# AU guidelines

# Working with carcinogenic substances

April 2023

If you fill in the forms electronically,

remember to select ‘save as’ and save a copy of the forms on your PC so you do not add information to the online versions of the forms.

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**Legislation**

[The Danish Working Environment Authority's executive order](http://arbejdstilsynet.dk/da/regler/bekendtgorelser/g/sam-graensevaerdier-for-stoffer-og-materialer) about working with substances and materials (chemical agents) with later amendment

<https://at.dk/regler/bekendtgoerelser/arbejde-stoffer-materialer-kemiske-agenser-1793-sam/>

[The Danish Retsinformation Authority’s executive order](http://arbejdstilsynet.dk/da/regler/bekendtgorelser/f/foranstaltninger-til-forebyggelse-kraeftrisiko-stoffer-og-materialer/bilag-4-oplysninger-om-arbejdsgange) on measures to prevent the risk of cancer when working with substances and materials, no. 1795 of 18 December 2015 with later amendment, including §20 substances, appendix 1,2 and 3.

<https://www.retsinformation.dk/eli/lta/2015/1795>

Safety for women who are pregnant or breastfeeding with later amendment

<https://at.dk/regler/at-vejledninger/gravides-ammendes-arbejdsmiljoe-a-1-8>

[The Danish Retsinformation Authority's executive order](http://arbejdstilsynet.dk/da/regler/bekendtgorelser/g/sam-graensevaerdier-for-stoffer-og-materialer) of threshold values with later amendment contains the substances and processes which are considered carcinogenic

<https://www.retsinformation.dk/eli/lta/2023/202>

Guidelines for risk assessments and precautionary measures

These guidelines are based on [The Danish Retsinformation Authority’s executive order](http://arbejdstilsynet.dk/da/regler/bekendtgorelser/f/foranstaltninger-til-forebyggelse-kraeftrisiko-stoffer-og-materialer/bilag-4-oplysninger-om-arbejdsgange) on measures to prevent the risk of cancer when working with substances and materials, no. 1795 of 18 December 2015 with later amendment.

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The purpose of these guidelines is to help people work in a safe and secure way when using carcinogenic substances.

A risk assessment must be completed before the work may begin: It must be checked whether the work requires a specific authorisation and it must be assessed whether the work involves an actual risk of exposure to the carcinogenic substance. This will be described further below:

Risk assessment of substances and work processes

Before starting to work with carcinogenic substances, a risk assessment of the involved substances and work processes must be completed in writing.

The risk assessment contains the following:

* A description of the work process
* A list of the substances involved
* A description of the main hazards of the hazardous substances and materials
* A description of the main hazards of the work process
* Considerations concerning substitution of substances or sub-processes. This is a requirement in “[The Danish Working Environment Authority's executive order](http://arbejdstilsynet.dk/da/regler/bekendtgorelser/g/sam-graensevaerdier-for-stoffer-og-materialer) about working with substances and materials (chemical agents) with later amendment”.
* A description of the necessary safety measures including ventilation, gloves, other types of protective equipment, emergency equipment and any requirements for special training
* A description of the procedures in case of accidents/spillage
* Waste management
* Conclusions concerning
* Safety for women who are pregnant or breastfeeding with later amendment

<https://at.dk/regler/at-vejledninger/gravides-ammendes-arbejdsmiljoe-a-1-8>

* Risk of exposure to carcinogenic substances while working

It must be EMPHASIZED that ALL measures MUST be taken to eliminate the risk of working with carcinogenic substances and materials - e.g. by changing work processes or moving the work to other laboratories with more suitable facilities

[Form no. 1](#Skema1): ”Risk assessment of work processes involving hazardous substances and products” is used for the risk assessment.

List of carcinogenic substances

Often, you need to find out whether a specific substance is categorised as carcinogenic. Below is a list of where this type of information can be found :

* [The Danish Retsinformation Authority’s executive order](http://arbejdstilsynet.dk/da/regler/bekendtgorelser/f/foranstaltninger-til-forebyggelse-kraeftrisiko-stoffer-og-materialer/bilag-4-oplysninger-om-arbejdsgange) on measures to prevent the risk of cancer when working with substances and materials, no. 1795 of 18 December 2015 with later amendment, including §20 substances, appendix 1,2 and 3.
* [The Danish Retsinformation Authority's executive order](http://arbejdstilsynet.dk/da/regler/bekendtgorelser/g/sam-graensevaerdier-for-stoffer-og-materialer) of threshold values with later amendment contains the substances and processes which are considered carcinogenic
* The supplier’s instruction manuals which MUST contain information about the cancer risk of the specific substance/product.
* In the database KIROS ([www.kiros.dk](http://www.kiros.dk)), it is possible to look up carcinogenic substances including §20 substances.

