CHEMICAL RISK ASSESMENT

CRA COURSE – AGENDA

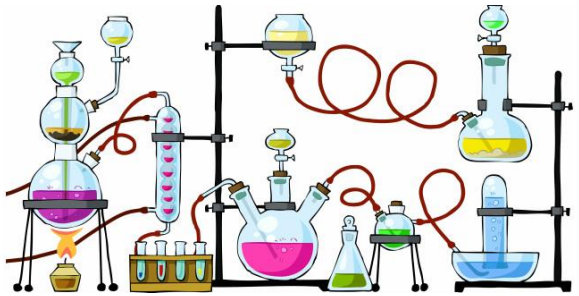
1. Chemical Risk Assesment.
2. Training and instruction.
3. Chemical Work Environment – Summary.

SAFETY AND REGULATIONS

Regulation on the execution of work no. 1839 from 14. December 2023:

- **§ 4.** **The work must, at all stages, be planned and organized in such a way that it can be carried out in a completely safe and healthy manner.**
- **§8** In the execution of the work, **the age, insight, work ability** and other prerequisites of the **employee must be taken into account.**
- **§ 16.** Unnecessary exposure to substances and materials must be avoided. The impact of substances and materials at work must therefore be reduced as much as reasonable taking into account the technical progress, and the limit values given by Arbejdstilsynet must not be exceeded.
- **§ 18.** The employer must ensure that each **individual employee, regardless of the nature and duration of the employment relationship**, receives adequate and appropriate training and instruction in performing the work in a safe manner.
- **§20**. The employer must ensure that employees from **a foreign company,** who perform work at the company receive appropriate instruction about the safety and health conditions at the company that are important for their work.

SAFE WORK = GOOD RESULTS



- ✓Planning and prepartion (Prep)
- ✓Procedures/instructions
- ✓Facilities/Equipment
- ✓Skills/competences
- ✓Practice
- ✓Realistic scenarios.

CHEMICAL RISK ASSESMENT

Executive Order on Work with Substances and Materials no. 381 from 12. April 2023:

Chapter 3 – Risk assesment § 6 + including following requirements:

- There must be a list/register of all dangerous substances and mixtures.
- You must consider substitution.
- It must be made on all hazardous substances and mixtures found in the workplace.
- It must be made on all processes developing hazardous substances.
- It must be in writing.
- It must be available to all employees.
- New activities must only be initiated once a risk assesment has been carried out .
- Risk assesment for **carcinogenic, mutagenic and reproductive toxic chemicals must be approved** by the local occupational health and safety organisation before starting the work.
- Must be revised when changes are made – in any case must be revised **every third year**.
- Can be in english, if everone in the workplace speaks and understand english.

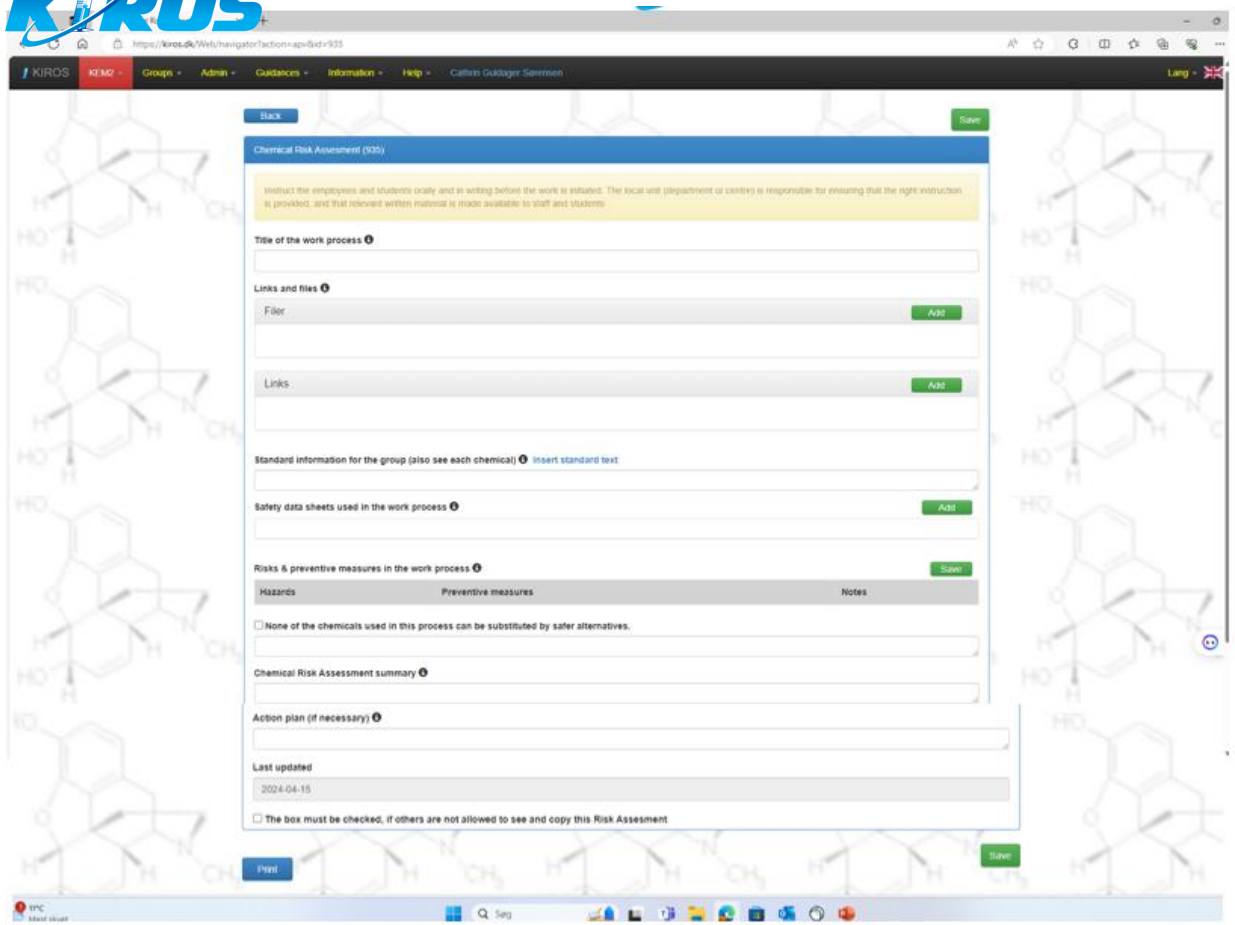
WORK PROCES FOR CHEMICAL RISK ASSESMENT

Carry out training → List the hazardous chemicals. → List the hazardous properties for each hazardous chemical. → List the risk of exposure, including intensity, amount and duration. → Describe the preventive measures → Make a risk assessment - conclusion. → Carry out training

Consider substitution!

