

Exposure Scenarios

Steps for creating Exposure Scenarios in ChemGes

Additional Information can be found in the corresponding document and the manual to ChemGes.

Step 1:

Activating the output of the Exposure Scenario

Activate, as needed, fields 50 to 54 regarding the output of Exposure Scenarios (ES).

(*Maintenance Programs – Safety Data Sheets – General Options*)

The screenshot shows the 'Calculations' software window with the following settings:

- When retrieved:** Lock automatically Offer copying possibility Always apply the alteration date in all languages Automatic print preview if the user has read-only rights Create missing country version automatically
- Descriptions:** Product description for raw materials Defined description for the SDS Use SDS substance description of your own language (if necessary) Substitute language for missing substance description
- Variants/product codes:** Transfer of variant information into the SDS Store variant information when printing a customer SDS Additional product codes
- Kits:** Printout of a cover sheet Write additional product codes in the cover sheet
- CAS numbers:** Always write the letters CAS in front of the CAS number CAS numbers of SDS descriptions with simultaneous marking as standard or as EU designation Also show CAS numbers for substances with EC number > 900-000-0
- Classification:** Codes: H phrases: P phrases: Additional GHS phrases (EUH) Additional output of labeling in section 15 Always output H phrases of the same class in multiple lines (e.g. H335-H336)
- Section 3:** Percentages: Limit for the treatment of the whole product as raw material Type of percentage Percentage of proprietary descriptions Decimals Adapt to legal limits Output of special limits (always for SDS2021) Show only if the specified percentage is \geq the limit Consideration of 1% limit for non-hazardous preparations M factors (always for SDS2021) Canc., muta. and repr. categories One line per hazard symbol Notes
- OELVs:** OELV and OEL-B values from Additional OELV-limits Complete names of legislations Also list substances with OELVs in section 8 in section 3 In EU countries only consider EU limit values
- Tox values:** Output of calculated tox values (ATE) (requires automatic update of the SDS) Output of estimated raw material tox values according to GHS
- Waste code:** Output of group names Output of hazardous properties of waste
- Transport:** DOT/TDG For: USA, Canada, Canada french, USC, PR, USA French ADR Not for: IMDG All IATA All
- TA-Luft:** Output of water content Use limits instead of exact percentages
- Exposure scenarios:** Raw materials: Preparations: Start new page for the exposure scenario
- Other output options:** Output of abbreviations and acronyms in section 16 of the GHS SDS Country code on SDS (only possible with lines around the SDS) Flashpoint of preparations Output of substances, from which the physical value has been taken over directly EU (always for SDS2021) Rest of the world

Step 2:

Activation of availability of Chemical Safety Assessment (CSA) for all substances

Raw materials :

Item 8 “Chemical Safety Assessment available” in the database tab *Country Specific Information*.

(Maintenance of Raw Materials)

Preparations:

Item 16 “Chemical Safety Assessment available” in the database tab *Country Specific Classifications*.

(Maintenance of Preparations)

Country specific information (S4.0.7)

Physical data | Additional physical/chemical values | OELVs | Toxicological values | Substance listings | Transport

Country specific information

1 Seveso III | Qualified quantities: 5 t, 50 t, CAS 50-00-0 | TA-Luft: 24 Type | Class 24 | 1

Biocidal Products Regulation | Biocidal active substance | Nanomaterial

2 Annex XVII REACH (Restrictions) | 3, 28, 72 | 25 | 1

3 Waste # | 4 Waste hazards | HP6, HP7, HP8, HP11, HP13

5 ECHA notification - Reference Number

6 Chemical Safety Assessment available

7 Storage class (L6K) acc. to TRGS510 | 6.1 C

8 VbF | - | BetrSichV | -

9 Water hazard class | 11 | 3 | 12 Type | List classification

13 The substance is subject to annex 2 of the ChemVerbotsV

Groups: 14 Causing cancer | I(2) | 15 Pregnancy | C | 16 Mutative | 5

17 Exposure peak limit | 4

BAT values: 18 Parameter | | 19 Value | | Unit | | 20

21 Material | | 22 Moment | |

23 Fire Service Act | IV

24 RTECS # | LP 8925000

25 Respiration filter | BK

26 Customs tariff number | 2912 11 00

27 Test tube | Dräger

28 Substance groups for California Cleaning Product Right to Know Act |

Registration 41 | 22-2345-XXX-XXXX

Pre-registration 44 | Tonnage band | - | Deadline for registration | | Pre-registered substance

