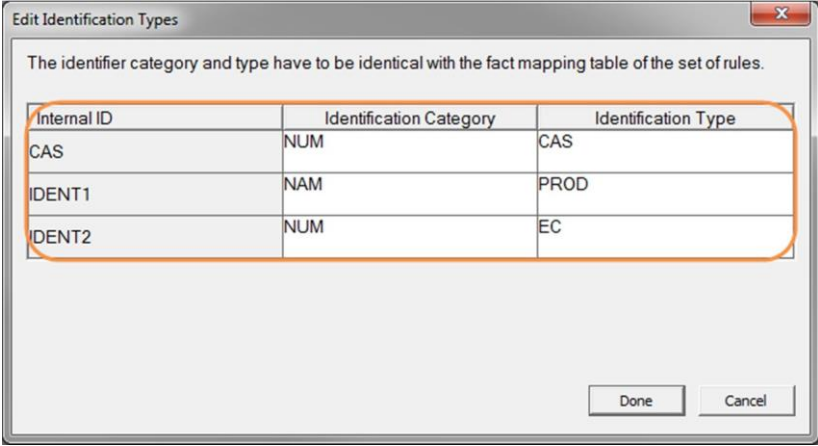
To manage the *Validity Area* in your EHS system, carry out the Customizing activity *Specify Validity Areas* under [Environment, Health and Safety → Basic Data and Tools → Specification Management → Additional Information for Value Assignment → Usage](#).

6.1.4 Deleting Usage Profiles

To delete an existing *Usage Profile*, proceed as follows:

1. Open the *Manage Usage Profiles* screen.
2. Select the *Usage Profile* you wish to delete. You can select several *Usage Profiles* for deletion.
3. Choose  (*Delete usage profile*). The deletion has no effect on existing conditions.

6.2 Editing Identification Types



Internal ID	Identification Category	Identification Type
CAS	NUM	CAS
IDENT1	NAM	PROD
IDENT2	NUM	EC

Figure 16 - Edit Identification Types

The identification types managed in CoSSta are used as facts in the property tree in the *Edit Condition* screen. You can define up to three identifiers. The description for the identifier is entered in the fact once you re-import the property tree.

For each identifier, *Identification Category* and *Identification Type* is a mandatory field. The category can either have the value NAM, NUM or FRM.

To edit an identification type, proceed as follows:

1. Open the *Edit Identification Types* under *Conditions for Safety Statements* → *Advanced Functions*.
2. Change the values for the identifiers.
3. To confirm you changes, choose *Done*.

i Note

The *Identification Category* and the *Identification Type* are mandatory values for each identifier and must exist in the corresponding EHS system. The identification category and type are not checked in CoSSta.

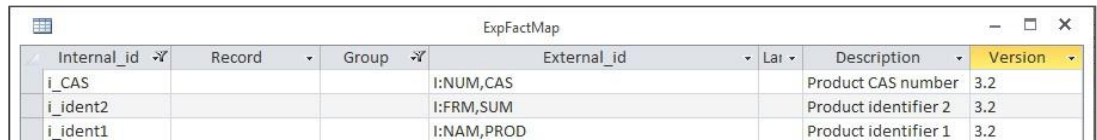
To manage the *Identification Type* in your EHS system, choose the Customizing activity *Environment, Health and Safety* → *Basic Data and Tools* → *Specification Management* → *Specification Master* → *Check Identification Types*.

i Note

The identifiers you defined in CoSSta are not automatically used in the **Rule for Safety Statements**. If you wish to use these identifiers, you also have to adjust the mapping of the rule set of the defined identifiers.

You need to change the assignments in the fact mapping table and record mapping table of the rule set. Proceed as follows:

1. Open CoSSta_MSDS.mdb using *Microsoft Office Access*.
2. Open the fact mapping table ExpFactMap.
3. Edit the *External_id* field with the Syntax I: <Category>, <Type> for the data record of the identifier with *Internal_id* of the defined identifiers.



Internal_id	Record	Group	External_id	Lat	Description	Version
i_CAS			I:NUM,CAS		Product CAS number	3.2
i_ident2			I:FRM,SUM		Product identifier 2	3.2
i_ident1			I:NAM,PROD		Product identifier 1	3.2

Figure 17 – Fact Mapping Table in CoSSta_MSDS.mdb

For more information, see [Basic Data and Tools](#) → [Specification Editing](#) → [Secondary Data Determination](#) → [EH&S Expert](#) → [How the EH&S Expert Works](#) → [Mapping Table](#) → [Fact Mapping](#).

➔ Recommendation

We recommend you re-import the property tree once you have defined identifiers. In this way, the description for the identifier is displayed in the property tree. Otherwise, only the technical keys are displayed.

6.3 Editing Customer-Specific Characteristics

The customer-specific characteristics defined in CoSSta are used as conclusive characteristics or as phrase-enabled condition parameter characteristics.

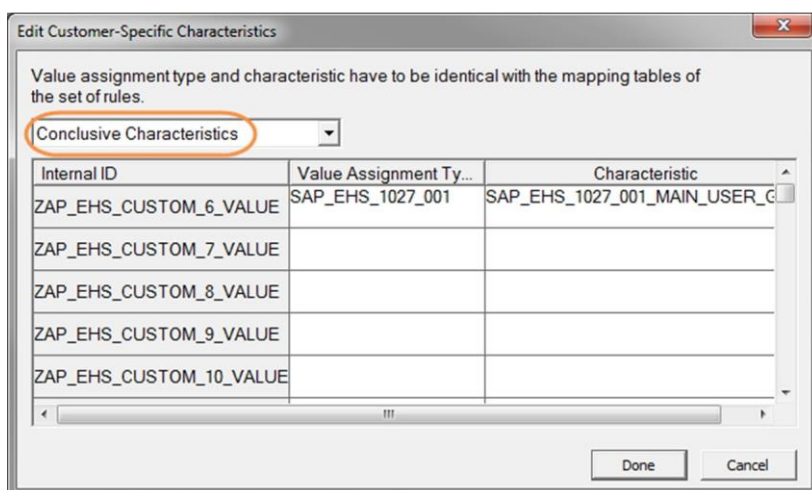


Figure 18- Edit Customer-Specific Characteristics – Conclusive Characteristics

You can define up to 50 conclusive and up to 50 condition parameter characteristics. The description for these characteristics is displayed when you import the property tree.

You must assign your customer-specific characteristics to the **Property Tree for Safety Statements** in the EHS system in order that phrases and descriptors are imported automatically:

i Note

Assign the value assignment types of *Conclusive Characteristics* to the property tree below the CONCLUSION node, for example, value assignment type SAP_EHS_COSSTA_CONCLUSION with the ID 100000.

Assign the value assignment types of *Condition Parameter Characteristics* to the property tree below the FACTS node, for example, value assignment type SAP_EHS_COSSTA_FACTS with the ID 200000.

To assign the value assignment types to the property tree in your EHS system, choose the Customizing activity [Environment, Health and Safety → Basic Data and Tools → Specification Management → Specification Database Structure → Settings for Value Assignment → Set Up Property Trees](#).

If the customer-specific characteristic is not assigned in the property tree, phrases are not assigned to the characteristic in CoSSta, and the characteristic cannot be used.

To edit customer-specific characteristics, proceed as follows:

1. Open the *Edit Customer-Specific Characteristics* screen by choosing [Conditions for Safety Statements → Advanced Functions](#).
2. Choose either the **Conclusive Characteristics** or the **Condition Parameter Characteristics** from the dropdown list. The default value is **Conclusive Characteristics**.
3. Change the values for the customer-specific characteristics.
4. Confirm your changes by choosing [Done](#).

i Note

The *Value Assignment Type* and the *Characteristic* are mandatory values for each customer-specific characteristic and have to exist in the corresponding EHS system. The value assignment type and the characteristic are not checked in CoSSta.

To manage the *Value Assignment Type* in your EHS system, choose the Customizing activity *Environment, Health and Safety → Basic Data and Tools → Specification Management → Specification Database Structure → Settings for Value Assignment → Specify Value Assignment Types*.

To manage the *Characteristics* in your EHS System, choose the transaction *Cross-Application Components → Classification System → Master Data → Characteristics*.

i Note

The customer-specific characteristics you defined in CoSSta are not automatically used in the **Rule for Safety Statements**. If you wish to use these characteristics, you also have to adjust the mapping of the rule set of the defined customer-specific characteristics.

You need to change the assignments in the fact mapping table and record mapping table of the rule set. Proceed as follows:

1. Open CoSSta_MSDS.mdb using *Microsoft Office Access*.
2. Open the record mapping table ExpRecordMap.
3. Edit the *External_id* field with the Syntax M: <Value assignment type> for the data record with *Internal_id* of the customer-specific characteristics.

Internal_id	Group	External_id	Description	Version
CUST_1		M:ZAP_EHS_CUSTOM_1		
CUST_27		M:ZAP_EHS_CUSTOM_27		CoSSta 1.0
CUST_6		M:ZAP_EHS_CUSTOM_6		CoSSta 1.0
ZAP_EHS_CUSTOM_27_VALUE		M:ZAP_EHS_CUSTOM_27		CoSSta 1.0
ZAP_EHS_CUSTOM_6_VALUE		M:ZAP_EHS_CUSTOM_6		CoSSta 1.0
ZAP_EHS_CUSTOM_I_VALUE		M:ZAP_EHS_CUSTOM_I		

Figure 19 – Record Mapping Table in the CoSSta_MSDS.mdb

4. Open the fact mapping table ExpFactMap.
5. Edit the *External_id* field with the Syntax M: <Characteristic> for the data record of the customer-specific characteristics.

For conclusive characteristics, change data records with the *Internal_id* **o_phrase** and *Record* starting with **ZAP_EHS_CUSTOM_**.

For condition parameter characteristics, change data records with the *Internal_id* **i_crit** and *Record* starting with **CUST_**.

Internal_id	Record	Group	External_id	Description	Version
i_crit	CUST_27		M:ZAP_EHS_CUSTOM_27_VALUE		CoSSta 1.0
i_crit	CUST_6		M:ZAP_EHS_CUSTOM_6_VALUE		CoSSta 1.0
i_crit	CUST_1		M:ZAP_EHS_CUSTOM_I_VALUE		
o_phrase	ZAP_EHS_CUSTOM_6_VALUE		M:ZAP_EHS_CUSTOM_6_VALUE		CoSSta 1.0
o_phrase	ZAP_EHS_CUSTOM_27_VALUE		M:ZAP_EHS_CUSTOM_27_VALUE		CoSSta 1.0
o_phrase	ZAP_EHS_CUSTOM_I_VALUE		M:ZAP_EHS_CUSTOM_I_VALUE		

Figure 20 – Fact Mapping Table in the CoSSta_MSDS.mdb

For more information, see *Basic Data and Tools → Specification Editing → Secondary Data Determination → EH&S Expert → How the EH&S Expert Works → Mapping Table*.

➔ Recommendation

We recommend you re-import the property tree once you have defined your customer-specific characteristics. In this way, the description for the characteristic is displayed in the property tree. Otherwise, only the technical keys are displayed.

6.4 Exporting Conditions

The export function transfers the data of all conditions to a CSV file.