”Exposure = dangerousness * concentration * duration * number”

TEMPLATE FOR CHEMICAL RISK ASSESMENT



At BCE you have a template I Labbook

labbook

EKSEMPEL KEMISK RISIKO VURDERING I KIROS – KOGNING AF SALPETERSYRE I MIKROOVN.

Oplukning af prøver før måling på AAS				
Metode forskrift DS/EN 13805 Log ind : Standard Distribute (ds.dk)				
Generelle sikkerhedsoplysninger:	Disse oplysninger hentes i Kiros (NAT-TECH standard tekster). • Førstehjælpsforanstaltninger • Brandbekæmpelse • Forholdsregler overfor udslip ved uheld • Placering af værnemidler • Eksponeringskontrol/personlige værnemidler • Bortskaffelse • Transportoplysninger • Ved Uheld – Ring 1-1-2. *Eller henvis til en intern sikkerhedsinstruks, vejledning eller lignende.*			
Sikkerhedsdatablade som anvendes i arbejdsprocessen:	Salpetersyre 65% - H272, H290, H331, H314 			
Identifikation af farlige trin og forebyggende tiltag:				
Proces/Kemikalie	**Risici/Farer**	**Tids og mængde påvirkning**	**Forebyggelse**	**Andet:**
Tilsætning af 3 ml konc. syre til hver prøve	Risiko for kontakt ved indånding og hudkontakt ved tilsætning	3 ml pr. prøve < 1min/prøve 1 gang per. måned	Brug kittel, handsker, briller og arbejd i stinkskab	Obs. på en evt. reaktion
Kogning af prøver i mikoovn	Prøver kan eksplodere ved forkert håndtering	1 time 1 gang per. måned	Instruktion for mikroovn og oplukning af prøver **SKAL** følges	Først håndter prøver efter afkøling
Håndtering af prøver efter oplukning og før analyse	Risiko for kontakt ved indånding og hudkontakt ved håndtering før analyse	5 ml pr. prøve < 2min/enhed 1 gang per. måned	Brug kittel, handsker, briller og arbejd i stinkskab	
Samlet vurdering:	Følges de forebyggende foranstaltninger er der ingen risiko for udsættelse for farlige kemikalier.			
Handleplan (hvis nødvendig):	Ingen handleplan.			
Links eller andet:	Indsæt links eller indsæt attachments.			
Sidst opdateret:	**Dato:**	**16-2-24**	**Initialer:**	**TGS**

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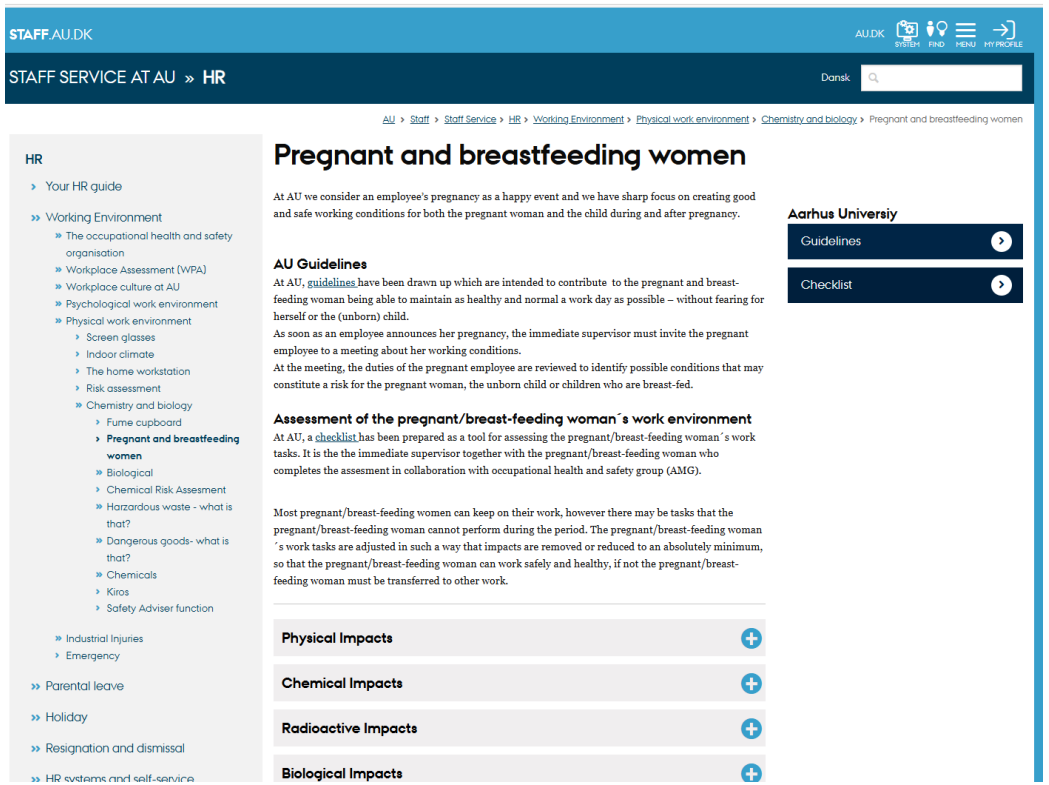
HEALTH

TEMPLATE FOR **PREGNANT AND BREAST-FEEDING WOMEN** - RISK ASSESMENT



STAFF.AU.DK

AU.DK SYSTEM FIND MENU MY PROFILE

STAFF SERVICE AT AU » HR

Dansk

AU › Staff › Staff Service › HR › Working Environment › Physical work environment › Chemistry and biology › Pregnant and breastfeeding women

HR

- Your HR guide
- Working Environment
  - The occupational health and safety organisation
  - Workplace Assessment (WPA)
  - Workplace culture at AU
  - Psychological work environment
  - Physical work environment
    - Screen glasses
    - Indoor climate
    - The home workstation
    - Risk assessment
    - Chemistry and biology
      - Fume cupboard
      - **Pregnant and breastfeeding women**
      - Biological
      - Chemical Risk Assesment
      - Harzardous waste - what is that?
      - Dangerous goods- what is that?
      - Chemicals
      - Kiros
      - Safety Adviser function
  - Industrial Injuries
  - Emergency
- Parental leave
- Holiday
- Resignation and dismissal
- HR systems and self-service

Pregnant and breastfeeding women

At AU we consider an employee's pregnancy as a happy event and we have sharp focus on creating good and safe working conditions for both the pregnant woman and the child during and after pregnancy.