47 HMIRA numbers |

48 Naniform |

49 Special percentage limits for the SDS | acc. to presettings: -Use limit tables

OK

Country specific classifications (S4.0.7)

Basic screen | Formulation | Physical data | Country specific classifications | Transport

1 Seveso III: | Qualified quantities: 200 t, 500 t, Category: E2

2 Annex XVII REACH (Restrictions) | 48

3 Waste # | 08 01 11* | 05 07 99 | 03 03 09 | Relevant waste hazards | HP4, HP5, HP10, HP13, HP14

4 Cosmetic product according to Regulation 1223/2009/EC | Leave-on Product

Detergent Regulation: 5 Fragrance | 6 Essential oil | 7 Dye

8 Biocidal Products Regulation |

9 ECHA notification

10 Chemical Safety Assessment available

11 Output precursors for explosives in the SDS

12 UFI and PCN notification

13 Company | DR-Software GmbH

14 UFI Code | XSQ2-DOEE-E00C-3WBN | A820-H0XP-N00K-1645 01/21/2021

15 EuPCS | PC-CLN-10.3

16 MM | 17 Substance group |

18 Standard formula |

19 PCN ingredient list |

20 The product is subject to annex 2 of the ChemVerbotsV

21 WHC (Water hazard class) | 2 | Water hazardous contents |

22 Storage class (L6K) acc. to TRGS510 | 8 A

BetrSichV |

23 GISCode (BG BAU) |

24 Dangerous Substances and Quantity of Dangerous Substances | 4: 200 리터

25 Hazardous Substances Subject to Special Control

Waste 26 Designated | | 27 Workplace | | 28 Municipal |

29 Coating VOC value: 30 | | g/l | 31 | % | 32 Wood preservative

33 | | g/l | | %

34 Waste # | | 35 Waste # | 55,503 | VbF | | 36 ABM | A(2) | 37 ABM (NL) contents |

38 MAL-Code | 4-5 | 39 MAL code contents |

40 FOPH registration

41 Fire Hazard Act | -

End | [Ctrl F4] | Calculate the WHC (D) | [F4] | Printout of documentation for WHC | [Ctrl W] | Water hazardous contents | [Ctrl S] | ABM (NL) contents | Solvents | MAL code contents | [Ctrl X] | Ingredients Annex XVII | [Ctrl R] | Registry numbers

Step 3: Creating the first ES from the editing screen of the SDS

Click on **Section X**

The screenshot shows a list of sections in an SDS editor. The sections are:

- Technical function
- Application of the substance / the mixture
- Epoxy resin
- Uses advised against
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
 - Chemix GmbH
 - Chemixstraße 17
 - A-5020 Salzburg
 - Tel.: 0043/662/21 22 23
- Further information obtainable from:
 - Product safety department.
- 1.4 Emergency telephone number:
- 2 Hazards Identification** (highlighted in blue)
- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008

ChemGes will automatically fill in the appropriate fields from the database.

If this is your only ES, then fill in the additional information. (see next Steps)

If you will generate additional ESs, leave this as it is for now and follow the next Steps.

The screenshot shows the 'Annex: Exposure scenario' form with the following fields:

- Short title of the exposure scenario
- Sector of Use
- Product category
- Process category
- Article category
- Environmental release category
- Notes
- Description of the activities / processes covered in the Exposure scenario
- See section 1 of the annex to the Safety Data Sheet.
- Conditions of use
- Duration and frequency
- 5 workdays/week.
- Worker
- Environment
- Physical parameters
- Physical state
- Fluid
- Concentration of the substance in the mixture
- Raw material.
- Used amount per time or activity
- Other operational conditions
- Other operational conditions affecting environmental exposure
- No special measures required.
- Other operational conditions affecting worker exposure
- Avoid contact with eyes.
- Avoid contact with the skin.
- Avoid long-term or repeated skin contact.
- Do not breathe the gas/vapour/aerosol.