To export conditions, proceed as follows:

1. Open the *Rule Editor* and choose *Conditions for Safety Statements* → *Choose Database*.
2. Select the access file for which you want to export the conditions and choose *Done*.
3. In the *Rule Editor*, choose *Conditions for Safety Statements* → *Advanced Functions* → *Export Conditions*.
4. Select or enter the CSV file, in which you want to transfer the conditions.
5. Once the export is complete, the CSV file opens.

6.5 Migrating the MSDS-Maker Database

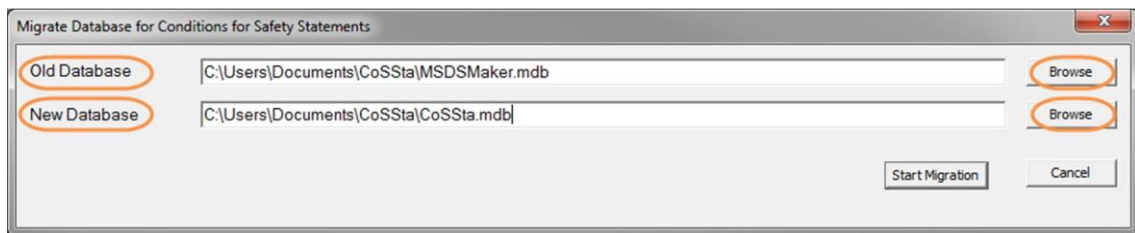


Figure 21 - Migrate Database

Migration includes the defined conditions (previously called rules) and the phrases used in the MSDS-Maker with their additional values.

To migrate the MSDS-Maker database, proceed as follows:

1. Open the *Migrate Database* screen by choosing *Conditions for Safety Statements* → *Advanced Functions* → *Migrate Database*.
2. In the *Old Database* field, select your MSDS-Maker database by choosing *Browse*.
3. In the *New Database* field, select your new CoSSta database by choosing *Browse*.
4. Choose *Start Migration*.

In this way, the conditions of the old MSDS-Maker database are migrated one-to-one to the existing conditions of the CoSSta.mdb access file.

The phrases from the MSDS-Maker database are adjusted to meet the new data format for phrases. If a phrase already exists in the target phrase set for the characteristic, the phrase text, phrase code and the additional values are adjusted. Duplicate phrases are not created.

i Note

If you have more than one instance of the old MSDSMaker.mdb access file, it is possible to migrate all of these. Duplicate conditions have to be deleted manually.

If you migrate more than one instance of the old MSDSMaker.mdb access file, the database you migrate last sets the values for the phrases.

i Note

The usage profiles, identification types and customer-specific characteristics are not migrated automatically. You have to define them in CoSSta again manually.

➔ Recommendation

We recommend that you use the provided **CoSSta.mdb** access file as the target database for the migration. It contains standard values, such as supported characteristics which are used in the **Rule for Safety Statements** rule set.

➔ Recommendation

We recommend you import the current **Property Tree for Safety Statements** after the migration of the MSDSMaker.mdb access file for the most recent phrases.

➔ Recommendation

If you want to migrate more than one instance of the old MSDSMaker.mdb access file, you have to check whether you use different customer-specific characteristics in the instances of the old MSDSMaker.mdb access file.

To migrate more than one instance of the MSDSMaker database, proceed as follows:

1. Assign the customer-specific characteristics in the new CoSSta database. For more information, see [Editing Customer-Specific Characteristics](#).
2. Open the MSDSMaker.mdb access file using *Microsoft Office Access*.
3. Open the table `INTERFACE_TAB`.
4. Replace every customer-specific characteristic for conclusive characteristics starting with **ZAP_EHS_CUSTOM_** and condition parameter characteristics starting with **CUST_**.

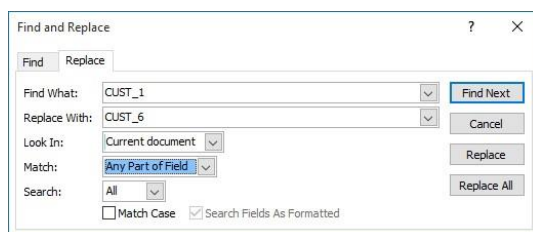


Figure 22 - Find and Replace in the access file (STRG+H)

Enter the exact *Internal_ID* of the old MSDSMaker database in the *Find What* field and the exact *Internal_ID* of the new CoSSta database in the *Replace With* field. Choose *Current document* in *Look In* field and *Any Part of Field* in the *Match* field.

5. Confirm every replacement.
6. Save the MSDSMaker.mdb access file.
7. Migrate the MSDS-Maker database to the new CoSSta database.

7 Glossary

Term	Definition
Conclusive Characteristic	The characteristic in the selected specification to which the conclusive phrase is transferred. Several conditions can be assigned to the conclusive characteristic from which conclusive phrases are derived.
Condition	Consists of a condition parameter (if...) and its conclusion (then...). Example: If the material causes irritation, then "Move to fresh air. "
Condition Parameter	Consists of facts, logical operators and expressions.
Conclusion	Consists of a conclusive phrase and the usage. The conclusive phrase is transferred to the conclusive characteristic. The usage is transferred to the value assignment instance of the conclusive characteristic.
Conclusive Phrase	Is transferred to the conclusive characteristic. The phrase is assigned to a condition of the conclusive characteristic. It is derived on the basis of the usage, the condition parameter and the additional phrase parameters.
Fact	The criteria used to assign values for the condition parameter. Using the fact, the Rule for Safety Statements determines the characteristic value in the specification. The characteristic value is compared with the expression. A fact can be a specification, an identifier, a predefined condition, a phrase-enabled or a numeric characteristic.
Expression	Is compared with the characteristic value of the fact. If the expression applies for the characteristic value, the condition parameter is fulfilled.
Logical Operator	Connects two or more facts. Logical operators are OR, AND and NOT.
Predefined Condition	Is the combination of rules that are carried out in the Rule for Safety Statements . The conclusion of this predefined condition is compared with the expression.
Phrase Parameter	The sort sequence, the group, the weight of importance and the "Always Write" flag, that can be specified for a conclusive phrase.
Sort Sequence	Order in which conclusive phrases are transferred to the conclusive characteristic.
Weight of Importance	The phrase with the highest number has the highest priority. For example, a phrase with a weight of 30 has priority over a phrase with a weight of 10. A conclusive phrase with the highest weight of importance is transferred to the conclusive characteristic.
Group	Groups conclusive phrases together in a specific context, Conclusive phrases with the highest weight of importance per group are transferred to the conclusive characteristic.

8 Appendix

8.1 Example for Deriving Conclusive Phrase

In CoSSta, the following conditions for the conclusive characteristic `Advice` of the value assignment type `First Aid:Skin` exist. The usage `World Wide` is assigned to the condition.

Condition	Condition Parameter	Conclusive Phrase	Weight of Importance	Group	Always Write	Sort Sequence
1	R Phrase = R21	Phrase A	10			20
2	R Phrase = R22 AND State of Matter = solid	Phrase B	20			10
3	R Phrase = R21 OR State of Matter = solid	Phrase C	20	A		50
4	Always applicable AND NOT R Phrase = R22	Phrase D	10	A		40
5	R Phrase = R21 OR State of Matter = solid	Phrase E			Yes	30
6	Applicable if no other condition applies	Phrase F			Yes	

Secondary data is determined based on the **Rule for Safety Statements** rule set for the following specifications:

1. Specification A:

- **Existing data:**
The specification contains the phrase `<R21>` in the characteristic `R Phrase`.
- **Result:**
The rule set transfers the phrases `<Phrase A>`, `<Phrase E>` and `<Phrase C>` to the characteristic `Advice` of the value assignment type `First Aid:Skin`.

Explanation:

The rule set compares the characteristic value <R21> with the expressions of the condition parameter in the specified conditions:

Condition	Applicable	Explanation
1	X	The characteristic value in the characteristic R Phrase contains <R21>.
2		The characteristic value in the characteristic R Phrase does not contain <R22>. The characteristic State of Matter does not contain a characteristic value.
3	X	The characteristic value in the characteristic R Phrase contains <R21>. The characteristic State of Matter does not contain a characteristic value.
4	X	The condition parameter is always applicable and the characteristic values in the characteristic R Phrase do not contain <R22>.
5	X	The characteristic value in the characteristic R Phrase contains <R21>. The characteristic State of Matter does not contain a characteristic value.
6		Conditions 1, 3, 4 and 5 apply.

The conclusive phrases <Phrase A>, <Phrase C>, <Phrase D> and <Phrase E> are relevant for deriving the conclusive phrase.

The rule set checks the group, the weight of importance and the indicator *Always Write* of the relevant phrases <Phrase A>, <Phrase C>, <Phrase D> and <Phrase E> and determines the phrases to transfer to the conclusive characteristic.

Condition	Phrase	Determined	Explanation
1	Phrase A	X	The phrase has the greatest weight of importance without a group.
3	Phrase C	X	The phrase has the greatest weight of importance within group A.
4	Phrase D		The weight of importance is less than the weight of importance of <Phrase C> within group A.
5	Phrase E	X	The indicator <i>Always Write</i> is assigned.

The conclusive phrases <Phrase A>, <Phrase C> and <Phrase E> are relevant for the transfer to the conclusive characteristic.

The rule set specifies the sort sequence of the conclusive phrases.

Phrase	Sort Sequence
Phrase A	20
Phrase E	30
Phrase C	50

The rule set transfers <Phrase A>, <Phrase E> and <Phrase C> in the specified sort sequence to the conclusive characteristic.

2. Specification B:

- **Existing data:**
The specification contains the phrase **<R21>** in the characteristic *R Phrase*.
The specification contains the phrase **<solid>** in the characteristic *State of Matter*.
- **Result:**
The rule set transfers the phrases **<Phrase A>**, **<Phrase E>** and **<Phrase C>** to the characteristic *Advice* of the value assignment type *First Aid:Skin*.

Explanation:

The rule set compares the characteristic value **<R21>** of the characteristic *R Phrase* and the characteristic value **<solid>** of the characteristic *State of Matter* with the expressions of the condition parameter in the specified conditions:

Condition	Applicable	Explanation
1	X	The characteristic value in the characteristic <i>R Phrase</i> contains <R21> .
2		The characteristic value in the characteristic <i>R Phrase</i> does not contain <R22> . The characteristic value in the characteristic <i>State of Matter</i> contains <solid> .
3	X	The characteristic value in the characteristic <i>R Phrase</i> contains <R21> . The characteristic value in the characteristic <i>State of Matter</i> contains <solid> .
4	X	The condition parameter is always applicable and the characteristic values in the characteristic <i>R Phrase</i> do not contain <R22> .
5	X	The characteristic value in the characteristic <i>R Phrase</i> contains <R21> . The characteristic value in the characteristic <i>State of Matter</i> contains <solid> .
6		Conditions 1, 3, 4 and 5 apply.

The conclusive phrases **<Phrase A>**, **<Phrase C>**, **<Phrase D>** and **<Phrase E>** are relevant for deriving the conclusive phrase.

The rule set checks the group, the weight of importance and the indicator *Always Write* of the relevant phrases **<Phrase A>**, **<Phrase C>**, **<Phrase D>** and **<Phrase E>** and determines the phrases to transfer to the conclusive characteristic.

