



# AU Chemicals Network

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Chemical legislation, work environment, dangerous goods, waste, Kiros

# Kiros

- AU's database for chemicals
- Contains SDS and tox data
- Administration of the group's chemistry
- Kiros admin and Kiros.dk

# What to register?

- Hazardous chemicals that are in use in the group
- Own mixtures
- Own synthesized products
- Exempted: Substances and mixtures that are not hazardous (not classified or max 1% with occupational limit). But you can register them anyway

# Why Kiros?

- Centralized knowledge of classification of chemicals
- Basis for uniform handling of the safety work
- Classification of mixtures
- Exchange of chemicals across AU

# Use of Kiros

- Log-in to Kiros
- Search of chemicals in Kiros
- Add chemicals to your group
- Add new users to your group
- Notify Kiros with new chemicals
- Labels, lists, "tillægsdatabladet"
- Chemical risk assessments

# Log-in to Kiros

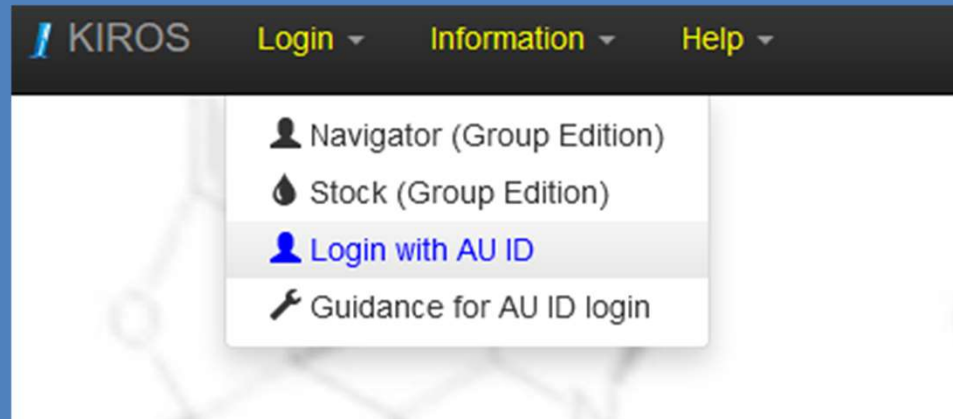
- Kiros.dk



The screenshot shows the homepage of the Kiros website. The background is a repeating pattern of chemical structures. At the top left, there is a navigation bar with links for 'KIROs', 'Login -', 'Information -', and 'Hjælp -'. At the top right, there is a language selection menu labeled 'Sprog -' with a Danish flag icon. The main content area features the 'KIROs' logo in blue and white. Below the logo is a search bar with the placeholder text 'Start typing...' and a green 'Søg' button. Under the search bar, there are links for 'Avanceret søgning', 'Hjælp', and 'Om...'. Below these links, it states 'Kiros indekserer 30 057 kemikalier'. There is also a link for 'Vis labels maskinen' and a small icon of a label printer. At the bottom of the page, there is a pink box containing contact information for administrators. The text in the pink box reads: 'Administratører kan nu kun logge ind med AU ID. Kontakt en af nedenstående hvis der ikke er tilknyttet et AU ID til din gruppe. Lina Waldstrøm Asmussen, for Health, lina.waldstrom@au.dk, 87167608. Carsten Petersen, for NAT, cape@chem.au.dk, 93508459. Astrid van der Aa Kühle, for NAT, aak@mbg.au.dk, 93508173.'

# Log-in to Kiros

- Choose user type





# Log-in to Kiros

- Log in (contact the group's admin)

Please choose the group you want to login to.

AABOGADE
ASE_STUDENT
Biocatalysis
BIORAF
BIO_MP

### Navigator Login

Username:

Password:

# Search for chemicals (user)

- Simple search in Kiros...

**KIROS**

Start typing...

[Advanced search](#) [Help](#) [About...](#)

Kiros is indexing 29,875 chemicals

[Show all chemicals in HB](#)

[Show the Labels Engine](#)

**Tetrahydrofuran**

**Hazards**

Flammable liquid	Corrosive
Highly flammable	Very toxic
Extremely flammable	Very toxic to aquatic life
Extremely flammable	Very toxic to aquatic life with long lasting effects
Extremely flammable	Very toxic to aquatic life with long lasting effects
Extremely flammable	Very toxic to aquatic life with long lasting effects
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Extremely flammable	Very toxic to aquatic life with long lasting effects

Login:  
User: CP  
PW: CP

# Search for chemicals (user)

- ....first in own group..