Step 4:

Introductory points to the generation of additional ESs:

- ▶ Additional ESs are created by means of **Templates**.
- ▶ **Templates** are generated for **Dummy Substances**.
- ▶ **Dummy Substances** are fictional substances and are not copies of the original substance.
- ▶ **Dummy Substances** are created with a Specific Use and Exposure in mind and have *similar characteristics* to the substance for which the ES applies.
- ▶ *Similar characteristics* must be general enough to apply to other substances to which this Specific Use and Exposure apply.
- ▶ **Templates** are used over and over for many different substances

Example

- ▶ Company XY sells paint.
 - Outdoor or indoor use
 - Wood or plastic application
 - ▶ Company XY generates **4 Dummy Substances** named:
 1. *Outdoor Use on Wood*
 2. *Outdoor Use on Plastic*
 3. *Indoor Use on Wood*
 4. *Indoor Use on Plastic*
 - ▶ The ESs of these dummy substances are called **Templates**
 - ▶ Company XY produces Product A (for Indoor and Outdoor use)
 - ▶ The four exposure scenarios are assigned to Product A.
 - ▶ Thus, Product A now has the ES that was created with its SDS and these four other Templates
 - ▶ The Dummy Substances assigned to these Templates have similar characteristics as Product A. They are not copies of Product A.
 - ▶ These Dummy Substances can also be used for Product B, with similar characteristics.
- These **Templates**, now linked, can be adapted to the actual substance. Only the linked 'copies' are adapted, not the original templates

Step 5: Creating Dummy Substances:

New raw materials (pseudo-CAS numbers) AND/OR New preparations

The image shows two screenshots of a software interface for substance management. The left window is titled 'Maintenance of raw materials' and contains fields for CAS number (742), Index number, EC number, Product code, Variant, Main substance, Flag, Article group, and GHS classification. The right window is titled 'Maintenance of preparations' and contains fields for Preparation, State, Flash point, Boiling point, Density, pH value, Viscosity, Water miscible, and various GHS classification details like Danger, Warning, and Hazard statements.

Dummy Substance Features:

Name:
representative/descriptive of ES Template

Characteristics:
apply to every substance that will use this Template and the ES described by the template

Note:

- The ESs from these substances can be used interchangeably.
- Raw material ESs for preparations and vice versa .
- They can also be mixed. Use as needed.

Annex: Exposure scenario	
<input type="checkbox"/>	Short title of the exposure scenario
<input type="checkbox"/>	Sector of Use
<input type="checkbox"/>	Product category
<input type="checkbox"/>	Process category
<input type="checkbox"/>	Article category
<input type="checkbox"/>	Environmental release category
<input type="checkbox"/>	Notes
<input type="checkbox"/>	Description of the activities / processes covered in the Exposure Scenario
<input type="checkbox"/>	See section 1 of the annex to the Safety Data Sheet.
<input type="checkbox"/>	Conditions of use
<input type="checkbox"/>	Duration and frequency
<input type="checkbox"/>	5 workdays/week.
<input type="checkbox"/>	Worker
<input type="checkbox"/>	Environment
<input type="checkbox"/>	Physical parameters
<input type="checkbox"/>	Physical state
<input type="checkbox"/>	Fluid
<input type="checkbox"/>	Concentration of the substance in the mixture
<input type="checkbox"/>	Raw material.
<input type="checkbox"/>	Used amount per time or activity
<input type="checkbox"/>	Other operational conditions
<input type="checkbox"/>	Other operational conditions affecting environmental exposure
<input type="checkbox"/>	No special measures required.
<input type="checkbox"/>	Other operational conditions affecting worker exposure
<input type="checkbox"/>	Other operational conditions affecting consumer exposure
<input type="checkbox"/>	No special measures required.
<input type="checkbox"/>	Other operational conditions affecting consumer exposure during the use of the product
<input type="checkbox"/>	Not applicable.
<input type="checkbox"/>	Risk management measures
<input type="checkbox"/>	Worker protection
<input type="checkbox"/>	Organisational protective measures
<input type="checkbox"/>	No special measures required.
<input type="checkbox"/>	Technical protective measures
<input type="checkbox"/>	Ensure that suitable extractors are available on processing machines
<input type="checkbox"/>	Personal protective measures
<input type="checkbox"/>	Do not inhale gases / fumes / aerosols.
<input type="checkbox"/>	All phrases from heading 8.50.50.40 Protective suit
<input type="checkbox"/>	Measures for consumer protection
<input type="checkbox"/>	Ensure adequate labelling.
<input type="checkbox"/>	Environmental protection measures
<input type="checkbox"/>	Air
<input type="checkbox"/>	Water
<input type="checkbox"/>	No special measures required.
<input type="checkbox"/>	Soil
<input type="checkbox"/>	Notes
<input type="checkbox"/>	Disposal measures
<input type="checkbox"/>	Ensure that waste is collected and contained.
<input type="checkbox"/>	Disposal procedures
<input type="checkbox"/>	Must not be disposed together with household garbage. Do not allow product to reach sewage system.
<input type="checkbox"/>	Waste type
<input type="checkbox"/>	Partially emptied and uncleaned packaging
<input type="checkbox"/>	Notes
<input type="checkbox"/>	Exposure estimation
<input type="checkbox"/>	Worker (oral)
<input type="checkbox"/>	Worker (dermal)
<input type="checkbox"/>	Worker (inhalation)
<input type="checkbox"/>	Environment
<input type="checkbox"/>	Consumer
<input type="checkbox"/>	Not relevant for this Exposure Scenario.
<input type="checkbox"/>	Guidance for downstream users
<input type="checkbox"/>	No further relevant information available.