Condition	Phrase	Determined	Explanation
1	Phrase A	X	The phrase has the greatest weight of importance without a group.
3	Phrase C	X	The phrase has the greatest weight of importance within group A.
4	Phrase D		The weight of importance is less than the weight of importance of <Phrase C> within group A.
5	Phrase E	X	The indicator <i>Always Write</i> is assigned.

The conclusive phrases **<Phrase A>**, **<Phrase C>** and **<Phrase E>** are relevant for the transfer to the conclusive characteristic.

The rule set specifies the sort sequence of the conclusive phrases.

Phrase	Sort Sequence
Phrase A	20
Phrase E	30
Phrase C	50

The rule set transfers the <Phrase A>, <Phrase E> and <Phrase C> in the specified sort sequence to the conclusive characteristic.

3. Specification C:

- Existing data:
The specification contains the phrase <solid> in the characteristic State of Matter.
- Result:
The rule set transfers the phrases <Phrase E> and <Phrase C> in the characteristic Advice of the value assignment type First Aid:Skin.

Explanation:

The rule set compares the characteristic value <solid> of the characteristic State of Matter with the expressions of the condition parameter in the specified conditions:

Condition	Applicable	Explanation
1		The characteristic R Phrase does not contain a characteristic value.
2		The characteristic R Phrase does not contain a characteristic value. The characteristic value in the characteristic State of Matter contains <solid>.
3	X	The characteristic R Phrase does not contain a characteristic value. The characteristic value in the characteristic State of Matter contains <solid>.
4	X	The condition parameter is always applicable and the characteristic R Phrase does not contain a characteristic value.
5	X	The characteristic R Phrase does not contain a characteristic value. The characteristic value in the characteristic State of Matter contains <solid>.
6		Conditions 3, 4 and 5 apply.

The conclusive phrases <Phrase C>, <Phrase D> and <Phrase E> are relevant for deriving the conclusive phrase.

The rule set checks the group, the weight of importance and the indicator *Always Write* of the relevant phrases **<Phrase C>**, **<Phrase D>** and **<Phrase E>** and determines the phrases to transfer to the conclusive characteristic.

Condition	Phrase	Determined	Explanation
3	Phrase C	X	The phrase has the greatest weight of importance within group A.
4	Phrase D		The weight of importance is less than the weight of importance of <Phrase C> within group A.
5	Phrase E	X	The indicator <i>Always Write</i> is assigned.

The conclusive phrases **<Phrase C>** and **<Phrase E>** are relevant for the transfer to the conclusive characteristic.

The rule set specifies the sort sequence of the conclusive phrases.

Phrase	Sort Sequence
Phrase E	30
Phrase C	50

The rule set transfers **<Phrase E>** and **<Phrase C>** in the specified sort sequence to the conclusive characteristic.

4. Specification D:

- **Existing data:**
The specification contains the phrase **<R22>** in the characteristic *R Phrase*.
- **Result:**
The rule set transfers the phrase **<Phrase F>** in the characteristic *Advice* of the value assignment type *First Aid:Skin*.

Explanation:

The rule set compares the characteristic value **<R22>** in the characteristic *R Phrase* with the expressions of the condition parameter in the specified conditions:

Condition	Applicable	Explanation
1		The characteristic value in the characteristic <i>R Phrase</i> does not contain <R21> .
2		The characteristic value in the characteristic <i>R Phrase</i> contains <R22> . The characteristic <i>State of Matter</i> does not contain a characteristic value.
3		The characteristic value in the characteristic <i>R Phrase</i> does not contain <R21> . The characteristic <i>State of Matter</i> does not contain a characteristic value.
4		The condition parameter is always applicable and the characteristic values in the characteristic <i>R Phrase</i> contain <R22> .
5		The characteristic value in the characteristic <i>R Phrase</i> does not contain <R21> . The characteristic <i>State of Matter</i> does not contain a characteristic value.
6	X	No other condition applies.

The conclusive phrase **<Phrase F>** is relevant for deriving the conclusive phrase.

It is not necessary to check the group, the weight of importance and the indicator *Always Write* of the relevant phrase because the rule set derives only one phrase.

The rule set transfers **<Phrase F>** to the conclusive characteristic.

5. Specification E:

- **Existing data:**
The specification contains the phrase **<R22>** in the characteristic *R Phrase*.
The specification contains the phrase **<solid>** in the characteristic *State of Matter*.
- **Result:**
The rule set transfers the phrases **<Phrase B>**, **<Phrase E>** and **<Phrase C>** in the characteristic *Advice* of the value assignment type *First Aid:Skin*.

Explanation:

The rule set compares the characteristic value **<R22>** of the characteristic *R Phrase* and the characteristic value **<solid>** of the characteristic *State of Matter* with the expressions of the condition parameter in the specified conditions:

Condition	Applicable	Explanation
1		The characteristic value in the characteristic <i>R Phrase</i> does not contain <R21> .
2	X	The characteristic value in the characteristic <i>R Phrase</i> contains <R22> . The characteristic value in the characteristic <i>State of Matter</i> contains <solid> .
3	X	The characteristic value in the characteristic <i>R Phrase</i> does not contain <R21> . The characteristic value in the characteristic <i>State of Matter</i> contains <solid> .
4		The condition parameter is always applicable and the characteristic <i>R Phrase</i> contains <R22> .
5	X	The characteristic value in the characteristic <i>R Phrase</i> does not contain <R21> . The characteristic value in the characteristic <i>State of Matter</i> contains <solid> .
6		Conditions 2, 3 and 5 apply.

The conclusive phrases **<Phrase B>**, **<Phrase C>** and **<Phrase E>** are relevant for deriving the conclusive phrase.

The rule set checks the group, the weight of importance and the indicator *Always Write* of the relevant phrases **<Phrase B>**, **<Phrase C>** and **<Phrase E>** and determines the phrases to transfer to the conclusive characteristic.

Condition	Phrase	Determined	Explanation
2	Phrase B	X	The phrase has the greatest weight of importance without a group.
3	Phrase C	X	The phrase has the greatest weight of importance within group A.
5	Phrase E	X	The indicator <i>Always Write</i> is assigned.

The conclusive phrases **<Phrase B>**, **<Phrase C>** and **<Phrase E>** are relevant for the transfer to the conclusive characteristic.

The rule set specifies the sort sequence of the conclusive phrases.

Phrase	Sort Sequence
Phrase B	10
Phrase E	30
Phrase C	50

The rule set transfers the **<Phrase B>**, **<Phrase E>** and **<Phrase C>** in the specified sort sequence to the conclusive characteristic.

6. Specification F:

- Existing data:

The specification contains the phrase **<R23>** in the characteristic *R Phrase*.

Result:

The rule set transfers the phrase **<Phrase F>** in the characteristic *Advice* of the value assignment type *First Aid:Skin*.

Explanation:

The rule set compares the characteristic value **<R22>** of the characteristic *R Phrase* with the expressions of the condition parameter in the specified conditions:

Condition	Applicable	Explanation
1		The characteristic value in the characteristic <i>R Phrase</i> does not contain <R21> .
2		The characteristic value in the characteristic <i>R Phrase</i> does not contain <R22> . The characteristic <i>State of Matter</i> does not contain a characteristic value.
3		The characteristic value in the characteristic <i>R Phrase</i> does not contain <R21> . The characteristic <i>State of Matter</i> does not contain a characteristic value.
4	X	The condition parameter is always applicable and the characteristic <i>R Phrase</i> does not contain <R22> .
5		The characteristic value in the characteristic <i>R Phrase</i> does not contain <R21> . The characteristic <i>State of Matter</i> does not contain a characteristic value.
6		Condition 4 applies.

The conclusive phrase **<Phrase D>** is relevant for deriving the conclusive phrase.

It is not necessary to check the group, the weight of importance and the indicator *Always Write* of the relevant phrase because the rule set derives only one phrase.

The rule set transfers **<Phrase F>** to the conclusive characteristic.

8.2 Predefined Conditions

A predefined condition is one of the rules carried out in the **Rule for Safety Statements**. If the result of the predefined condition is equal to the entered expression, the condition parameter applies.

The rules check different characteristics in the selected specifications depending on the entered expression. It then derives the conclusion of the predefined condition.

8.2.1 Hazardous Substance

The predefined condition **Hazardous Substance** checks whether

- The value assignment type *GHS Labeling (EMEA)* contains phrases in the characteristics *Hazard Statements* and *Supplem. Hazard Statements*, or
- The value assignment type *GHS Labeling (General)* contains phrases in the characteristics *Hazard Statements* and *Supplem. Hazard Statements*, or
- The value assignment type *Labeling (EU)* contains phrases in the characteristics *Hazard Symbol* and *R Phrases*.

You can select one of the following values of the predefined condition:

Possible Value	Explanation
No (GHS EMEA)	If the value assignment type <i>GHS Labeling (EMEA)</i> does not contain phrases in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.
No (Labeling EU)	If the value assignment type <i>Labeling (EU)</i> does not contain phrases in the characteristics <i>Hazard Symbol</i> and <i>R Phrases</i> , the predefined condition applies.
No (GHS General)	If the value assignment type <i>GHS Labeling (General)</i> does not contain phrases in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.
Yes (GHS EMEA)	If the value assignment type <i>GHS Labeling (EMEA)</i> contains phrases in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.
Yes (Labeling EU)	If the value assignment type <i>Labeling (EU)</i> contains phrases in the characteristics <i>Hazard Symbol</i> and <i>R Phrases</i> , the predefined condition applies.
Yes (GHS General)	If the value assignment type <i>GHS Labeling (General)</i> contains phrases in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.

Characteristics used in the predefined condition:

Description	Characteristic	Value Assignment Type
Labeling (EU) → Hazard Symbol	SAP_EHS_1023_001_SYMBOL	SAP_EHS_1023_001
Labeling (EU) → R Phrases	SAP_EHS_1023_001_R_PHRASE	SAP_EHS_1023_001
GHS Labeling (General) → Hazard Statements	SAP_EHS_1023_093_HAZ_STATEMENT	SAP_EHS_1023_093
GHS Labeling (General) → Supplem. Hazard Statements Effect	SAP_EHS_1023_093_SUPP_HAZ_STAT	SAP_EHS_1023_093
GHS Labeling (EMEA) → Hazard Statements	SAP_EHS_1023_094_HAZ_STATEMENT	SAP_EHS_1024_093
GHS Labeling (EMEA) → Supplem. Hazard Statements Effect	SAP_EHS_1023_094_SUPP_HAZ_STAT	SAP_EHS_1024_093

8.2.2 Corrosive/Irritant

The predefined condition **Corrosive/Irritant** checks whether the following characteristics contain phrases that indicate corrosive or irritant:

- *Hazard Statements* and *Supplem. Hazard Statements* in the value assignment type *GHS Labeling (EMEA)*
- *Hazard Statements* and *Supplem. Hazard Statements* in the value assignment type *GHS Labeling (General)*
- *Hazard Symbol* and *R Phrases* in the value assignment type *Labeling (EU)*.