AU Guidelines

At AU, guidelines have been drawn up which are intended to contribute to the pregnant and breast-feeding woman being able to maintain as healthy and normal a work day as possible – without fearing for herself or the (unborn) child.
As soon as an employee announces her pregnancy, the immediate supervisor must invite the pregnant employee to a meeting about her working conditions.
At the meeting, the duties of the pregnant employee are reviewed to identify possible conditions that may constitute a risk for the pregnant woman, the unborn child or children who are breast-fed.

Assessment of the pregnant/breast-feeding woman´s work environment

At AU, a checklist has been prepared as a tool for assessing the pregnant/breast-feeding woman´s work tasks. It is the the immediate supervisor together with the pregnant/breast-feeding woman who completes the assesment in collaboration with occupational health and safety group (AMG).

Most pregnant/breast-feeding women can keep on their work, however there may be tasks that the pregnant/breast-feeding woman cannot perform during the period. The pregnant/breast-feeding woman´s work tasks are adjusted in such a way that impacts are removed or reduced to an absolutely minimum, so that the pregnant/breast-feeding woman can work safely and healthy, if not the pregnant/breast-feeding woman must be transferred to other work.

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Guidelines

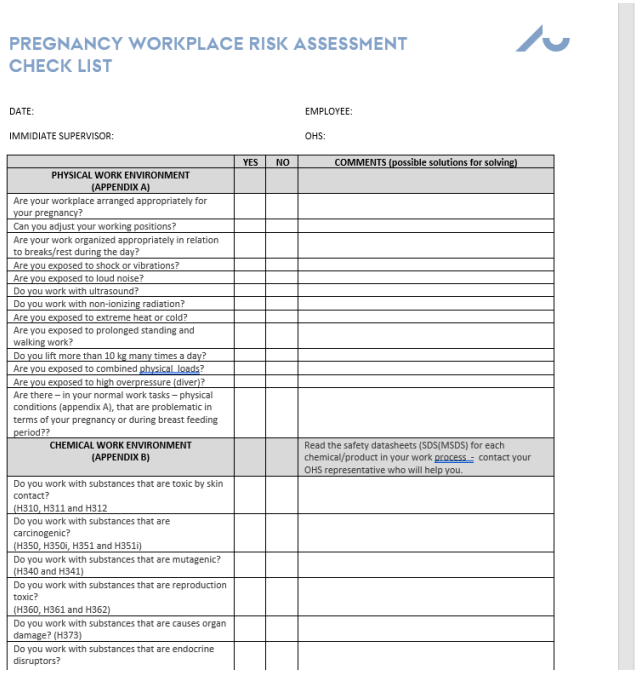
Checklist

Physical Impacts

Chemical Impacts

Radioactive Impacts

Biological Impacts

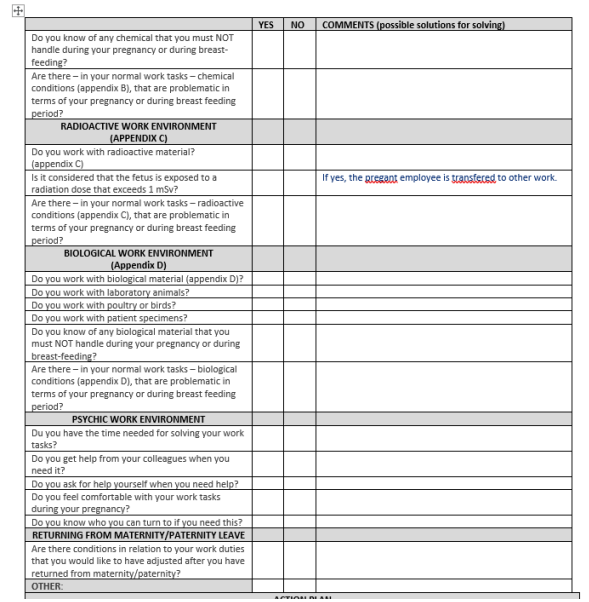


PREGNANCY WORKPLACE RISK ASSESSMENT
CHECK LIST

DATE: EMPLOYEE:

IMMIDIATE SUPERVISOR: OHS:

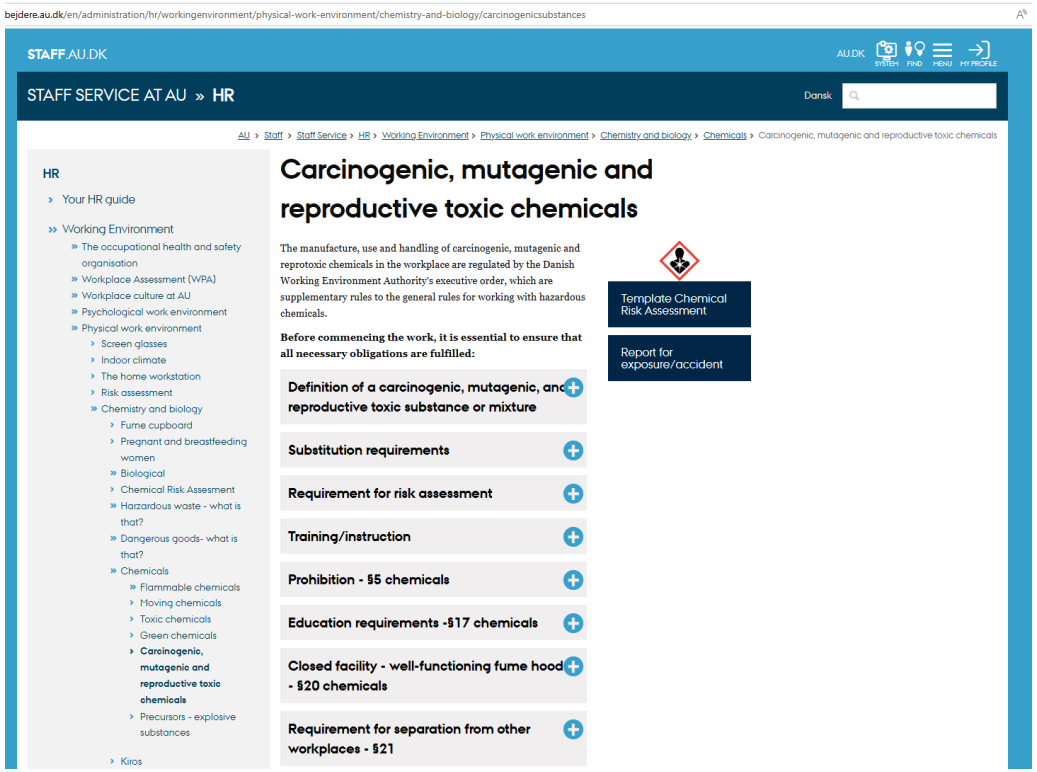
	YES	NO	COMMENTS (possible solutions for solving)
PHYSICAL WORK ENVIRONMENT (APPENDIX A)			
Are your workplace arranged appropriately for your pregnancy?			
Can you adjust your working positions?			
Are your work organized appropriately in relation to breaks/rest during the day?			
Are you exposed to shock or vibrations?			
Are you exposed to loud noise?			
Do you work with ultrasound?			
Do you work with non-ionizing radiation?			
Are you exposed to extreme heat or cold?			
Are you exposed to prolonged standing and walking work?			
Do you lift more than 10 kg many times a day?			
Are you exposed to combined physical loads?			
Are you exposed to high overpressure (diver)?			
Are there – in your normal work tasks – physical conditions (appendix A), that are problematic in terms of your pregnancy or during breast feeding period??			
CHEMICAL WORK ENVIRONMENT (APPENDIX B)			Read the safety datasheets (SDS(MSDS) for each chemical/product in your work process - contact your OHS representative who will help you.
Do you work with substances that are toxic by skin contact? (H310, H311 and H312			
Do you work with substances that are carcinogenic? (H350, H350i, H351 and H351i)			
Do you work with substances that are mutagenic? (H340 and H341)			
Do you work with substances that are reproduction toxic? (H360, H361 and H362)			
Do you work with substances that are causes organ damage? (H373)			
Do you work with substances that are endocrine disruptors?			