Carcinogenic substances which require authorisation from the Danish Working Environment Authority.

[The Danish Retsinformation Authority’s executive order](http://arbejdstilsynet.dk/da/regler/bekendtgorelser/f/foranstaltninger-til-forebyggelse-kraeftrisiko-stoffer-og-materialer/bilag-4-oplysninger-om-arbejdsgange) on measures to prevent the risk of cancer when working with substances and materials, no. 1795 of 18 December 2015 with later amendment states that some of the substances may not be used unless an authorisation application has been sent to the Danish Working Environment Authority. In appendix 1 and 2, these substances are marked with a reference to §47-50 of the executive order. The application to the Danish Working Environment Authority must contain the information which is stated in §48.

The lists contain substances - §51 substances - which may only be used if the Danish Working Environment Authority has been notified. Such notification must contain the information stated in [appendix 4](http://arbejdstilsynet.dk/da/regler/bekendtgorelser/f/foranstaltninger-til-forebyggelse-kraeftrisiko-stoffer-og-materialer/bilag-4-oplysninger-om-arbejdsgange) of the executive order.

In addition, the list contains §20 substances which must be handled in closed systems e.g. in glove boxes or well-functioning fume cupboards.

Furthermore, the list contains substances which may no longer be used in Denmark (§5 substances).

The risk assessment’s conclusion concerning work performed by pregnant women

If the risk assessment concludes that there is a risk involved for pregnant women, precautionary measures must be taken to ensure that the pregnant woman is not exposed to or involved in the work processes in question.

The risk assessment’s conclusion concerning the risk of exposure to carcinogenic substances

If the risk assessment concludes that there is a real risk of exposure to carcinogenic substances during the work, the following must be done:

* It must be assessed whether or not it is possible to change the working procedures to eliminate the risk e.g. by moving the work to other laboratories with more suitable facilities.

However, if it is not possible to eliminate the risk involved in the work, this must be registered in a specific form (form no. 2). This form must be signed by the immediate supervisor. The document must be printed, scanned and emailed to AU HR, Development and Work Environment ([arbejdsmiljo@au.dk](mailto:arbejdsmiljo@au.dk)) where the form will be stored electronically for 40 years ([The Danish Retsinformation Authority’s executive order](http://arbejdstilsynet.dk/da/regler/bekendtgorelser/f/foranstaltninger-til-forebyggelse-kraeftrisiko-stoffer-og-materialer/bilag-4-oplysninger-om-arbejdsgange) on measures to prevent the risk of cancer when working with substances and materials, no. 1795 of 18 December 2015 with later amendment, including §20 substances, appendix 1,2 and 3 with later amendment).

* The individual departments are responsible for ensuring that the members of staff who have been exposed to carcinogenic substances fill in form no. 2 and send these forms to AU HR, Development and Work Environment where the forms will be stored electronically (Captia).

Form no. 1

Aarhus University

RISK ASSESSMENT FOR WORK WITH HAZARDOUS SUBSTANCES AND PRODUCTS INCLUDING WORK WITH CARCINOGENIC SUBSTANCES

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| **NAME OF PROCESS OR EXPERIMENT COVERED BY THE RISK ASSESSMENT** |
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| --- | --- | --- | --- |
| **THE RISK ASSESSMENT CONCERNS** | | | |
| Building: |  | Room: |  |

|  |
| --- |
| **LIST OF ENCLOSED WORKPLACE INSTRUCTIONS (APBs) AND WORK INSTRUCTIONS** |
|  |

|  |  |
| --- | --- |
| Date: |  |

|  |  |
| --- | --- |
| Prepared by: |  |
|  | Signature |

|  |  |
| --- | --- |
| Formally responsible for the project\*: |  |
|  | Signature |

|  |  |
| --- | --- |
| Has the occupational health and safety group been informed: |  |
|  | Signature |