Step 6: Further Automation: ES Grouping

Creation of ES-Groups:

Ctrl **4** *Maintenance Programs – Safety Data Sheets – Exposure Scenarios*

The screenshot shows the 'Administration of Chemicals' software interface. The main window is titled 'Maintenance programs for the SDS' and contains a tree view of settings. The 'Exposure scenarios' option is highlighted in green. The background window shows a list of substances with various icons indicating their status or properties.

The screenshot shows the 'Exposure scenarios' window. The 'No.' column contains 'X 1' and the 'Description' column contains 'Wood Paint'. Both are highlighted with a green box.

The screenshot shows the 'Exposure scenario' window. The 'Allocated exposure scenarios' table is visible, showing two entries: (745) Indoor Use on Wood and 10,012 Outdoor Use on Wood. The table is highlighted with a green box.

No.	Description
(745)	Indoor Use on Wood
10,012	Outdoor Use on Wood

Step 7: Adding Exposure Scenarios to your original substance:

- Enter the editing screen of the SDS.
- Click at the bottom of the screen on the option **Additional Exposure Scenarios**.

Additional exposure scenarios

- Text is red if ESs are linked

Additional exposure scenarios (2)

Enter the Templates to link

ESs assigned to a substance which is assigned to a substance for which scenarios are being generated, will also be included.

All additional ES Templates are automatically populated with information from the SDS.

The option *Deactivation of Substance Exposure Scenario* can be activated if only templates are to be used.

Product code	Description	Exp.sc.
X 1	Wood Use	
10,005	Outdoor Use	<input checked="" type="checkbox"/>

Substance no.	Description	Percent
(740)	Indoor Use on Plastic	50.0000
(741)	Outdoor Use on Plastic	50.0000

Product code	Description	Exp.sc.
X 1	Wood Use	
10,005	Outdoor Use	<input checked="" type="checkbox"/>
10,006	Use on Plastic	<input checked="" type="checkbox"/>

Product code	Description	Exp.sc.
X 1	Wood Use	
10,005	Outdoor Use	<input checked="" type="checkbox"/>
10,006	Use on Plastic	<input checked="" type="checkbox"/>