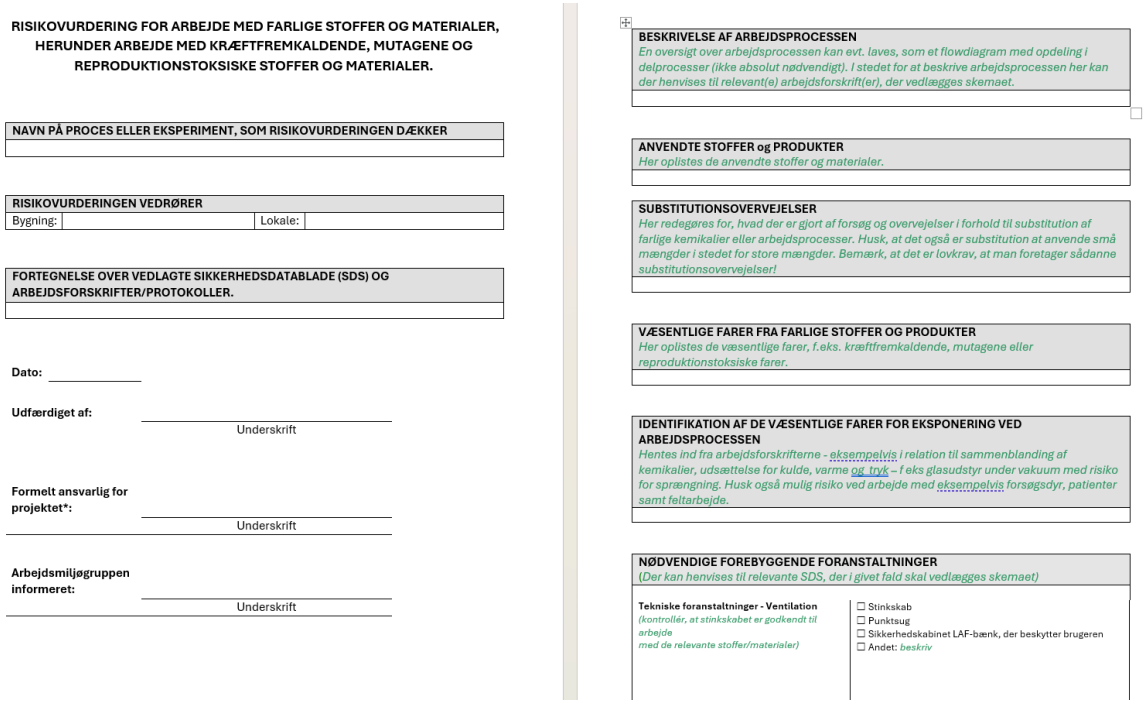


	YES	NO	COMMENTS (possible solutions for solving)
Do you know of any chemical that you must NOT handle during your pregnancy or during breast-feeding?			
Are there – in your normal work tasks – chemical conditions (appendix B), that are problematic in terms of your pregnancy or during breast feeding period?			
RADIOACTIVE WORK ENVIRONMENT (APPENDIX C)			
Do you work with radioactive material? (appendix C)			
Is it considered that the fetus is exposed to a radiation dose that exceeds 1 mSv?			If yes, the pregant employee is transfered to other work.
Are there – in your normal work tasks – radioactive conditions (appendix C), that are problematic in terms of your pregnancy or during breast feeding period?			
BIOLOGICAL WORK ENVIRONMENT (Appendix D)			
Do you work with biological material (appendix D)?			
Do you work with laboratory animals?			
Do you work with poultry or birds?			
Do you work with patient specimens?			
Do you know of any biological material that you must NOT handle during your pregnancy or during breast-feeding?			
Are there – in your normal work tasks – biological conditions (appendix D), that are problematic in terms of your pregnancy or during breast feeding period?			
PSYCHIC WORK ENVIRONMENT			
Du you have the time needed for solving your work tasks?			
Do you get help from your colleagues when you need it?			
Do you ask for help yourself when you need help?			
Do you feel comfortable with your work tasks during your pregnancy?			
Do you know who you can turn to if you need this?			
RETURNING FROM MATERNITY/PATERNITY LEAVE			
Are there conditions in relation to your work duties that you would like to have adjusted after you have returned from maternity/paternity?			
OTHER:			

https://medarbejdere.au.dk/en/administration/hr/workingenvironment/physical-work-environment/chemistry-and-biology/pregnant-and-breastfeeding-women

TEMPLATE FOR **CR**AN RISK ASSESMENT





RISIKOVURDERING FOR ARBEJDE MED FARLIGE STOFFER OG MATERIALER, HERUNDER ARBEJDE MED KRÆFTFREMKALDENDE, MUTAGENE OG REPRODUKTIONSTOKSISKE STOFFER OG MATERIALER.