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| --- |
| **DESCRIPTION OF THE WORK PROCESS** |
| *An outline of the work process can e.g. be presented in a flow diagram divided into subprocesses (this is not a requirement). Instead of describing the work process here, a reference can be made to relevant work instruction(s) enclosed with the form.* |
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| **SUBSTANCES and PRODUCTS USED** |
| *Here the used substances and products are listed.* |
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| --- |
| **SIGNIFICANT HAZARDS FROM HAZARDOUS SUBSTANCES AND PRODUCTS** |
| *Here the required workplace instructions (APBs) are listed and enclosed.* |
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| **SIGNIFICANT HAZARDS IN CONNECTION WITH THE WORK PROCESS** |
| *This information can be found in the work instructions and put here - e.g. in relation to laser, vacuum, chemical mixtures, equipment e.g. glass equipment exposed to vacuum involving risks of bursting. Remember to consider possible risks e.g. when working with laboratory animals, patients or in connection with fieldwork.* |
|  |

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| **CONSIDERATIONS CONCERNING SUBSTITUTION** |
| *Here an account is given of experiments and considerations concerning substitution of hazardous chemicals or work processes. Remember that it is also considered substitution to use small amounts of a substance instead of large amounts. Note: It is a requirement in the executive order that such considerations concerning substitution must be made.* |
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| **NECESSARY SAFETY PRECAUTIONS** | | | |
| ( *This section may contain references to relevant workplace instructions (APBs). If so, the APBs must be enclosed with the form)* | | | |
|  | | | |
| **Ventilation** | Fume cupboard: |  |
| *(check that the fume cupboard is approved for work with* |  |  |
| *the relevant substances/materials; ID no.)* | Local exhaust ventilation: |  |
|  |  |  |
|  | LAF bench: |  |
|  |  |  |
|  | Other: |  |
|  |  |  |
| **Gloves**  *(state the approximate breakthrough time, if known –* | Glove type: |  |
| *check the information in the* [*glove database*](http://medarbejdere.au.dk/fileadmin/www.medarbejdere.au.dk/hr/Arbejdsmiljoe/Arbejdsmiljoe/Health_arbejdsmiljoe/handsketest.pdf)*, if necessary)* |  |  |
|  | Breakthrough time: |  |
|  |  |  |
| Other types of personal protective equipment |  |  |
|  | Lab coat (must be worn at work in laboratories) |  |
|  |  |  |
|  | Safety glasses: |  |
|  |  |  |
|  | Respiratory protective equipment (state filter type): |  |
|  |  |  |
|  | Special footwear (state type): |  |
|  |  |  |
|  | Other: |  |
|  |  |  |
| **Additional safety precautions** | Any special heat source in case of fire hazard: |  |
|  |  |  |
|  | Other: |  |
|  |  |  |
| **Special emergency equipment** | Special fire-fighting equipment: |  |
|  |  |  |
|  | Antidote: |  |
|  |  |  |
|  | Equipment for containment and collection: |  |
|  |  |  |
|  | Other: |  |
|  |  |  |
| **Special training/education or instructions** | Any mandatory training, state type of training: |  |
|  |  |  |
|  | Any instructions required on how to use special equipment, state type of instructions: |  |
|  |  |  |
|  | Other: |  |
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| **PROCEDURES IN CASE OF ACCIDENTS AND SPILLAGE** | | |
| *A: This section may contain references to relevant workplace instructions (APBs). If so, the APBs must be enclosed with the form.*  *B: Describe the required actions in case of accidents, collection and disposal of spillage, procedures for information in case of accidents etc.*  *C: Reporting the accident/spillage* | | |
|  | | |
| A: | APB must be enclosed (list) |
|  | | |
| B: | Procedure for collection and disposal of spillage | |
|  |  | |
| C: | Cases concerning exposure to carcinogenic substances must be reported to AU HR Development and Work Environment. | |
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| **WASTE** | | |
| *A: References may be made to relevant APBs or descriptions of waste handling procedures. These documents must then be enclosed with the form.*  *B: Instructions on labelling of waste cans – waste category*  – *a short text describing that the waste is then handed over to the person responsible for chemical waste (name)* | | |
|  | | |
| A: | APB and waste handling procedure enclosed (list) |
|  | | |
| B: | Labelling | |
|  | | |