You can select one of the following values of the predefined condition:

Possible Value	Explanation
No (GHS EMEA)	If the value assignment type <i>GHS Labeling (EMEA)</i> does not contain phrases that indicate corrosive or irritant in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.
No (Labeling EU)	If the value assignment type <i>Labeling (EU)</i> does not contain phrases that indicate corrosive or irritant in the characteristics <i>Hazard Symbol</i> and <i>R Phrases</i> , the predefined condition applies.
No (GHS General)	If the value assignment type <i>GHS Labeling (General)</i> does not contain phrases that indicate corrosive or irritant in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.
Yes (GHS EMEA)	If the value assignment type <i>GHS Labeling (EMEA)</i> contains phrases that indicate corrosive or irritant in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.
Yes (Labeling EU)	If the value assignment type <i>Labeling (EU)</i> contains phrases that indicate corrosive or irritant in the characteristics <i>Hazard Symbol</i> and <i>R Phrases</i> , the predefined condition applies.
Yes (GHS General)	If the value assignment type <i>GHS Labeling (General)</i> contains phrases that indicate corrosive or irritant in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.

The phrases that indicate corrosive or irritant are considered in the phrase mapping table of the **Rule for Safety Statements** rule set. The phrases to be checked have to be assigned the *Internal_id* [#FLAGCXI#].

If you want to complete phrases that indicate corrosive or irritant, you need to add the assignments in the phrase mapping table of the rule set. Proceed as follows:

1. Open CoSSta_MSDS.mdb using *Microsoft Office Access*.
2. Open the phrase mapping table *ExpPhraseMap*.
3. Add a new entry for the *Phrase Set* <Phrase Set> with the *Internal_id* [#FLAGCXI#].
4. Assign the phrase key to the *External_id* field and edit the *Phrase Text*.

Internal_id	External_id	Lar	Phrasertext
[#FLAGCXI#]	CUST-N15.00209020		Xi: Irritant
[#FLAGCXI#]	CUST-N15.00209000		C: Corrosive

Figure 23 – Phrase Mapping Table in the CoSSta_MSDS.mdb for the *Internal_id* [#FLAGCXI#]

Characteristics used in the predefined condition:

Description	Characteristic	Value Assignment Type
Labeling (EU) → Hazard Symbol	SAP_EHS_1023_001_SYMBOL	SAP_EHS_1023_001
Labeling (EU) → R Phrases	SAP_EHS_1023_001_R_PHRASE	SAP_EHS_1023_001
GHS Labeling (General) → Hazard Statements	SAP_EHS_1023_093_HAZ_STATEMENT	SAP_EHS_1023_093
GHS Labeling (General) → Supplem. Hazard Statements Effect	SAP_EHS_1023_093_SUPP_HAZ_STAT	SAP_EHS_1023_093
GHS Labeling (EMEA) → Hazard Statements	SAP_EHS_1023_094_HAZ_STATEMENT	SAP_EHS_1024_093
GHS Labeling (EMEA) → Supplem. Hazard Statements Effect	SAP_EHS_1023_094_SUPP_HAZ_STAT	SAP_EHS_1024_093

8.2.3 Toxic

The predefined condition **Toxic** checks whether the following characteristics contain phrases that indicate a toxic substance:

- *Hazard Statements* and *Supplem. Hazard Statements* in the value assignment type *GHS Labeling (EMEA)*
- *Hazard Statements* and *Supplem. Hazard Statements* in the value assignment type *GHS Labeling (General)*
- *Hazard Symbol* and *R Phrases* in the value assignment type *Labeling (EU)*.

You can select one of the following values of the predefined condition:

Possible Value	Explanation
No (GHS EMEA)	If the value assignment type <i>GHS Labeling (EMEA)</i> does not contain phrases indicating a toxic substance in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.
No (Labeling EU)	If the value assignment type <i>Labeling (EU)</i> does not contain phrases indicating a toxic substance in the characteristics <i>Hazard Symbol</i> and <i>R Phrases</i> , the predefined condition applies.
No (GHS General)	If the value assignment type <i>GHS Labeling (General)</i> does not contain the phrases indicating a toxic substance in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.
Yes (GHS EMEA)	If the value assignment type <i>GHS Labeling (EMEA)</i> contains the phrases indicating a toxic substance in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.
Yes (Labeling EU)	If the value assignment type <i>Labeling (EU)</i> contains the phrases indicating a toxic substance in the characteristics <i>Hazard Symbol</i> and <i>R Phrases</i> , the predefined condition applies.
Yes (GHS General)	If the value assignment type <i>GHS Labeling (General)</i> contains the phrases indicating a toxic substance in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.

The phrases that indicate a toxic substance are considered in the phrase mapping table of the **Rule for Safety Statements** rule set. The phrases to be checked have to be assigned the *Internal_id* [#FLAGTOXIC#].

If you want to complete phrases that indicate a toxic substance, you need to add the assignments in the phrase mapping table of the rule set. Proceed as follows:

1. Open CoSSta_MSDS.mdb using *Microsoft Office Access*.
2. Open the phrase mapping table *ExpPhraseMap*.
3. Add a new entry for the *Phrase Set* <Phrase Set> with the *Internal_id* [#FLAGTOXIC#].
4. Assign the phrase key to the *External_id* field and edit the *Phrase Text*.

Internal_id	External_id	Lar	Phrasertext
[#FLAGTOXIC#]	CUST-N15.00309890		R26/28: Also very toxic by inhalation and if swallowed.
[#FLAGTOXIC#]	CUST-N15.00309870		R27/28: Also very toxic in contact with skin and if swallowed.

Figure 24 - Phrase Mapping Table in the CoSSta_MSDS.mdb for the *Internal_id* [#FLAGTOXIC#]

Characteristics used in the predefined condition:

Description	Characteristic	Value Assignment Type
Labeling (EU) → Hazard Symbol	SAP_EHS_1023_001_SYMBOL	SAP_EHS_1023_001
Labeling (EU) → R Phrases	SAP_EHS_1023_001_R_PHRASE	SAP_EHS_1023_001
GHS Labeling (General) → Hazard Statements	SAP_EHS_1023_093_HAZ_STATEMENT	SAP_EHS_1023_093
GHS Labeling (General) → Supplem. Hazard Statements Effect	SAP_EHS_1023_093_SUPP_HAZ_STAT	SAP_EHS_1023_093
GHS Labeling (EMEA) → Hazard Statements	SAP_EHS_1023_094_HAZ_STATEMENT	SAP_EHS_1024_093
GHS Labeling (EMEA) → Supplem. Hazard Statements Effect	SAP_EHS_1023_094_SUPP_HAZ_STAT	SAP_EHS_1024_093

8.2.4 Specific Toxic

The predefined condition **Specific Toxic** checks whether the following characteristics contain phrases that indicate a specific toxic substance:

- *Hazard Statements* and *Supplem. Hazard Statements* in the value assignment type *GHS Labeling (EMEA)*
- *Hazard Statements* and *Supplem. Hazard Statements* in the value assignment type *GHS Labeling (General)*
- *Hazard Symbol* and *R Phrases* in the value assignment type *Labeling (EU)*.

You can select one of the following values of the predefined condition:

Possible Value	Explanation
No (GHS EMEA)	If the value assignment type <i>GHS Labeling (EMEA)</i> does not contain the phrases indicating a specific toxic substance in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.
No (Labeling EU)	If the value assignment type <i>Labeling (EU)</i> does not contain the phrases indicating a specific toxic substance in the characteristics <i>Hazard Symbol</i> and <i>R Phrases</i> , the predefined condition applies.
No (GHS General)	If the value assignment type <i>GHS Labeling (General)</i> does not contain the phrases indicating a specific toxic substance in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.
Yes (GHS EMEA)	If the value assignment type <i>GHS Labeling (EMEA)</i> contains the phrases indicating a specific toxic substance in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.
Yes (Labeling EU)	If the value assignment type <i>Labeling (EU)</i> contains the phrases indicating a specific toxic substance in the characteristics <i>Hazard Symbol</i> and <i>R Phrases</i> , the predefined condition applies.
Yes (GHS General)	If the value assignment type <i>GHS Labeling (General)</i> contains the phrases indicating a specific toxic substance in the characteristics <i>Hazard Statements</i> and <i>Supplem. Hazard Statements</i> , the predefined condition applies.

The phrases that indicate a specific toxic substance are considered in the phrase mapping table of the **Rule for Safety Statements** rule set. The phrases to be checked have to be assigned the *Internal_id* **[#FLAGSPPECTOXIC#]**.

If you want to complete phrases that indicate a specific toxic substance, you need to add the assignments in the phrase mapping table of the rule set. Proceed as follows:

1. Open *CoSSta_MSDS.mdb* using *Microsoft Office Access*.
2. Open the phrase mapping table *ExpPhraseMap*.
3. Add a new entry for the *Phrase Set* <Phrase Set> with the *Internal_id* **[#FLAGSPPECTOXIC#]**.
4. Assign the phrase key to the *External_id* field and edit the *Phrase Text*.

Internal_id	External_id	Lat	Phrasertext
[#FLAGSPPECTOXIC#]	CUST-N15.00930430		H341: Suspected of causing genetic defects if swallowed.
[#FLAGSPPECTOXIC#]	CUST-N15.00300070		R63: Possible risk of harm to the unborn child.

Figure 25 - Phrase Mapping Table in the *CoSSta_MSDS.mdb* for the *Internal_id* **[#FLAGSPPECTOXIC#]**

Characteristics used in the predefined condition:

Description	Characteristic	Value Assignment Type
Labeling (EU) → Hazard Symbol	SAP_EHS_1023_001_SYMBOL	SAP_EHS_1023_001
Labeling (EU) → R Phrases	SAP_EHS_1023_001_R_PHRASE	SAP_EHS_1023_001
GHS Labeling (General) → Hazard Statements	SAP_EHS_1023_093_HAZ_STATEMENT	SAP_EHS_1023_093
GHS Labeling (General) → Supplem. Hazard Statements Effect	SAP_EHS_1023_093_SUPP_HAZ_STAT	SAP_EHS_1023_093
GHS Labeling (EMEA) → Hazard Statements	SAP_EHS_1023_094_HAZ_STATEMENT	SAP_EHS_1024_093
GHS Labeling (EMEA) → Supplem. Hazard Statements Effect	SAP_EHS_1023_094_SUPP_HAZ_STAT	SAP_EHS_1024_093

8.2.5 Physical-Chemical Hazard

The predefined condition **Physical-Chemical Hazard** checks whether the following characteristics contain phrases that indicate the substance has a physical-chemical hazard:

- *Hazard Statements and Supplem. Hazard Statements* in the value assignment type *GHS Labeling (EMEA)*
- *Hazard Statements and Supplem. Hazard Statements* in the value assignment type *GHS Labeling (General)*
- *Hazard Symbol and R Phrases* in the value assignment type *Labeling (EU)*.