NAVN PÅ PROCES ELLER EKSPERIMENT, SOM RISIKOVURDERINGEN DÆKKER

RISIKOVURDERINGEN VEDRØRER

Bygning: | Lokale:

FORTEGNELSE OVER VEDLAGTE SIKKERHEDSDATABLADE (SDS) OG ARBEJDSFORSKRIFTER/PROTOKOLLER.

Dato: _____

Udfærdiget af: _____ Underskrift

Formelt ansvarlig for projektet*: _____ Underskrift

Arbejdsmiljøgruppen informeret: _____ Underskrift

BESKRIVELSE AF ARBEJDSPROCESSEN
En oversigt over arbejdsprocessen kan evt. laves, som et flowdiagram med opdeling i delprocesser (ikke absolut nødvendigt). I stedet for at beskrive arbejdsprocessen her kan der henvises til relevant(e) arbejdsforskrift(er), der vedlægges skemaet.

ANVENDTE STOFFER og PRODUKTER
Her oplistes de anvendte stoffer og materialer.

SUBSTITUTIONSOVERVEJELSER
Her redegøres for, hvad der er gjort af forsøg og overvejelser i forhold til substitution af farlige kemikalier eller arbejdsprocesser. Husk, at det også er substitution at anvende små mængder i stedet for store mængder. Bemærk, at det er lovkrav, at man foretager sådanne substitutionsovervejelser!

VÆSENTLIGE FARER FRA FARLIGE STOFFER OG PRODUKTER
Her oplistes de væsentlige farer, f.eks. kræftfremkaldende, mutagene eller reproduktionstoksiske farer.

IDENTIFIKATION AF DE VÆSENTLIGE FARER FOR EKSPONERING VED ARBEJDSPROCESSEN
Hentes ind fra arbejdsforskrifterne - eksempelvis i relation til sammenblanding af kemikalier, udsættelse for kulde, varme og tryk – f eks glasudstyr under vakuum med risiko for sprængning. Husk også mulig risiko ved arbejde med eksempelvis forsøgsdyr, patienter samt feltarbejde.

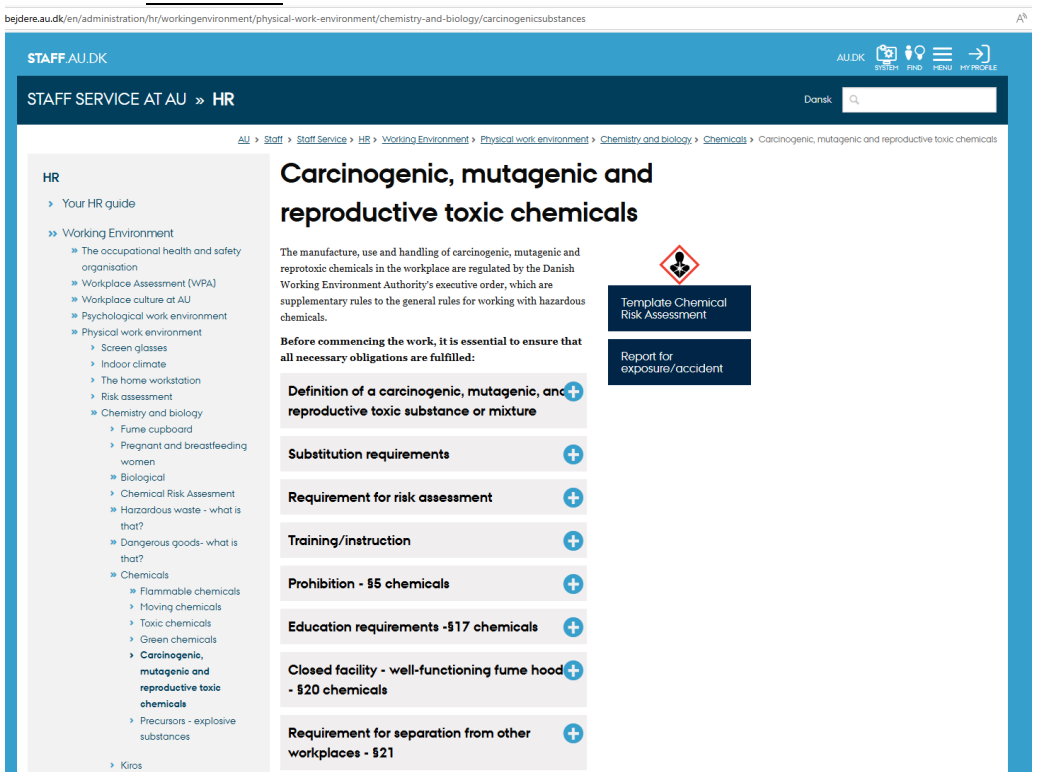
NØDVENDIGE FOREBYGGENDE FORANSTALTNINGER
(Der kan henvises til relevante SDS, der i givet fald skal vedlægges skemaet)

Tekniske foranstaltninger - Ventilation
(kontrollér, at stinkskabet er godkendt til arbejde med de relevante stoffer/materialer)

☐ Stinkskab
☐ Punktsug
☐ Sikkerhedskabinet LAF-bænk, der beskytter brugeren
☐ Andet: *beskriv*

https://medarbejdere.au.dk/en/administration/hr/workingenvironment/physical-work-environment/chemistry-and-biology/carcinogenicsubstances

§45 ACCIDENTS – EXPOSURE TO CARCINOGENIC, MUTAGENIC AND/OR REPRODUCTIVE TOXIC CHEMICALS.

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SKEMA 2 – EKSPONERING CRM

Registrering af personer der er blevet eksponeret i forbindelse med arbejde med kræftfremkaldende, mutagen eller reproduktionstoksiske stoffer og materialer.

Skemaet anvendes **KUN** i følgende tilfælde:

- Ved uheld/ulykker, hvor der er sket en eksponering.
- Hvor det på basis af risikovurderingen er konkluderet, at der er en reel risiko for eksponering.

Skemaet udfyldes af den ansatte, der arbejder med stoffet/produktet i samarbejde med den ansvarlige leder (forsker, vejleder eller kursusansvarlig).

Ansvaret for udfyldelse af skemaet ligger hos den ansvarlige leder.