The screenshot shows the KIROS web interface. At the top, a navigation bar includes 'CP -', 'Grupper -', 'Admin -', 'Vejledninger -', 'Information -', 'Hjælp -', and 'Carsten Pedersen'. The main header features the 'KIROS' logo, a search bar containing 'acetone', and a yellow button labeled 'Søg i hele Kiros'. Below the search bar, a 'Print' button is visible. The search results display '1 Acetone (laboratoriebrug)' with a 'Fare' (Hazard) label. Below this, GHS hazard symbols are shown: GHS02 (Flammable liquid) and GHS07 (Irritant). The text 'Key: 27120 CAS-nr.: 67-64-1 H-sætninger: EUH 066-H225-H319-H336' is also present. The background of the interface shows faint chemical structures.

# Search for chemicals (user)

- ....then in all Kiros..


The screenshot displays the Kiros web application interface. At the top left is the Kiros logo. A search bar contains the text 'acetone' and a green 'Search' button. Below the search bar are links for 'Advanced search', 'Help', and 'About...'. A yellow highlight is placed over the 'Search within Group' button. Below the search bar is a 'Print' button. The search results are listed as follows:

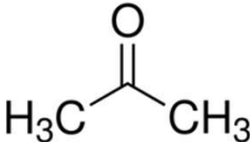
- 1 Acetone oxime **Danger**  
GHS02 GHS05 GHS07 GHS08 Key: 13603 CAS-no.: 127-06-0 H-code(s)/statement(s): H228-H312-H317-H318-H351.1
- 2 Acetone-d6 **Danger**  
GHS02 GHS07 Key: 405 CAS-no.: 666-52-4 H-code(s)/statement(s): EUH 066-H225-H319-H336
- 3 Acetone 10%<=konc.<=20% **Warning**


# Search for chemicals (user)

- ....click leads to "the Navigator page"

Acetone (laboratoriebrug)



Identification: 

Key	27120
Name	Acetone (laboratoriebrug)
Picture	
Synonyms	Acetone;Propan-2-one;Propanone
CAS-No.	67-64-1
EC-No.	200-662-2
Index-No.	606-001-00-8
Molecule formula	
Molecule weight	58.08
Product Type	Laboratoriekemikalier. Kemikalier

Safety: New CLP rules 


**Danger**

GHS pictogram(s)

GHS02  GHS07 

# Search for chemicals (user)

- ....and at the bottom of the page you find which groups have registered this chemical and the safety data sheets..

Resources: 

Literature references	
Registered groups	AGRO1 Palle Jørgensen , ASE_STUDENT Trine Thomsen , Anis Anne Krusturup Svenson , Food Sofie Freund , Frugt Karin Henriksen , HB Carsten Pedersen , Invitro Karin Henriksen , Robert Kontaktperson , Lab470 Tina Hindkjær , MedBiokem413 Medicinsk Biokemi Lab 413 gruppen , Skou_461 Institut for Biomedicin, Skou bygningen 461 , anabind Anatomi Bindeva Biofysik Lab 131 gruppen , biomed139 Holger Brüggemann , carm Peter Carmeliet , cfin Klin Sundhedsvidenskabelige Fakultet Aarhus Universitet Farmakologi gruppen , farm316 Farmakologi gruppen , farm330 Farmakologi Lab 330 gruppen , farm352 Farmakologi Lab 352 gruppen , f 261 Lab 319 gruppen , hum28 Human Genetik Lab 28 gruppen , humd1 Human Genetik Lab 528 gruppen , immi564 IMMI Lab 564 gruppen , ioklinik Klinikodont , klin1259 Klinisk Institut klinsektionsstue Klinisk Institut Sektionsstue gruppen , medbio221 Medicinsk Biokemi Lab , medbio426 Medicinsk Biokemi Lab 426 gruppen , odontcent Bente Maibøl Jensen , retsme gruppen , retspato Det Sundhedsvidenskabelige Fakultet Aarhus Universitet Retspatologi gr Lange , skou139 Stine Yde Nielsen , skou139251 Josephine Mie Møller Gjern , skou233 IM gruppen , skou425 Helle Prætorius Øhrwald , skou433JK Institut for Biomedicin, Skou bygn bygningen 451b , stereo Stereologi og Mikroskopi , sunfys Det Sundhedsvidenskabelige Fa
Chemical Risk Assessment that reference to this chemical	
Manual	<a href="#">Acetone_SDS_GHS_DK_2014.pdf</a> <a href="#">Acetone_SDS_GHS_UK_2014.pdf</a>
Links til andre datablade	<a href="https://www.sigmaaldrich.com/catalog/search?term=67-64-1&amp;interface=CAS%20No.&amp;N=0&amp;www.merckbiosciences.com">https://www.sigmaaldrich.com/catalog/search?term=67-64-1&amp;interface=CAS%20No.&amp;N=0&amp;www.merckbiosciences.com</a> <a href="http://www.alfa.com/en/gp140w.pgm?task=product&amp;srctype=CAS&amp;PSvalue=67-64-1">http://www.alfa.com/en/gp140w.pgm?task=product&amp;srctype=CAS&amp;PSvalue=67-64-1</a> <a href="https://extranet.fisher.co.uk/insight2_uk/mainSearch.do?keywords=67-64-1">https://extranet.fisher.co.uk/insight2_uk/mainSearch.do?keywords=67-64-1</a> <a href="http://www.iris-biotech.de">www.iris-biotech.de</a> <a href="http://www.acros.com/DesktopModules/Acros_Search_Results/Acros_Search_Results.aspx">http://www.acros.com/DesktopModules/Acros_Search_Results/Acros_Search_Results.aspx</a> <a href="https://www.sigmaaldrich.com/MSDS/MSDS/PleaseWaitMSDSPage.do?language=&amp;country=DK&amp;AdvancedSearchPage.do?TabSelection=RelatedInformation">https://www.sigmaaldrich.com/MSDS/MSDS/PleaseWaitMSDSPage.do?language=&amp;country=DK&amp;AdvancedSearchPage.do?TabSelection=RelatedInformation</a>
Kiros SDS / CP APB	