You can select one of the following values of the predefined condition:

Possible Value	Explanation
No (GHS EMEA)	If the value assignment type <i>GHS Labeling (EMEA)</i> does not contain phrases indicating the substance has a physical-chemical hazard in the characteristics <i>Hazard Statements and Supplem. Hazard Statements</i> , the predefined condition applies.
No (Labeling EU)	If the value assignment type <i>Labeling (EU)</i> does not contain phrases indicating the substance has a physical-chemical hazard in the characteristics <i>Hazard Symbol and R Phrases</i> , the predefined condition applies.
No (GHS General)	If the value assignment type <i>GHS Labeling (General)</i> does not contain phrases indicating the substance has a physical-chemical hazard in the characteristics <i>Hazard Statements and Supplem. Hazard Statements</i> , the predefined condition applies.
Yes (GHS EMEA)	If the value assignment type <i>GHS Labeling (EMEA)</i> contains phrases indicating the substance has a physical-chemical hazard in the characteristics <i>Hazard Statements and Supplem. Hazard Statements</i> , the predefined condition applies.
Yes (Labeling EU)	If the value assignment type <i>Labeling (EU)</i> contains phrases indicating the substance has a physical-chemical hazard in the characteristics <i>Hazard Symbol and R Phrases</i> , the predefined condition applies.
Yes (GHS General)	If the value assignment type <i>GHS Labeling (General)</i> contains phrases the substance has a physical-chemical hazard in the characteristics <i>Hazard Statements and Supplem. Hazard Statements</i> , the predefined condition applies.

The phrases that indicate the substance has a physical-chemical hazard are considered in the phrase mapping table of the **Rule for Safety Statements** rule set. The phrases to be checked have to be assigned the *Internal_id* **[#FLAGPHSCHEM#]**.

If you want to complete phrases that indicate the substance has a physical-chemical hazard, you need to add the assignments in the phrase mapping table of the rule set. Proceed as follows:

1. Open *CoSSta_MSDS.mdb* using *Microsoft Office Access*.
2. Open the phrase mapping table *ExpPhraseMap*.
3. Add a new entry for the *Phrase Set* <Phrase Set> with the *Internal_id* **[#FLAGPHSCHEM#]**.
4. Assign the phrase key to the *External_id* field and edit the *Phrase Text*.

Internal_id	External_id	Lar	Phrasertext
[#FLAGPHSCHEM#]	CUST-N15.00931510		H200: Unstable explosives.
[#FLAGPHSCHEM#]	CUST-N15.00930810		H280: Contains gas under pressure; may explode if heated.

Figure 26 - Phrase Mapping Table in the *CoSSta_MSDS.mdb* for the *Internal_id* **[#FLAGPHSCHEM#]**

Characteristics used in the predefined condition:

Description	Characteristic	Value Assignment Type
Labeling (EU) → Hazard Symbol	SAP_EHS_1023_001_SYMBOL	SAP_EHS_1023_001
Labeling (EU) → R Phrases	SAP_EHS_1023_001_R_PHRASE	SAP_EHS_1023_001
GHS Labeling (General) → Hazard Statements	SAP_EHS_1023_093_HAZ_STATEMENT	SAP_EHS_1023_093
GHS Labeling (General) → Supplem. Hazard Statements Effect	SAP_EHS_1023_093_SUPP_HAZ_STAT	SAP_EHS_1023_093
GHS Labeling (EMEA) → Hazard Statements	SAP_EHS_1023_094_HAZ_STATEMENT	SAP_EHS_1024_093
GHS Labeling (EMEA) → Supplem. Hazard Statements Effect	SAP_EHS_1023_094_SUPP_HAZ_STAT	SAP_EHS_1024_093

8.2.6 Dangerous for the Environment

The predefined condition **Dangerous for the Environment** checks whether the following characteristics contain phrases that indicate the substance is dangerous to the environment:

- *Hazard Statements and Supplem. Hazard Statements* in the value assignment type *GHS Labeling (EMEA)*
- *Hazard Statements and Supplem. Hazard Statements* in the value assignment type *GHS Labeling (General)*
- *Hazard Symbol and R Phrases* in the value assignment type *Labeling (EU)*.

You can select one of the following values of the predefined condition:

Possible Value	Explanation
No (GHS EMEA)	If the value assignment type <i>GHS Labeling (EMEA)</i> does not contain phrases indicating the substance is dangerous to the environment in the characteristics <i>Hazard Statements and Supplem. Hazard Statements</i> , the predefined condition applies.
No (Labeling EU)	If the value assignment type <i>Labeling (EU)</i> does not contain phrases indicating the substance is dangerous to the environment in the characteristics <i>Hazard Symbol</i> and <i>R Phrases</i> , the predefined condition applies.
No (GHS General)	If the value assignment type <i>GHS Labeling (General)</i> does not contain phrases indicating the substance is dangerous to the environment in the characteristics <i>Hazard Statements and Supplem. Hazard Statements</i> , the predefined condition applies.
Yes (GHS EMEA)	If the value assignment type <i>GHS Labeling (EMEA)</i> contains phrases indicating the substance is dangerous to the environment in the characteristics <i>Hazard Statements and Supplem. Hazard Statements</i> , the predefined condition applies.
Yes (Labeling EU)	If the value assignment type <i>Labeling (EU)</i> contains phrases indicating the substance is dangerous to the environment in the characteristics <i>Hazard Symbol</i> and <i>R Phrases</i> , the predefined condition applies.
Yes (GHS General)	If the value assignment type <i>GHS Labeling (General)</i> contains phrases the substance is dangerous to the environment in the characteristics <i>Hazard Statements and Supplem. Hazard Statements</i> , the predefined condition applies.

The phrases that indicate the substance is dangerous to the environment are considered in the phrase mapping table of the **Rule for Safety Statements** rule set. The phrases to be checked have to be assigned the *Internal_id* [#FLAGENV#].

If you want to complete phrases that indicate substance is dangerous to the environment, you need to add the assignments in the phrase mapping table of the rule set. Proceed as follows:

1. Open CoSSta_MSDS.mdb using *Microsoft Office Access*.
2. Open the phrase mapping table *ExpPhraseMap*.
3. Add a new entry for the *Phrase Set* <Phrase Set> with the *Internal_id* [#FLAGENV#].
4. Assign the phrase key to the *External_id* field and edit the *Phrase Text*.

Internal_id	External_id	Lat	Phrasertext
[#FLAGENV#]	CUST-N15.00300110		R52/53: Harmful to aquatic organisms, may cause long-term adver:
[#FLAGENV#]	CUST-N15.00310390		R56: Toxic to soil organisms.

Figure 27 - Phrase Mapping Table in the CoSSta_MSDS.mdb for the *Internal_id* [#FLAGENV#]

Characteristics used in the predefined condition:

Description	Characteristic	Value Assignment Type
Labeling (EU) → Hazard Symbol	SAP_EHS_1023_001_SYMBOL	SAP_EHS_1023_001
Labeling (EU) → R Phrases	SAP_EHS_1023_001_R_PHRASE	SAP_EHS_1023_001
GHS Labeling (General) → Hazard Statements	SAP_EHS_1023_093_HAZ_STATEMENT	SAP_EHS_1023_093
GHS Labeling (General) → Supplem. Hazard Statements Effect	SAP_EHS_1023_093_SUPP_HAZ_STAT	SAP_EHS_1023_093
GHS Labeling (EMEA) → Hazard Statements	SAP_EHS_1023_094_HAZ_STATEMENT	SAP_EHS_1024_093
GHS Labeling (EMEA) → Supplem. Hazard Statements Effect	SAP_EHS_1023_094_SUPP_HAZ_STAT	SAP_EHS_1024_093

8.2.7 Dangerous Goods

The predefined condition **Dangerous Goods** checks whether the specification is classified as a dangerous good in the *Transport Classification* in the value assignment type *Dangerous Goods Classification*.

You can select one of the following values of the predefined condition:

Possible Value	Explanation
No (ADR)	If the <i>Risk Potential</i> is not filled and the <i>Non-Dangerous Goods Full Transport</i> is set for the <i>Dangerous Goods Regulation ADR</i> , the predefined condition applies.
No (CFR)	If the <i>Risk Potential</i> is not filled and the <i>Non-Dangerous Goods Full Transport</i> is set for the <i>Dangerous Goods Regulation CFR</i> , the predefined condition applies.
No (IATA_C)	If the <i>Risk Potential</i> is not filled and the <i>Non-Dangerous Goods Full Transport</i> is set for the <i>Dangerous Goods Regulation IATA_C</i> , the predefined condition applies.
No (IMDG)	If the <i>Risk Potential</i> is not filled and the <i>Non-Dangerous Goods Full Transport</i> is set for the <i>Dangerous Goods Regulation IMDG</i> , the predefined condition applies.
Yes (ADR)	If the <i>Risk Potential</i> is filled and the <i>Non-Dangerous Goods Full Transport</i> is not set for the <i>Dangerous Goods Regulation ADR</i> , the predefined condition applies.
Yes (CFR)	If the <i>Risk Potential</i> is filled and the <i>Non-Dangerous Goods Full Transport</i> is not set for the <i>Dangerous Goods Regulation CFR</i> , the predefined condition applies.
Yes (IATA_C)	If the <i>Risk Potential</i> is filled and the <i>Non-Dangerous Goods Full Transport</i> is not set for the <i>Dangerous Goods Regulation IATA_C</i> , the predefined condition applies.
Yes (IMDG)	If the <i>Risk Potential</i> is filled and the <i>Non-Dangerous Goods Full Transport</i> is not set for the <i>Dangerous Goods Regulation IMDG</i> , the predefined condition applies.

Value assignment type used in the predefined condition:

Description	Value Assignment Type
Dangerous Goods Classification	SAP_EHS_1022_023

8.2.8 Dangerous Goods Class

The predefined condition **Dangerous Goods Class** checks whether the characteristic *Dangerous Goods Class* matches the selected expression in the value assignment type *Dangerous Goods Regulations* of the referenced specification (specification type UN-listed substance). The *Dangerous Goods Regulation* is not relevant.

The specification of the specification type UN listed substance is referenced in the *Transport Classification* in the value assignment type *Dangerous Goods Classification* of the real substance.

You can select one of the following values of the predefined condition:

Possible Value	Explanation
2	If the characteristic <i>Dangerous Goods Class</i> is equal to 2 in the value assignment type <i>Dangerous Goods Regulations</i> , the predefined condition applies.
3	If the characteristic <i>Dangerous Goods Class</i> is equal to 3 in the value assignment type <i>Dangerous Goods Regulations</i> , the predefined condition applies.
4.1	If the characteristic <i>Dangerous Goods Class</i> is equal to 4.1 in the value assignment type <i>Dangerous Goods Regulations</i> , the predefined condition applies.
4.2	If the characteristic <i>Dangerous Goods Class</i> is equal to 4.2 in the value assignment type <i>Dangerous Goods Regulations</i> , the predefined condition applies.
4.3	If the characteristic <i>Dangerous Goods Class</i> is equal to 4.3 in the value assignment type <i>Dangerous Goods Regulations</i> , the predefined condition applies.
5.1	If the characteristic <i>Dangerous Goods Class</i> is equal to 5.1 in the value assignment type <i>Dangerous Goods Regulations</i> , the predefined condition applies.
5.2	If the characteristic <i>Dangerous Goods Class</i> is equal to 5.2 in the value assignment type <i>Dangerous Goods Regulations</i> , the predefined condition applies.
6.1	If the characteristic <i>Dangerous Goods Class</i> is equal to 6.1 in the value assignment type <i>Dangerous Goods Regulations</i> , the predefined condition applies.
6.2	If the characteristic <i>Dangerous Goods Class</i> is equal to 6.2 in the value assignment type <i>Dangerous Goods Regulations</i> , the predefined condition applies.
8	If the characteristic <i>Dangerous Goods Class</i> is equal to 8 in the value assignment type <i>Dangerous Goods Regulations</i> , the predefined condition applies.
9	If the characteristic <i>Dangerous Goods Class</i> is equal to 9 in the value assignment type <i>Dangerous Goods Regulations</i> , the predefined condition applies.