NAVN PÅ PROCES ELLER EKSPERIMENT SOM RISIKOVURDERINGEN DÆKKER

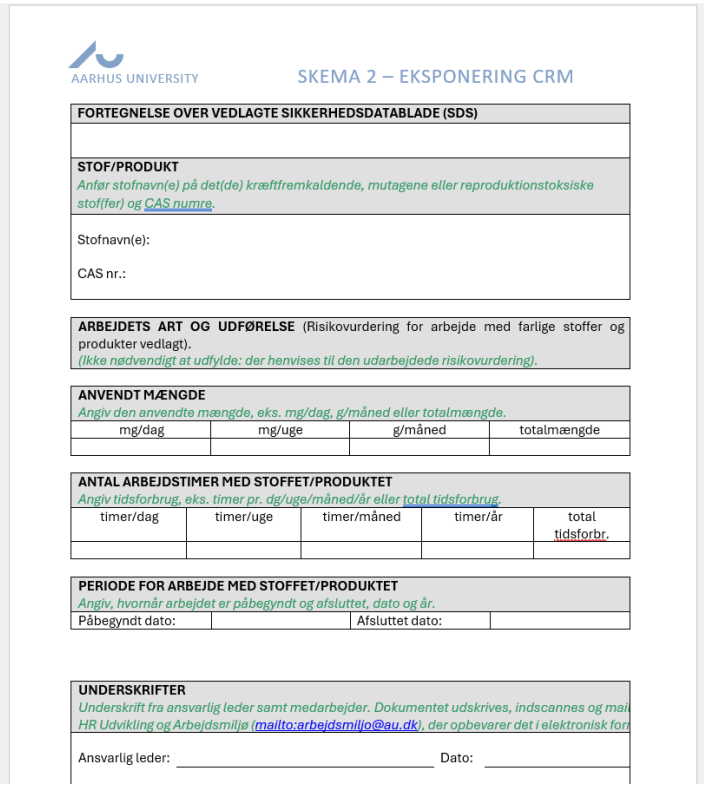
ARBEJDSSTED
Angiv bygning og lokalenummer, hvor stoffet/produktet anvendes. Hvis opbevaringsrummet er forskellig fra anvendelsesrummet, angives bygning og lokalenummer på opbevaringsrummet.

INSTITUT: BYGNING: LOKALE:

OPBEVARINGSSTED (Kun ændringer i forhold til ovenstående beskrives!)

INSTITUT: BYGNING: LOKALE:

ANSVARLIG LEDER OG MEDARBEJDER
Anfør navn m.v. på den person, der igangsætter brugen af stoffet/produktet (ansvarlig leder), samt navn og CPR-nummer på den medarbejder, der under den ansvarlige leders ansvar, arbejder med stoffet/materialet.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SKEMA 2 – EKSPONERING CRM

FORTEGNELSE OVER VEDLAGTE SIKKERHEDSDATABLADE (SDS)

STOF/PRODUKT
Anfør stofnavn(e) på det(de) kræftfremkaldende, mutagene eller reproduktionstoksiske stof(fer) og CAS numre.

Stofnavn(e):

CAS nr.:

ARBEJDETS ART OG UDFØRELSE (Risikovurdering for arbejde med farlige stoffer og produkter vedlagt).
(Ikke nødvendigt at udfylde: der henvises til den udarbejdede risikovurdering).

ANVENDT MÆNGDE
Angiv den anvendte mængde, eks. mg/dag, g/måned eller totalmængde.

mg/dag	mg/uge	g/måned	totalmængde

ANTAL ARBEJDSTIMER MED STOFFET/PRODUKTET
Angiv tidsforbrug, eks. timer pr. dg/uge/måned/år eller total tidsforbrug.

timer/dag	timer/uge	timer/måned	timer/år	total tidsforbr.

PERIODE FOR ARBEJDE MED STOFFET/PRODUKTET
Angiv, hvornår arbejdet er påbegyndt og afsluttet, dato og år.

Påbegyndt dato:		Afsluttet dato:	

UNDERSKRIFTER
Underskrift fra ansvarlig leder samt medarbejder. Dokumentet udskrives, indscannes og mail HR Udvikling og Arbejdsmiljø (mailto:arbejdsmiljo@au.dk), der opbevarer det i elektronisk for

Ansvarlig leder: _____ Dato: _____

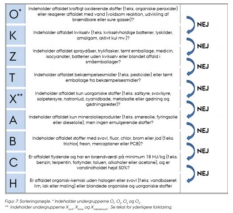
§45 An accident form must be completed **if an exposure has occurred**. The form is sent to AU HR, via your local occupational health and safety organisation – **the form is stored for 40 years for carcinogenic chemicals and 5 years for reprotoxic chemicals.**

TRAINING AND INSTRUCTION

TRAINING AND INSTRUCTION - NR. 381 FRA 12. APRIL 2023

The purpose of training and instruction is for the employee to know the dangers and risks that may be associated with the work. Training and instruction must include at least the following:

1. Understanding the hazard labelling.
2. Safe handling, use and storage – restrictions on use.
3. Proper use of safety measures and personal protective equipment
4. What to do if an accident occcurs
5. Waste



1. Instruction as to where hazardous chemicals are found, as well as an instruction in reading hazard labelling and safety data sheets.
2. Instruction in safe handling, use and storage, including any restrictions on use.
3. Instruction in proper use of safety measures and use of personal protective equipment and their locations in the workplace.
4. Instruction in safety measures in case of an accident, e.g. fire, spillage, etc.
5. Instruction in proper diposal of chemical waste, including personal protective equipment after use and other information about handling waste, such as specially labeled waste.

CHEMICAL RISK ASSESSMENT, TRAINING AND INSTRUCTIONS

List the hazardous chemicals

Label SDS

Chemical Risk Assessment:

Exposure

Hazards

Safety measures

Technical measures

Personal Protective Equipment

Disclosure of the result of the risk assessment:

Training/ Instruction

Inspections - Audits

Result = Desired behaviour ☺

CHEMICAL WORK ENVIRONMENT

SUMMARY

CHEMICAL WORK ENVIRONMENT - SUMMARY

1.Plan and organize the work in such a way that it can be carried out in a completely safe and healthy manner.

2.Get information about the chemical by reading the **safety data sheet**, information about which hazardous properties, handling, storage, types of personal protective equipment.

3. Check whether there are hazardous, including CRAN chemicals in the chemicals/products – this is stated on the label or in the safety data sheet- look for the pictograms and H-statements.

4. Try to replace the hazardous chemicals with less harmful chemicals (substitution). Call for less harmful alternatives from the supplier.

5.Check if the preventive measures are in order, e.g:

* Closed machinery, appliances, equipment,
* Well-functioning extraction/ventilation (fumehood point extractor, suction cupboards)
* Personal protective equipment (type of gloves, respirator, safety glasses, clothing)
* Personal hygiene
* Requirements for special handling and storage (poison cabinet, fire storage – rules for pregnant and breastfeeding woman).
* Requirements for special training (epoxy education).