Deactivation of substance exposure scenario

Step 8: Further Automation: Linking Phrases

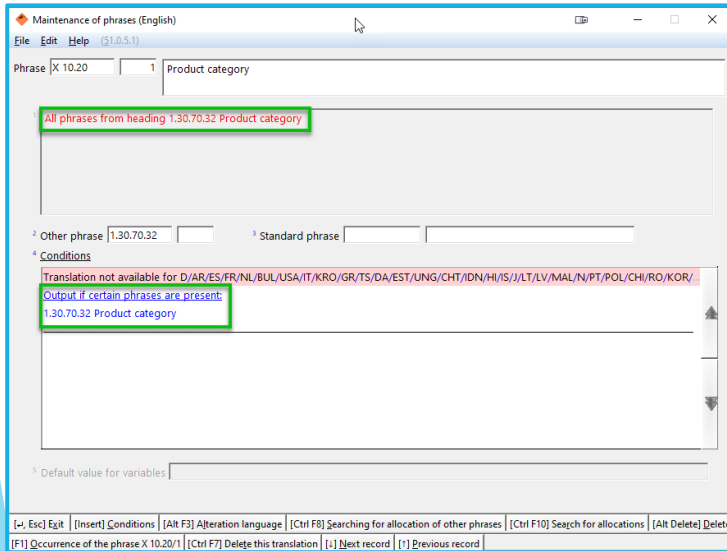
The data in the SDS must correspond to the data in the ESs.

This can be automated via conditions.

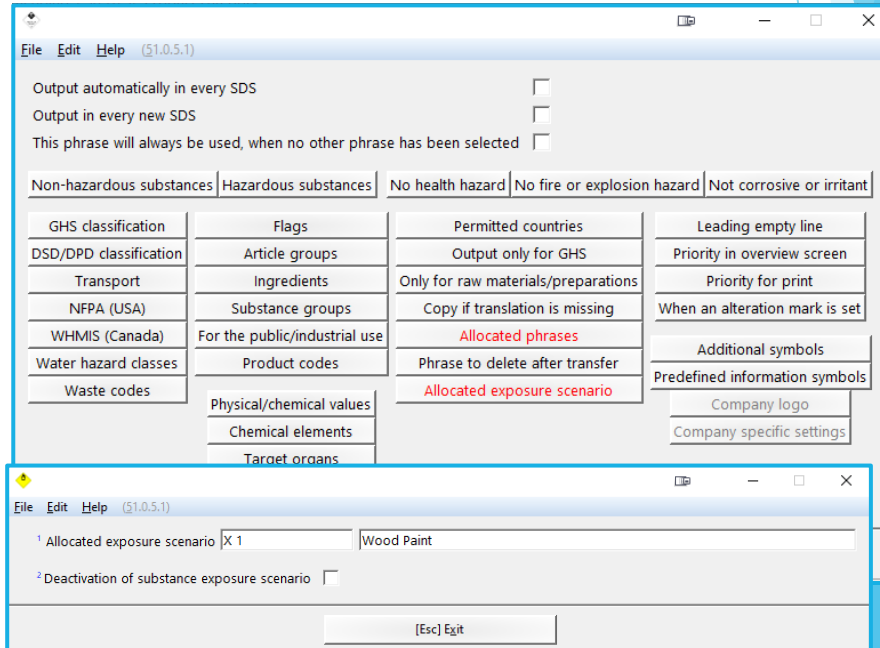
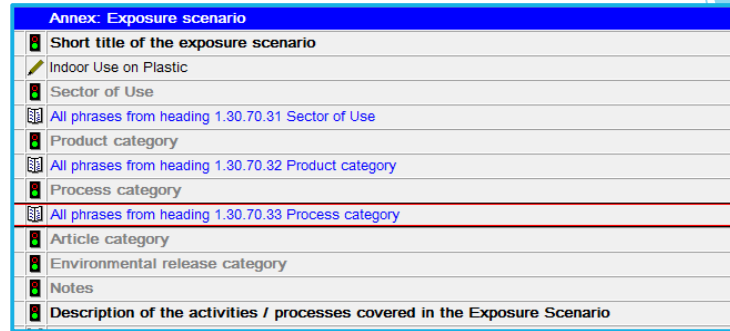
Fill in Data for each Template and the corresponding Data in the SDS.

**Ctrl 4 Maintenance Programs –
Safety Data Sheets – Text Modules**

1. Link directly to Phrases from SDS:



2. Allocate Phrase to ES:



More detailed Information can be found in the Manual to ChemGes

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