Characteristic used in the predefined condition:

Description	Characteristic	Value Assignment Type
Dangerous Goods Regulations → Dangerous Goods Class	SAP_EHS_1022_024_DGCL	SAP_EHS_1022_024

8.2.9 Standard Composition

The predefined condition **Standard Composition** checks whether the specification contains more than one component in the value assignment type *Standard Composition*.

You can select one of the following values of the predefined condition:

Possible Value	Explanation
No	If the value assignment type <i>Standard Composition</i> contains only one component or does not contain any components, the predefined condition applies.
Yes	If the value assignment type <i>Standard Composition</i> contains at least two components, the predefined condition applies.

If you want to check another composition, you need to change the assignments in the composition mapping table of the rule set. Proceed as follows:

1. Open CoSSta_MSDS.mdb using *Microsoft Office Access*.
2. Open the phrase mapping table `ExpGroupMap`.
3. Edit the `External_id` field with the Syntax `M:<Value assignment type>` for the data record with `Internal_id <COMP>`.

Internal_id	External_id	Lat	Description
COMP	M:SAP_EHS_1012_003		standard composition
DECOMP_PROD	M:SAP_EHS_1014_020		decomposition products

Figure 28 - Composition Mapping Table in the CoSSta_MSDS.mdb

Value assignment type used in the predefined condition:

Description	Value Assignment Type
Standard Composition	SAP_EHS_1012_003

8.2.10 Viscosity

The predefined condition **Viscosity** checks whether the characteristic value matches the selected expression for the following characteristics:

- *Value* and *Temperature* in the value assignment type *Viscosity, Kinematic*
- *Value* and *Cross-section* in the value assignment type *Flow Time*.

You can select one of the following values of the predefined condition:

Possible Value	Explanation
< 7 mm ² /s (40°C) (Kinematic Viscosity)	If the characteristic <i>Value</i> is less than 7 mm²/s at a <i>Temperature</i> of 40 °C in the value assignment type <i>Viscosity, Kinematic</i> , the predefined condition applies.
<= 20 mm ² /s (40°C) (Kinematic Viscosity)	If the characteristic <i>Value</i> is less than or equal to 20 mm²/s at a <i>Temperature</i> of 40 °C in the value assignment type <i>Viscosity, Kinematic</i> , the predefined condition applies.
<= 20,5 mm ² /s (40°C) (Kinematic Viscosity)	If the characteristic <i>Value</i> is less than or equal to 20,5 mm²/s at a <i>Temperature</i> of 40 °C in the value assignment type <i>Viscosity, Kinematic</i> , the predefined condition applies.
< 30 s (3 mm ISO) (Flow Time)	If the characteristic <i>Value</i> is less than 30 s at a <i>Cross-section</i> of 3 mm in the value assignment type <i>Flow Time</i> , the predefined condition applies.
>= 100 s (6 mm ISO) (Flow Time)	If the characteristic <i>Value</i> is greater than or equal to 100 s at a <i>Cross-section</i> of 6 mm in the value assignment type <i>Flow Time</i> , the predefined condition applies.
>= 20 s (4 mm ISO) (Flow Time)	If the characteristic <i>Value</i> is greater than or equal to 20 s at a <i>Cross-section</i> of 4 mm in the value assignment type <i>Flow Time</i> , the predefined condition applies.
>= 40 s (6 mm ISO) (Flow Time)	If the characteristic <i>Value</i> is greater than or equal to 40 s at a <i>Cross-section</i> of 6 mm in the value assignment type <i>Flow Time</i> , the predefined condition applies.
>= 60 s (4 mm ISO) (Flow Time)	If the characteristic <i>Value</i> is greater than or equal to 60 s at a <i>Cross-section</i> of 4 mm in the value assignment type <i>Flow Time</i> , the predefined condition applies.
>= 60 s (6 mm ISO) (Flow Time)	If the characteristic <i>Value</i> is greater than or equal to 60 s at a <i>Cross-section</i> of 6 mm in the value assignment type <i>Flow Time</i> , the predefined condition applies.

Characteristics used in the predefined condition:

Description	Characteristic	Value Assignment Type
Viscosity, Kinematic → Value	SAP_EHS_1013_028_VALUE	SAP_EHS_1013_028
Viscosity, Kinematic → Temperature	SAP_EHS_1013_028_EC_TEMP	SAP_EHS_1013_028
Flow Time → Value	SAP_EHS_1013_002_VALUE	SAP_EHS_1013_002
Flow Time → Cross-section	SAP_EHS_1013_002_EC_AREA	SAP_EHS_1013_002

8.3 Supported Characteristics

8.3.1 Supported Conclusive Characteristics

Description	Characteristic	Value Assignment Type
Possible Hazards (Summary) → Advice	SAP_EHS_1011_001_ADVICE	SAP_EHS_1011_001
Possible Hazards (Summary) → Chronic Exposure	SAP_EHS_1011_001_CHRONIC	SAP_EHS_1011_001
Possible Hazards (Summary) → Primary Routes of Entry	SAP_EHS_1011_001_ENTRY	SAP_EHS_1011_001
Possible Hazards (Summary) → Potential Environmental Effect	SAP_EHS_1011_001_ENVIRON	SAP_EHS_1011_001
Possible Hazards (Summary) → Eyes	SAP_EHS_1011_001_EYE	SAP_EHS_1011_001
Possible Hazards (Summary) → Ingestion	SAP_EHS_1011_001_INGEST	SAP_EHS_1011_001
Possible Hazards (Summary) → Inhalation	SAP_EHS_1011_001_INHALE	SAP_EHS_1011_001
Possible Hazards (Summary) → Aggravated Medical Condition	SAP_EHS_1011_001_MEDICAL	SAP_EHS_1011_001
Possible Hazards (Summary) → Target Organs	SAP_EHS_1011_001_ORGANS	SAP_EHS_1011_001
Possible Hazards (Summary) → Physical/Chemical Hazards	SAP_EHS_1011_001_PHYS_CHEM	SAP_EHS_1011_001
Possible Hazards (Summary) → Remarks	SAP_EHS_1011_001_REMARK	SAP_EHS_1011_001
Possible Hazards (Summary) → Signal Word	SAP_EHS_1011_001_SIGNAL_WORD	SAP_EHS_1011_001
Possible Hazards (Summary) → Skin	SAP_EHS_1011_001_SKIN	SAP_EHS_1011_001
Other Information → Other Information	SAP_EHS_1011_002_INFO	SAP_EHS_1011_002
Other Information → Sources of Key Data	SAP_EHS_1011_002_SOURCE	SAP_EHS_1011_002
Other Hazards (GHS) → Other Hazards	SAP_EHS_1011_011_OTHER_HAZ	SAP_EHS_1011_011
Hazardous Reactions → Further Info on Stability	SAP_EHS_1014_019_STAB_FURTHER	SAP_EHS_1014_019
Hazardous Reactions → Hazardous Reactions	SAP_EHS_1014_019_VALUE	SAP_EHS_1014_019
Decomposition Products → Info on Hazardous Dec. Prod.	SAP_EHS_1014_020_INFO	SAP_EHS_1014_020

Description	Characteristic	Value Assignment Type
Thermal Decomposition → Remarks	SAP_EHS_1014_021_REMARK	SAP_EHS_1014_021
Dust Explosion Class → Dust Explosion Class St1 - St3	SAP_EHS_1014_023_CLASS_VALUE	SAP_EHS_1014_023
Temperature Class → Class	SAP_EHS_1014_025_VALUE	SAP_EHS_1014_025
Classification of Fires → Class	SAP_EHS_1014_027_VALUE	SAP_EHS_1014_027
Conditions to Avoid (SDS) → Remarks	SAP_EHS_1014_030_REMARK	SAP_EHS_1014_030
Substances to Avoid (SDS) → Remarks	SAP_EHS_1014_031_REMARK	SAP_EHS_1014_031
Reactivity → Advice	SAP_EHS_1014_033_ADVICE	SAP_EHS_1014_033
Chemical Stability → Advice	SAP_EHS_1014_034_ADVICE	SAP_EHS_1014_034
First Aid: General Information → Advice	SAP_EHS_1015_002_ADVICE	SAP_EHS_1015_002
First Aid: Eye → Advice	SAP_EHS_1015_003_ADVICE	SAP_EHS_1015_003
First Aid: Skin → Advice	SAP_EHS_1015_004_ADVICE	SAP_EHS_1015_004
First Aid: Ingestion → Advice	SAP_EHS_1015_005_ADVICE	SAP_EHS_1015_005
First Aid: Inhalation → Advice	SAP_EHS_1015_006_ADVICE	SAP_EHS_1015_006
Hints for Physician → Hazards	SAP_EHS_1015_012_HAZARDS	SAP_EHS_1015_012
Hints for Physician → Symptoms	SAP_EHS_1015_012_SYMPTOMS	SAP_EHS_1015_012
Hints for Physician → Treatment	SAP_EHS_1015_012_TREATMENT	SAP_EHS_1015_012
Protection of First Aid Responders → Advice	SAP_EHS_1015_013_ADVICE	SAP_EHS_1015_013
Protection of First Aid Responders → Remarks	SAP_EHS_1015_013_REMARKS	SAP_EHS_1015_013
Extinguishing Media → Unsuitable	SAP_EHS_1016_001_NO	SAP_EHS_1016_001
Extinguishing Media → Suitable	SAP_EHS_1016_001_YES	SAP_EHS_1016_001
Hazards During Fire-Fighting → Advice	SAP_EHS_1016_002_ADVICE	SAP_EHS_1016_002
Protective Equipment for Fire-Fighting → Advice	SAP_EHS_1016_003_ADVICE	SAP_EHS_1016_003
Fire-Fighting/Further Advice → Further Advice	SAP_EHS_1016_004_ADVICE	SAP_EHS_1016_004
Fire-Fighting/Further Advice → Specific Extinguishing Methods	SAP_EHS_1016_004_SPEM	SAP_EHS_1016_004
Personal Precautions → Advice	SAP_EHS_1016_005_ADVICE	SAP_EHS_1016_005