# Search for chemicals (user)

- Advanced search

The image displays the KIROS website's advanced search interface. The main page features the KIROS logo and a search bar. The advanced search form includes fields for Name, Key, CAS-No., H-code(s), GHS pictogram(s), P-code(s), and checkboxes for various chemical categories like 'harmful to pregnant women', 'poisonous', 'cancer-causing', and 'peroxides'. It also has fields for HSP-course, index-No., long-term effects, and EC-No. A dropdown menu for 'Product Type' is open, showing options like 'Acrolein', 'Desinfektionsmittel', etc. A red arrow points to the 'CP' option in the dropdown. Below the main form is an 'In group' section with a list of groups including 'BIOMED', 'CARBENG', 'CB3131', 'CBFAAET2002', 'CCUS', 'CD', 'CDS', 'COMI', 'COLO', and 'CP', with 'CP' highlighted. There are also fields for 'Building', 'Room', 'Cupboard', 'Shelf', 'Chemical Number', 'Date of Purchase', 'Expiry date', and 'Batchnummer'.

# Search for chemicals (user)

- Advanced search

Advanced search 

**Name**

Find results with at least one of the names.

Find results with all names.

Find results without any of the names.


**Key**


**CAS-No.**


**H-code(s)/statement(s)**


**GHS pictogram(s)**

**P-code(s)/statement(s)**

Show chemicals that are harmful to pregnant women and breastfeeding (H/P). 

Show chemicals that are poisonous   Type 1: Krav om opbevaring under lås  
 Type 2: Krav om giftansvarlig  
 Type 3: Pligt til anmeldelse af tyveri (Lagerstyring)