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| **RISK ASSESSMENT CONCLUSIONS (All fields MUST be filled in!)** | | | | | |
| *Assess the actual risk involved in the work process. The fact that certain chemicals are hazardous if inhaled does not mean that there is a risk of inhaling the chemical in connection with the work process in question. Consider where the risk occurs in the specific work process – is the risk present during the entire work process or only in a single sub-process.* | | | | | |
| Is the work process assessed as being safe YES ☐ NO ☐ | | | | | |
|  | | | | | |
| If "NO", please state the reason | | | | | |
|  | | | | | |
| Is the work process/area safe for pregnant and breast-feeding women? | | YES | ☐ | NO | ☐ |
|  | | | | | |
| If "NO", please state the reason: |  | | | | |
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| **SUGGESTIONS FOR SAFETY IMPROVEMENTS**  *This section is intended as input for a joint department/section WPA* |
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FORM NO. 2

Aarhus University

**Registration of persons working with carcinogenic substances**

Only use this form in cases where it is concluded, based on the risk assessment, that there is a real risk of exposure to the carcinogenic substance(s) - OR in case of accidents, where exposure occurred.

This form must be filled in by the employee, who works with the substance/product, in cooperation with the responsible manager (researcher, supervisor or course manager).

The responsible manager is responsible for ensuring that the form is filled in.

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| **NAME OF PROCESS OR EXPERIMENT COVERED BY THE RISK ASSESSMENT** |
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| **PLACE OF WORK**  *State the building and room number where the substance is used. If the substance is stored in another room than the room where it is used, please state the building and room number for the room where the substance is stored.* | | | | | | | | | | |
|  | | | | | | | | | | |
| DEPARTMENT: |  | | BUILDING: | |  | | ROOM: | |  | |
|  |  | |  | |  | |  | |  | |
| **STORAGE LOCATION (only state information that differs from the information stated above)** | | | | | | | | | | |
|  | | | | | | | | | | |
| DEPARTMENT: | |  | | BUILDING: | |  | | ROOM: | |  |

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| **LIST OF ENCLOSED WORKPLACE INSTRUCTIONS (APBs)** |
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| --- | --- | --- | --- | --- | --- |
| **RESPONSIBLE MANAGER AND EMPLOYEE**  *State the name etc. of the person who initiates the use of the substance/product (responsible manager) as well as the name and civil registration number of the employee who works with the substance/material within the responsible manager’s area of responsibility.* | | | | | |
|  |  |  |  |  |  |
| Name of responsible manager: |  | Position: |  | Civil reg. no.: |  |
|  |  |  |  |  |  |
| Name of employee: |  | Position: |  | Civil reg. no.: |  |

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| --- | --- |
| **SUBSTANCE/PRODUCT**  *State the name(s) of the carcinogenic substance(s) and CAS numbers.* | |
|  | |
| Name(s) of substance(s): |  |
|  | |
| CAS number(s): |  |
|  | |

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| --- |
| **JOB TYPE AND WORK PROCEDURE** (Risk assessment for working with hazardous substances and products must be enclosed).  *(Completion not required: Refer to the completed risk assessment)* |

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| --- | --- | --- | --- |
| **AMOUNT USED**  *State the amount used e.g. mg/day, g/month or in total.* | | | |
| mg/day | mg/week | g/month | in total |
|  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NUMBER OF HOURS WORKING WITH THE SUBSTANCE/PRODUCT**  *State the number of hours e.g. hours per day/week/month/year or number of hours in total.* | | | | |  |
| hours/day | hours/week | hours/month | hours/year | number of hours in total | |
|  |  |  |  |  | |

|  |  |  |  |
| --- | --- | --- | --- |
| **PERIOD OF WORKING WITH THE SUBSTANCE/PRODUCT**  *State when the work started and ended, the date and the year.* | | | |
| Start date: |  | End date: |  |

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| --- | --- | --- | --- |
| **SIGNATURES**  *The responsible manager’s and employee’s signature. The document must be printed, scanned and emailed to AU HR, Development and Work Environment (*[*arbejdsmiljo@au.dk*](mailto:arbejdsmiljo@au.dk)*) where the document will be stored electronically for 40 years.* | | | |
|  |  |  |  |
| Responsible manager: |  | Date: |  |
|  |  |  |  |
| Employee: |  | Date: |  |
|  |  |  |  |