§13. When carrying out the work, it must be ensured,

- 2. **that the danger of explosion, fire, poisoning and suffocation, etc. is effectively prevented,**
- 3. that **effective measures are taken to prevent spills, leakages and the development of dust, smoke, steam, odour, gas,** etc., where this can cause a danger of safety or health..

CHEMICAL WORK ENVIRONMENT - SUMMARY

6. Conduct a chemical risk assessment.

Think through the entire work process, make a chemical risk assessment, focusing on the scenarios where an exposure can occur and highlight what measures are established to effectively remove the exposure. Exposure to hazardous substances and materials must be eliminated or limited in connection with the performance of the work by**:**

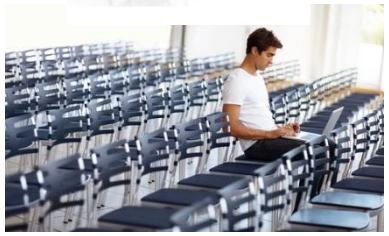
- the quantity of hazardous substances and materials **must be limited** to the minimum necessary for the work (substitution if necessary);
- through the **design** of the workplace (Encapsulating the work process),
- by the use of suitable **preventive measures**, e.g. process ventilation,
- by limiting to a **minimum the number of employees** affected or at risk of being affected by substances and materials;
- through appropriate working methods, including the **safe handling**, storage and transport of hazardous substances and materials;
- by appropriate measures with regard to **personal hygiene** and cleaning of surfaces,
- andby the use of suitable **personal protective** equipment.

If there is a work process that involves exposure to the employees, **measurements** must be made, especially when it is deemed necessary for compliance with the **limit values**, cf. the Executive Order on Limit Values for Substances and Materials.

The employer must **continuously check** whether the conditions are in order, including making the **necessary measurements to carry out the control**. Measurement results must be stored and presented to the Danish Working Environment Authority on request.

CHEMICAL WORK ENVIRONMENT - SUMMARY

7. **Make a written instruction** that can be used for training/instruction (SOP, guidance, poster, video, etc.)
Establish common principles for instruction on working with hazardous chemicals.

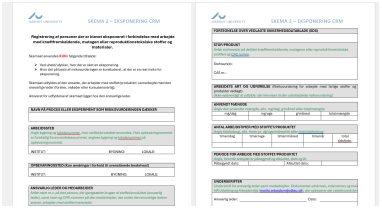


§11. If an employee **work alone** during a work process and this may cause a special danger to the employee, the work must be organised in such a way that this danger is counteracted. **If the danger cannot be countered, the employee must not work alone.**

Stk. 2. **It must be ensured that only employees who have received appropriate training have access to areas where there is a particular danger.**

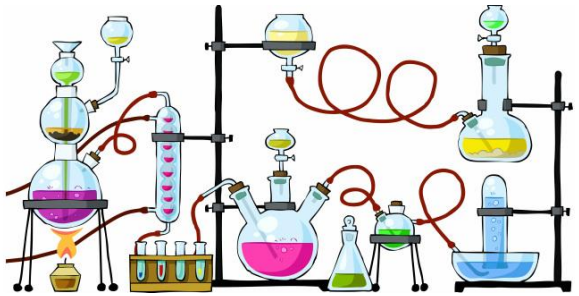
8. Make a **procurement policy** for chemicals, e.g.:

* We want to avoid CRAN chemicals
* Establish procedures for examining new chemicals before they are purchased
* Establish procedures for safe shopping.



9. In the event of an accident and exposure – report it as a working environment injury and for carcinogenic, mutagenic and reprotoxic chemicals, a special form is required.

SAFE WORK = GOOD RESULTS



- ✓Planning and prepartion (Prep)
- ✓Procedures/instructions
- ✓Facilities/Equipment
- ✓Skills/competences
- ✓Practice

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UNIVERSITET

§ 20 CLOSED FACILITY AND OTHER REQUIREMENTS

For many of the carcinogenic, mutagenic and reprotoxic chemicals listed in the "cancer" declaration Annex 1 and 2, it is stated **next to Laboratory use § 20**. This means that the work process may only take place in a **closed facility or in any other way that prevents the release of the substances or materials, so that any influence from this is excluded to the extent.**

A well-functioning fumehood, where inspections/measurements are carried out before use, checked annually by AU facility and have a certificate of trace gas measurement, can meet the above conditions.
Good laboratory practice for fumehoods, such as hatch opening, alarming, setting up equipment in relation to flow, cleaning, etc. must be followed.

Example: Chloroform, dichlormethan and formaldehyde.

There may be other requirements.

- ✓ § 5 Prohibition of use, the Danish Working Environment Authority may permit a deviation, requires an application.
  Example: Benzidin, 2-naphthylamin and 4-aminobiphenyl.

- ✓ § 17 may only be handled by an employee with a special section 17 education.
  Example : Work involving exposure to fumes from metal welding (welding fumes).

- ✓ §21 The work with the chemical must be effectively separated from other workplaces.
- ✓ § 32 must be stored behind a lock.
- ✓ § 30-34 containers must be marked according to CLP, waste must be marked with the yellow cancer mark.
- ✓ §45 Accidents – go to next slide.

- ✓ § 47-50 requires special approval from the Danish Working Environment Authority before work can begin.
  Example : Hexachlorbenzen, p-cresidin and 1,2-dimethylhydrazine.

EXTRA

GOOD ADVICES FOR CHEMICALS

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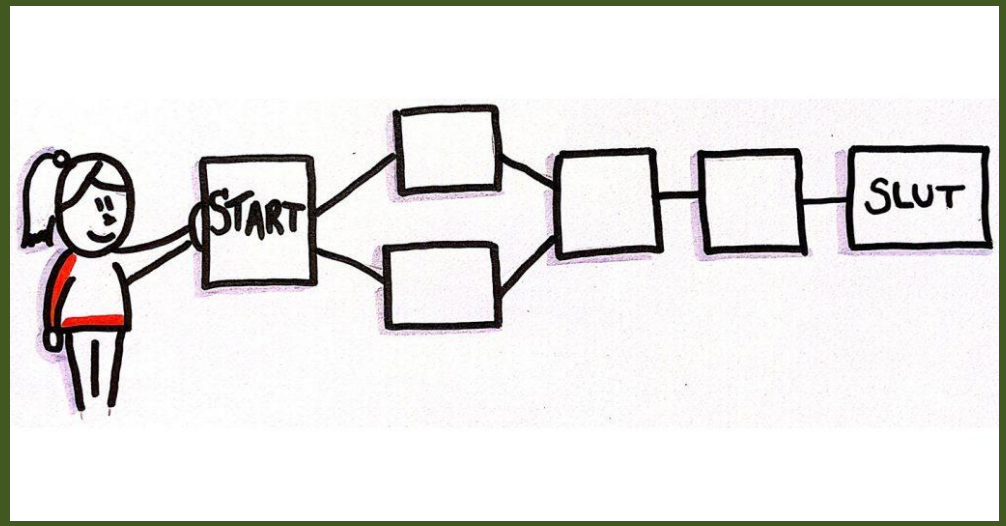


CHEMICALS

Recieving

Is the chemical received hazardous?