Description	Characteristic	Value Assignment Type
Environmental Precautions → Advice: General	SAP_EHS_1016_006_ADVICE	SAP_EHS_1016_006
Environmental Precautions → Advice: Air	SAP_EHS_1016_006_ADVICE_AIR	SAP_EHS_1016_006
Environmental Precautions → Advice: Soil	SAP_EHS_1016_006_ADVICE_SOIL	SAP_EHS_1016_006
Environmental Precautions → Advice: Water	SAP_EHS_1016_006_ADVICE_WATER	SAP_EHS_1016_006
Methods for Cleaning or Taking Up → Advice	SAP_EHS_1016_007_ADVICE	SAP_EHS_1016_007
Further Accidental Release Measures → Advice	SAP_EHS_1016_008_ADVICE	SAP_EHS_1016_008
Fire and Explosion Protection → Fire and Explosion Protection	SAP_EHS_1016_009_REMARK	SAP_EHS_1016_009
Advice on System Design → Advice	SAP_EHS_1016_010_ADVICE	SAP_EHS_1016_010
Industrial Hygiene → Advice	SAP_EHS_1016_011_ADVICE	SAP_EHS_1016_011
Respiratory Protection → Advice	SAP_EHS_1016_012_ADVICE	SAP_EHS_1016_012
Respiratory Protection → Filter Type	SAP_EHS_1016_012_TYPE	SAP_EHS_1016_012
Hand Protection → Additional Protection	SAP_EHS_1016_013_ADVICE	SAP_EHS_1016_013
Hand Protection → Glove Length	SAP_EHS_1016_013_GLOVELEN	SAP_EHS_1016_013
Hand Protection → Guideline	SAP_EHS_1016_013_GUIDELINE	SAP_EHS_1016_013
Hand Protection → Material	SAP_EHS_1016_013_MATERIAL	SAP_EHS_1016_013
Hand Protection → Manufacturer	SAP_EHS_1016_013_PRODUCER	SAP_EHS_1016_013
Hand Protection → Protection Index	SAP_EHS_1016_013_PROTINDEX	SAP_EHS_1016_013
Eye Protection → Advice	SAP_EHS_1016_014_ADVICE	SAP_EHS_1016_014
Body Protection → Advice	SAP_EHS_1016_015_ADVICE	SAP_EHS_1016_015
General Protective Measures → Personal Protective Equipment	SAP_EHS_1016_016_ADVICE	SAP_EHS_1016_016
Advice on Safe Handling → Advice	SAP_EHS_1016_017_ADVICE	SAP_EHS_1016_017
Reference to Other Sections → Advice	SAP_EHS_1016_023_ADVICE	SAP_EHS_1016_023
Technical Measures (Handling) → Advice	SAP_EHS_1016_024_ADVICE	SAP_EHS_1016_024
Technical Measures (Handling) → Remarks	SAP_EHS_1016_024_REMARK	SAP_EHS_1016_024
Technical Measures (Handling) → Local/Total Ventilation	SAP_EHS_1016_024_VENT	SAP_EHS_1016_024

Description	Characteristic	Value Assignment Type
Biodegradation → Remarks	SAP_EHS_1017_004_REMARK	SAP_EHS_1017_004
Physico-Chemical Elimination → Remarks	SAP_EHS_1017_005_REMARK	SAP_EHS_1017_005
Biological Oxygen Demand (BOD) → Remarks	SAP_EHS_1017_007_REMARK	SAP_EHS_1017_007
Chemical Oxygen Demand (COD) → Remarks	SAP_EHS_1017_008_REMARK	SAP_EHS_1017_008
Dissolved Organic Carbon (DOC) → Remarks	SAP_EHS_1017_012_REMARK	SAP_EHS_1017_012
Bioaccumulation → Remarks	SAP_EHS_1017_015_REMARK	SAP_EHS_1017_015
Adsorption Organ. Bound Halogen (AOX) → Remarks	SAP_EHS_1017_020_REMARK	SAP_EHS_1017_020
Acute and Prolonged Toxicity to Fish → Remarks	SAP_EHS_1018_001_REMARK	SAP_EHS_1018_001
Toxicity to Aquatic Plants → Remarks	SAP_EHS_1018_003_REMARK	SAP_EHS_1018_003
Toxicity to Microorganisms → Remarks	SAP_EHS_1018_004_REMARK	SAP_EHS_1018_004
Additional Ecotoxicological Remarks → Remarks	SAP_EHS_1018_012_REMARK	SAP_EHS_1018_012
Acute Oral Toxicity → Remarks	SAP_EHS_1019_001_REMARK	SAP_EHS_1019_001
Acute Oral Toxicity → Symptoms	SAP_EHS_1019_001_SYMPTOM	SAP_EHS_1019_001
Acute Inhalation Toxicity → Remarks	SAP_EHS_1019_002_REMARK	SAP_EHS_1019_002
Acute Inhalation Toxicity → Symptoms	SAP_EHS_1019_002_SYMPTOM	SAP_EHS_1019_002
Acute Dermal Toxicity → Remarks	SAP_EHS_1019_003_REMARK	SAP_EHS_1019_003
Acute Dermal Toxicity → Symptoms	SAP_EHS_1019_003_SYMPTOM	SAP_EHS_1019_003
Acute Toxicity Other Routes → Remarks	SAP_EHS_1019_004_REMARK	SAP_EHS_1019_004
Acute Toxicity Other Routes → Symptoms	SAP_EHS_1019_004_SYMPTOM	SAP_EHS_1019_004
Skin Irritation → Remarks	SAP_EHS_1019_005_REMARK	SAP_EHS_1019_005
Eye Irritation → Remarks	SAP_EHS_1019_006_REMARK	SAP_EHS_1019_006
Sensitization → Remarks	SAP_EHS_1019_007_REMARK	SAP_EHS_1019_007
Other Relevant Toxicity Information → Remarks	SAP_EHS_1019_017_REMARK	SAP_EHS_1019_017
Aspiration Toxicity Hazard → Statement on Aspiration Tox.	SAP_EHS_1019_027_COMMENT	SAP_EHS_1019_027
Storage Stability → Storage Moisture	SAP_EHS_1021_001_MOISTURE	SAP_EHS_1021_001

Description	Characteristic	Value Assignment Type
Storage Stability → Remarks	SAP_EHS_1021_001_REMARK	SAP_EHS_1021_001
Mixed Storage → Advice on Storage Compatib.	SAP_EHS_1021_002_ADVICE	SAP_EHS_1021_002
Storage Conditions → More Info on Storage Condit.	SAP_EHS_1021_003_INFO	SAP_EHS_1021_003
Storage Class → Storage Class	SAP_EHS_1021_004_CLASS	SAP_EHS_1021_004
Storage Requirements (SDS) → Advice	SAP_EHS_1021_006_ADV	SAP_EHS_1021_006
Safe Packaging Materials (Storage) → Remarks	SAP_EHS_1021_007_REMARK	SAP_EHS_1021_007
Safe Packaging Materials (Storage) → Suitable Materials	SAP_EHS_1021_007_SUITABLE	SAP_EHS_1021_007
Safe Packaging Materials (Storage) → Unsuitable Materials	SAP_EHS_1021_007_UNSUITABLE	SAP_EHS_1021_007
Further Information for Transport (SDS) → Remarks	SAP_EHS_1022_021_REMARK	SAP_EHS_1022_021
Add. Comments Classific./Labeling (EU) → Add. Comments Class./Label.	SAP_EHS_1023_005_COMMENT	SAP_EHS_1023_005
Advice on Disposal and Packaging → Advice on Disposal	SAP_EHS_1023_018_ADVICE	SAP_EHS_1023_018
Waste Disposal of Packages Not Cleaned → Advice	SAP_EHS_1023_019_ADVICE	SAP_EHS_1023_019
Information About Other Regulations → Other Regulations (SDS)	SAP_EHS_1023_020_TEXT	SAP_EHS_1023_020
REACH Chemical Safety Assessment → Chemical Safety Assessment	SAP_EHS_1023_083_CSA	SAP_EHS_1023_083

8.3.2 Supported Condition Parameter Characteristics

Description	Characteristic	Value Assignment Type
Control Data for Rule Sets → Value	SAP_EHS_0101_003_VALUE	SAP_EHS_0101_003
Type of Substance → Mixture or Pure Substance?	SAP_EHS_1011_005_MIXT_PURE	SAP_EHS_1011_005
Type of Substance → Type of Substance	SAP_EHS_1011_005_TYPE	SAP_EHS_1011_005
Use of Substance/Preparation → Specific Use	SAP_EHS_1011_010_SPEC_USE	SAP_EHS_1011_010
Other Hazards (GHS) → Other Hazards	SAP_EHS_1011_011_OTHER_HAZ	SAP_EHS_1011_011
Hazardous Ingredients → Remarks	SAP_EHS_1012_004_REMARK	SAP_EHS_1012_004
Chemical Characterization → Chemical Characterization	SAP_EHS_1012_015_REMARK	SAP_EHS_1012_015
Special Ingredients → Value Type	SAP_EHS_1012_019_VALUE_TYPE	SAP_EHS_1012_019
State of Matter → State of Matter	SAP_EHS_1013_001_VALUE	SAP_EHS_1013_001
Vapor Pressure → Value	SAP_EHS_1013_003_VALUE	SAP_EHS_1013_003
Form → Form	SAP_EHS_1013_009_VALUE	SAP_EHS_1013_009
Solubility in Water → Remarks	SAP_EHS_1013_016_REMARK	SAP_EHS_1013_016
pH → pH Value	SAP_EHS_1013_019_VALUE	SAP_EHS_1013_019
Phase Transition Liquid/Gas → Value	SAP_EHS_1013_022_VALUE	SAP_EHS_1013_022
Conductance → Value	SAP_EHS_1013_052_VALUE	SAP_EHS_1013_052
Flammability → Result Gases/Solids	SAP_EHS_1014_007_VALUE	SAP_EHS_1014_007
Flammability → Result Liquids	SAP_EHS_1014_007_VALUE_LIQ	SAP_EHS_1014_007
Flash Point → Value	SAP_EHS_1014_009_VALUE	SAP_EHS_1014_009
Storage Stability → Storage Temperature	SAP_EHS_1021_001_TEMP	SAP_EHS_1021_001
Storage class → Storage Class	SAP_EHS_1021_004_CLASS	SAP_EHS_1021_004
Labeling (EU) → R Phrases	SAP_EHS_1023_001_R_PHRASE	SAP_EHS_1023_001
Labeling (EU) → S Phrases	SAP_EHS_1023_001_S_PHRASE	SAP_EHS_1023_001
Labeling (EU) → Hazard Symbol	SAP_EHS_1023_001_SYMBOL	SAP_EHS_1023_001
Labeling of Special Preparations (EU) → Special Labeling	SAP_EHS_1023_002_LABELLING	SAP_EHS_1023_002