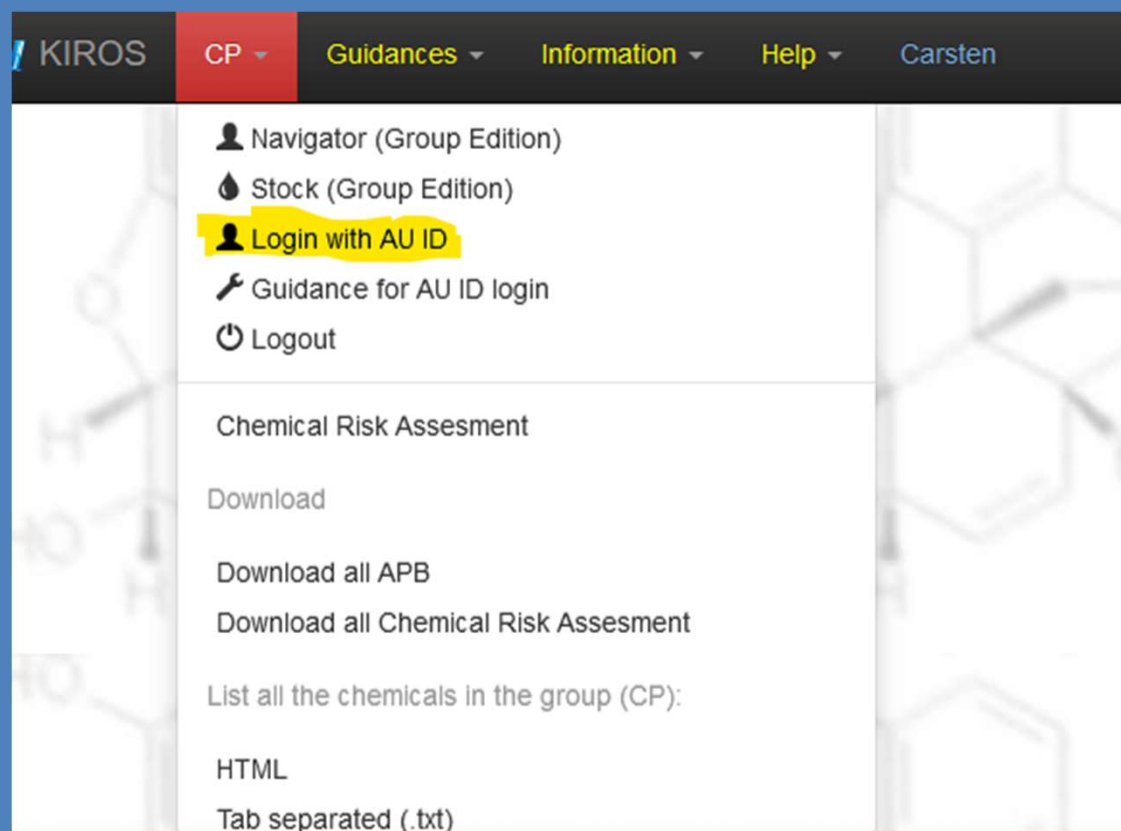
Show cancer-causing chemicals 

Show chemicals that form peroxides 



# Add chemicals to your group (notifier)

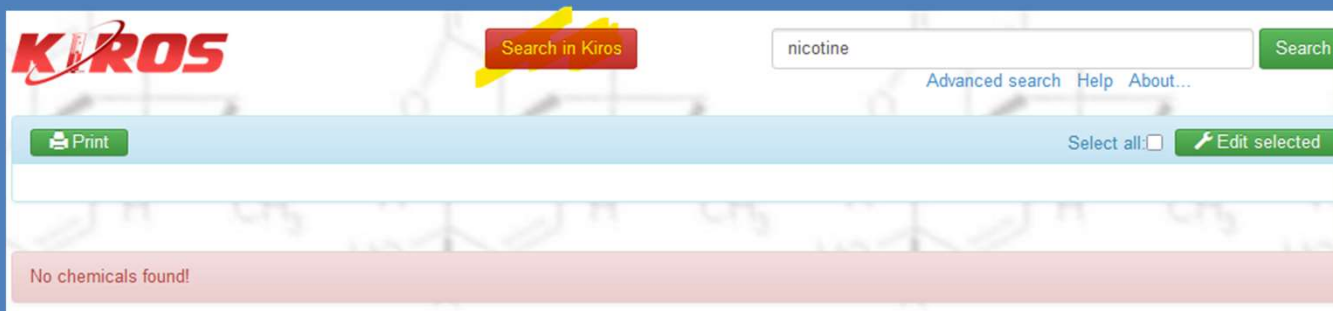
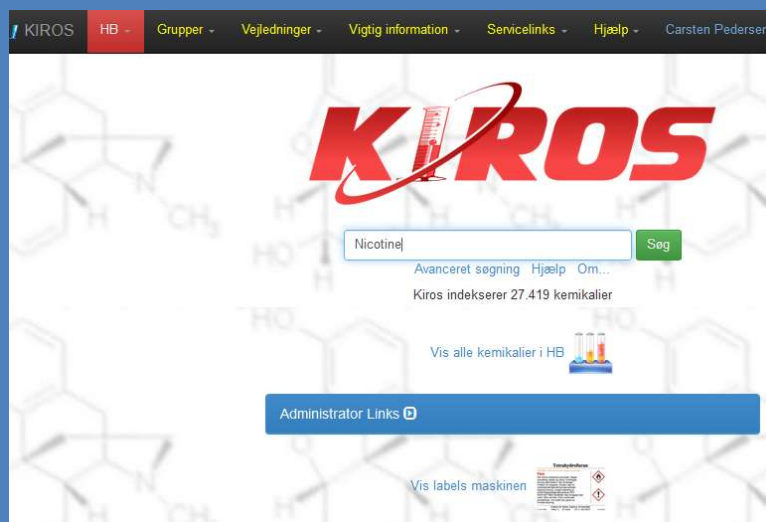
- Log in with AU ID