Can the hazard label be read and understood?
CLP-marking.

Was a Safety Data Sheet (SDS) included or a link to it?
Is the chemical registered in Kiros?

CHEMICALS

Storage

Ulykke i Tianjin 2015

How should the chemical be stored, are there special conditions that must be taken into account?

- Toxic chemicals (H300, H301, H310, H311, H330, H331 and H370),
  Carcinogenic (H350),
  Mutagenic (H340),
  Reproductive toxic (H360) there is a requirement for storage under lock - Sikker opbevaring af gifte (mst.dk)

- **Flammable liquids** are limited by **storage units** - Brandfarlige og brændbare væsker (brs.dk)

- **Gasses** are limited by **storage units** - Microsoft Word - 101217_Vejledning om gasser.doc (bsik.dk)

- Corrosive chemicals must be stored below eye level.

- Chemicals that react dangerously with each other must not be stored together - Segregation.
  Example: Acids and bases - Opbevaring af laboratoriekemikalier - HK (yumpu.com)

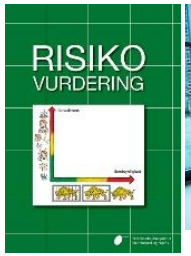
CHEMICALS

Handling

Is a **chemical risk assesment** prepared?

Which **preventive measures** should be used?

Which **personal protective equipments** should be used?



Is a **training/instruction** performed?

Are there any special rules that are taken into account before the work begins?

- Working with carcinogenic and mutagenic chemicals requires a risk assessment, which must first be approved by the local AMG.
  Foranstaltninger til forebyggelse af kræftrisikoen ved arbejde med stoffer og materialer - Arbejdstilsynet

- Working with flammable liquids > 10 liters and explosive chemicals requires an assessment of whether it is an ATEX zone or not. If there are ATEX zones, an ATEX risk assessment (WPA) must be prepared.
  Bekendtgørelse om elektrisk materiel og elektriske sikringssystemer til anvendelse i en potentielt eksplosiv atmosfære (retsinformation.dk)

- Working with epoxy and isocyanates requires a statutory education - Arbejdstilsynet epoxy- og isocyanatholdige produkter

- There are restrictions for pregnant and breastfeeding women on which chemicals they can handle, a risk assessment must be carried out.
  Gravides og ammendes arbejdsmiljø - Arbejdstilsynet (at.dk)

- Working with pesticides may require special training -Professionel bruger (mst.dk)

CHEMICALS

Accidents

What should happen for each point where a risk of exposure has been identified in the event of an accident?

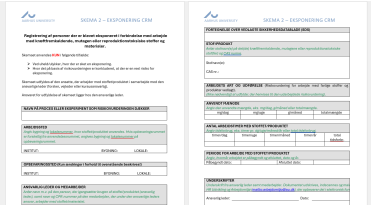
How is waste collected?
Should personal protective equipment be used?
Where is the fire extinguishing equipment, running water, emergency shower, eyewash etc.?
Should the area be closed off and building evacuated?

F.eks.:

A. If a chemical spill occurs in the fumehood, collect it with damp paper that is collected for the waste container, change gloves and possibly labcoat if there is a spill on this.

B. If there is a spill of chemicals outside the fumehood, evacuate the area, provide first aid to those in distress, e.g. during the emergency shower. Afterwards, clean with full equipment (labcoat/protective suit, gloves, respirator and goggles, depending on the chemical and the room is well ventilated before use.

C. In the event of a fire, alarms, extinguish the fire using fire extinguishing equipment while the building is being evacuated and the emergency response is on the way.



REMEMBER to fill out a special form if you are exposed to carcinogenic, mutagenic and reprotoxic chemicals that are stored via the local working environment group for 40 and 5 years, respectively.

CHEMICALS

Waste

O*	Indeholder affaldet kraftigt oxiderende stoffer (f.eks. organiske peroxider) eller reagerer affaldet med vand (voldsom reaktion, udvikling af brændbare eller sure gasser)?	NEJ
K	Indeholder affaldet kviksølv (f.eks. kviksølvholdige batterier, lyskilder, amalgam, aktivt kul mv.)?	NEJ
Z	Indeholder affaldet spraydåser, trykflasker, tømt emballage, medicin, isocyanater, batterier uden kviksølv eller blandet affald i småemballager?	NEJ
T	Indeholder affaldet bekæmpelsesmidler (f.eks. pesticider) eller tømt emballage fra bekæmpelsesmidler?	NEJ
X**	Indeholder affaldet kun uorganiske stoffer (f.eks. saltsyre, svovlsyre, salpetersyre, natronlud, cyanidbade, metalsalte eller gødning og gødningsrester)?	NEJ
A	Indeholder affaldet kun mineralolieprodukter (f.eks. smøreolie, fyringsolie eller dieselolie), men ingen emulgerende stoffer?	NEJ
B	Indeholder affaldet stoffer med svovl, fluor, chlor, brom eller jod (f.eks. trichlor, freon, mercaptaner eller PCB)?	NEJ
C	Er affaldet flydende og har en brændværdi på minimum 18 MJ/kg (f.eks. benzin, terpentin, fortynder, toluen, alkoholer eller acetone), og er vandindholdet højst 50%?	NEJ
H	Er affaldet organisk-kemisk uden halogen eller svovl (f.eks. vandbaseret lim, lak eller maling) eller blandede organiske og uorganiske stoffer	

*Figur 7: Sorteringsnøgle. * Indeholder undergrupperne O_1, O_2, O_3 og O_4.*
*** Indeholder undergrupperne X_{syre}, X_{base} og $X_{salpetersyre}$. Se tekst for yderligere forklaring.*

Instruction in the correct sorting and disposal of chemical waste, including waste group and waste fraction.

Instruction of other waste, including special labelling of waste.

Instruction in the correct disposal of protective equipment after use and other handling of waste, including specially marked waste.