Description	Characteristic	Value Assignment Type
Water Pollution (DE) → Water Pollution Class	SAP_EHS_1023_009_HAZARD_CLASS	SAP_EHS_1023_009
OSHA Hazard Classification (US) → OSHA Hazard Category	SAP_EHS_1023_037_VALUE	SAP_EHS_1023_037
WHMIS Classification (CA) → Class	SAP_EHS_1023_038_CLASS	SAP_EHS_1023_038
WHMIS Classification (CA) → Remarks	SAP_EHS_1023_038_REMARK	SAP_EHS_1023_038
TSCA Lists (US) → Requirements	SAP_EHS_1023_053_TSCA_REQ	SAP_EHS_1023_053
GHS Labeling (General) → Hazard Statements	SAP_EHS_1023_093_HAZ_STATEMENT	SAP_EHS_1023_093
GHS Labeling (General) → Prec. Statements: Disposal	SAP_EHS_1023_093_PRE_STA_DISP	SAP_EHS_1023_093
GHS Labeling (General) → Prec. Statements: Prevention	SAP_EHS_1023_093_PRE_STA_PREV	SAP_EHS_1023_093
GHS Labeling (General) → Prec. Statements: Response	SAP_EHS_1023_093_PRE_STA_RESP	SAP_EHS_1023_093
GHS Labeling (General) → Prec. Statements: General	SAP_EHS_1023_093_PRE_STATEMENT	SAP_EHS_1023_093
GHS Labeling (General) → Prec. Statements: Storage	SAP_EHS_1023_093_PRE_STA_STOR	SAP_EHS_1023_093
GHS Labeling (General) → Signal Word	SAP_EHS_1023_093_SIGNAL	SAP_EHS_1023_093
GHS Labeling (General) → Supplem. Hazard Statements	SAP_EHS_1023_093_SUPP_HAZ_STAT	SAP_EHS_1023_093
GHS Labeling (General) → Symbols	SAP_EHS_1023_093_SYMBOL	SAP_EHS_1023_093
GHS Labeling (EMEA) → Hazard Statements	SAP_EHS_1023_094_HAZ_STATEMENT	SAP_EHS_1023_094
GHS Labeling (EMEA) → Prec. Statements: Disposal	SAP_EHS_1023_094_PRE_STA_DISP	SAP_EHS_1023_094
GHS Labeling (EMEA) → Prec. Statements: Prevention	SAP_EHS_1023_094_PRE_STA_PREV	SAP_EHS_1023_094
GHS Labeling (EMEA) → Prec. Statements: Response	SAP_EHS_1023_094_PRE_STA_RESP	SAP_EHS_1023_094
GHS Labeling (EMEA) → Prec. Statements: General	SAP_EHS_1023_094_PRE_STATEMENT	SAP_EHS_1023_094

Description	Characteristic	Value Assignment Type
GHS Labeling (EMEA) → Prec. Statements: Storage	SAP_EHS_1023_094_PRE_STA_STOR	SAP_EHS_1023_094
GHS Labeling (EMEA) → Signal Word	SAP_EHS_1023_094_SIGNAL	SAP_EHS_1023_094
GHS Labeling (EMEA) → Supplem. Hazard Statements	SAP_EHS_1023_094_SUPP_HAZ_STAT	SAP_EHS_1023_094
GHS Labeling (EMEA) → Symbols	SAP_EHS_1023_094_SYMBOL	SAP_EHS_1023_094
GHS Labeling (NA) → Hazard Statements	SAP_EHS_1023_095_HAZ_STATEMENT	SAP_EHS_1023_095
GHS Labeling (NA) → Prec. Statements: Disposal	SAP_EHS_1023_095_PRE_STA_DISP	SAP_EHS_1023_095
GHS Labeling (NA) → Prec. Statements: Prevention	SAP_EHS_1023_095_PRE_STA_PREV	SAP_EHS_1023_095
GHS Labeling (NA) → Prec. Statements: Response	SAP_EHS_1023_095_PRE_STA_RESP	SAP_EHS_1023_095
GHS Labeling (NA) → Prec. Statements: General	SAP_EHS_1023_095_PRE_STATEMENT	SAP_EHS_1023_095
GHS Labeling (NA) → Prec. Statements: Storage	SAP_EHS_1023_095_PRE_STA_STOR	SAP_EHS_1023_095
GHS Labeling (NA) → Signal Word	SAP_EHS_1023_095_SIGNAL	SAP_EHS_1023_095
GHS Labeling (NA) → Supplem. Hazard Statements	SAP_EHS_1023_095_SUPP_HAZ_STAT	SAP_EHS_1023_095
GHS Labeling (NA) → Symbols	SAP_EHS_1023_095_SYMBOL	SAP_EHS_1023_095
GHS Labeling (A/P) → Hazard Statements	SAP_EHS_1023_096_HAZ_STATEMENT	SAP_EHS_1023_096
GHS Labeling (A/P) → Prec. Statements: Disposal	SAP_EHS_1023_096_PRE_STA_DISP	SAP_EHS_1023_096
GHS Labeling (A/P) → Prec. Statements: Prevention	SAP_EHS_1023_096_PRE_STA_PREV	SAP_EHS_1023_096
GHS Labeling (A/P) → Prec. Statements: Response	SAP_EHS_1023_096_PRE_STA_RESP	SAP_EHS_1023_096
GHS Labeling (A/P) → Prec. Statements: General	SAP_EHS_1023_096_PRE_STATEMENT	SAP_EHS_1023_096
GHS Labeling (A/P) → Prec. Statements: Storage	SAP_EHS_1023_096_PRE_STA_STOR	SAP_EHS_1023_096
GHS Labeling (A/P) → Signal Word	SAP_EHS_1023_096_SIGNAL	SAP_EHS_1023_096

Description	Characteristic	Value Assignment Type
GHS Labeling (A/P) → Supplem. Hazard Statements	SAP_EHS_1023_096_SUPP_HAZ_STAT	SAP_EHS_1023_096
GHS Labeling (A/P) → Symbols	SAP_EHS_1023_096_SYMBOL	SAP_EHS_1023_096
GHS Labeling (LA) → Hazard Statements	SAP_EHS_1023_097_HAZ_STATEMENT	SAP_EHS_1023_097
GHS Labeling (LA) → Prec. Statements: Disposal	SAP_EHS_1023_097_PRE_STA_DISP	SAP_EHS_1023_097
GHS Labeling (LA) → Prec. Statements: Prevention	SAP_EHS_1023_097_PRE_STA_PREV	SAP_EHS_1023_097
GHS Labeling (LA) → Prec. Statements: Response	SAP_EHS_1023_097_PRE_STA_RESP	SAP_EHS_1023_097
GHS Labeling (LA) → Prec. Statements: General	SAP_EHS_1023_097_PRE_STATEMENT	SAP_EHS_1023_097
GHS Labeling (LA) → Prec. Statements: Storage	SAP_EHS_1023_097_PRE_STA_STOR	SAP_EHS_1023_097
GHS Labeling (LA) → Signal Word	SAP_EHS_1023_097_SIGNAL	SAP_EHS_1023_097
GHS Labeling (LA) → Supplem. Hazard Statements	SAP_EHS_1023_097_SUPP_HAZ_STAT	SAP_EHS_1023_097
GHS Labeling (LA) → Symbols	SAP_EHS_1023_097_SYMBOL	SAP_EHS_1023_097

8.4 Database Structure

In this chapter, all database tables are shown with their individual attributes.

8.4.1 CoSSta

- CUST_SPECIFIC_CHARS

Used for the definition of customer-specific characteristics.

Attribute Name	Description
ID	Primary key
INTERNAL_ID	Internal key used in the rule set
ESTCAT	Value assignment type
CHAR_KEY	Characteristic key
CONCLUSION_CHAR	Is the customer-specific characteristic a conclusive characteristic?

- FACT_CHARS

Used for the definition of facts.

Attribute Name	Description
ID	Primary key
FACT_ID	Internal key used in the rule set
ESTCAT	Value assignment type
CHAR_KEY	Characteristic key

- IDENTS

Used for the definition of identifiers as facts.

Attribute Name	Description
ID	Primary key
INTERNAL_ID	Internal key used in the rule set
CATEGORY	Identification category
TYPE	Identification type

- INTERFACE_TAB

Used for the definition of conditions and for the communication with the Rule for Safety Statements.

Attribute Name	Description
ID_COL	Primary key
RULE_ID_COL	Condition ID
CATEGORY_COL	Conclusive characteristic
OUTPUT_COL	Conclusive phrase
PHRASE_SORT_COL	Sort sequence
PHRASE_CATEGORY_COL	Combination of group and weight of importance
VALIDITYAREAMSDS_COL	Usage and own instance indicator
ALWAYS_COL	Always Execute indicator
OR_COL	Facts with the logical operator OR
AND_COL	Facts with the logical operator AND
NOT_COL	Facts with the logical operator NOT

- PDR_VALUE_SET

Used for the definition of the value set for predefined conditions.

Attribute Name	Description
ID	Primary key
ID_RULE	Foreign key for the predefined condition
PDR_VALUE	Supported value
DESCRIPTION	Value description

- PHRASE_SET

Used for the definition of phrase sets and the definition of additional values of phrases.

Attribute Name	Description
ID	Primary key
CHAR_KEY	Characteristic key
ESTCAT	Value assignment type
PHRASE_KEY	Phrase key
SORT_SEQUENCE	Order of the written phrases
GROUP	Group used for prioritization
PRIORITY	Weight of importance
ALWAYS	Phrase is always written
HIDE	Phrase is not visible in phrase sets

- PHRASES

Used for the definition of phrases.

Attribute Name	Description
ID	Primary key
PHRASE_KEY	Phrase key
PHRASE_CODE	Phrase code
PHRASE_Text	Phrase text

- PREDEF_RULES

Used for the definition of predefined conditions.

Attribute Name	Description
ID	Primary key
INTERNAL_ID	Internal representation of the condition
DESCRIPTION	Short description of the condition
LONG_TEXT	Long description of the condition

- PROPERTY_TREE

Used for the definition of the property tree used in CoSSta.

Attribute Name	Description
ID	Primary key
ID_PARENT	Foreign key for the parent in the property tree
DESCRIPTION	Description of the entry in the property tree
ESTCAT	Value assignment type
CHAR_KEY	Characteristic key
PHRASED_IND	Is the characteristic phrase-enabled?
UOM	Unit of measure for numeric characteristics
LOWER_LIMIT	Lower limit for numeric characteristics
UPPER_LIMIT	Upper limit for numeric characteristics
NOT_ASSIGNED_CHARACTER	Is the characteristic unknown?

- SUPPORTED_CHARS

Used for the definition of all supported conclusive characteristics.

Attribute Name	Description
ID	Primary key
CHAR_KEY	Characteristic key
ESTCAT	Value assignment type

- USAGES

Used for the definition of usages in CoSSta.

Attribute Name	Description
ID	Primary key
INTERNAL_ID	Name of the usage profile
RATING	Rating
VALIDITY_AREA	Validity area
ACTIVE_FLAG	Is the usage active?
EXCLUDE_FLAG	Is the usage excluded?

8.4.2 MSDSMaker

Only the tables used for the migration are listed in this chapter. The MSDSMaker database has more tables. However, these are not relevant. For this reason, they are not explained.

- INTERFACE_TAB

Attribute Name	Description
ID_COL	Primary key
RULE_ID_COL	Condition ID
CATEGORY_COL	Conclusive characteristic
OUTPUT_COL	Conclusive phrase
PHRASE_SORT_COL	Sort sequence
PHRASE_CATEGORY_COL	Combination of group and weight of importance
VALIDITYAREAMSDFS_COL	Usage and own instance indicator
ALWAYS_COL	Always execute indicator
OR_COL	Facts with the logical operator OR
AND_COL	Facts with the logical operator AND
NOT_COL	Facts with the logical operator NOT

- LIST_OF_VALUES_TAB

Attribute Name	Description
ID_COL	Primary key
CLASS_COL	Value assignment type
PROPERTY_COL	Characteristic key
PHRASE_KEY_COL	Phrase key
PHRASE_CODE_COL	Phrase code
PHRASE_LANG_COL	Phrase language

Attribute Name	Description
PHRASE_GRAPHIC_CO L	Phrase graphic
PHRASE_COL	Phrase text
PHRASE_SORT	Sort index
PHRASE_CATEGORY	Danger category

- MASTER_DATA_TAB

Attribute Name	Description
ID_COL	Primary key
TYPE_COL	Reference or MSDS chapter rule
POS	
FLAG	



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