The screenshot displays the KIROS application interface. At the top, there is a navigation bar with the following items: 'KIROS', 'CP' (highlighted in red), 'Guidances' (with a dropdown arrow), 'Information' (with a dropdown arrow), 'Help' (with a dropdown arrow), and 'Carsten'. Below the navigation bar, a dropdown menu is open, listing several options. The option 'Login with AU ID' is highlighted in yellow. Other options include 'Navigator (Group Edition)', 'Stock (Group Edition)', 'Guidance for AU ID login', and 'Logout'. Below these options, there is a section for 'Chemical Risk Assessment' with a 'Download' button. Underneath, there are three download options: 'Download all APB', 'Download all Chemical Risk Assessment', and 'List all the chemicals in the group (CP):'. At the bottom of the dropdown, there are two format options: 'HTML' and 'Tab separated (.txt)'. The background of the interface shows a faint chemical structure.

# Add chemicals to your group (notifier)

- Search for chemicals in the group



# Add chemicals to your group (notifier)

- Then in all Kiros

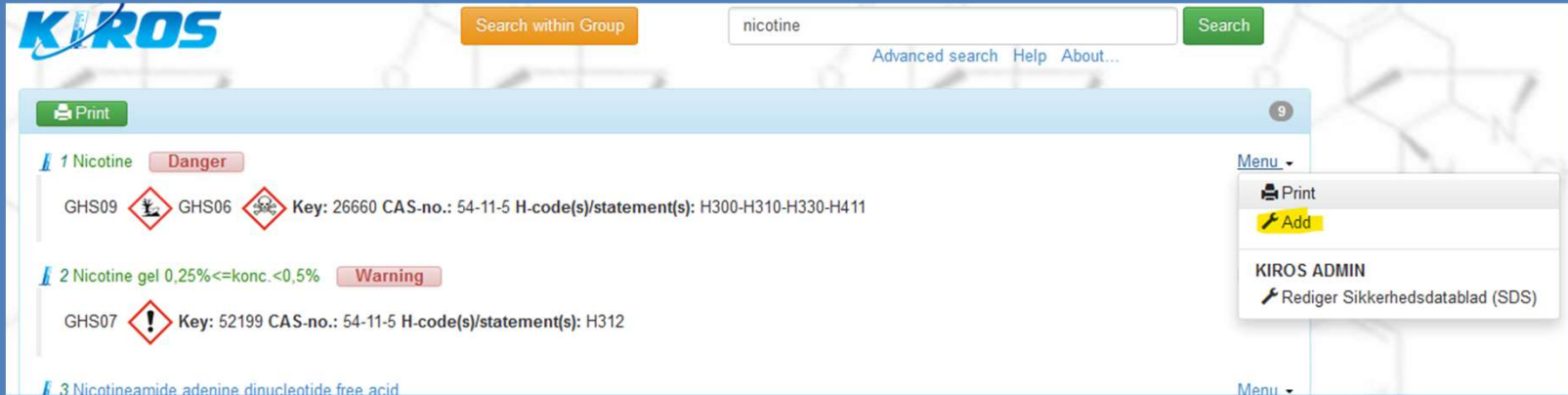


The screenshot displays the Kiros web interface. At the top left is the Kiros logo. To its right is an orange button labeled "Search within Group". Further right is a search input field containing the text "nicotine" and a green "Search" button. Below the search bar are links for "Advanced search", "Help", and "About...". A "Print" button is located on the left side of the results area. The results are listed as follows:

- 1 Nicotine **Danger** Menu ▾  
GHS09  GHS06  Key: 26660 CAS-no.: 54-11-5 H-code(s)/statement(s): H300-H310-H330-H411
- 2 Nicotine gel 0,25%<=konc.<0,5% **Warning** Menu ▾  
GHS07  Key: 52199 CAS-no.: 54-11-5 H-code(s)/statement(s): H312

# Add chemicals to your group (notifier)

- .. And choose add



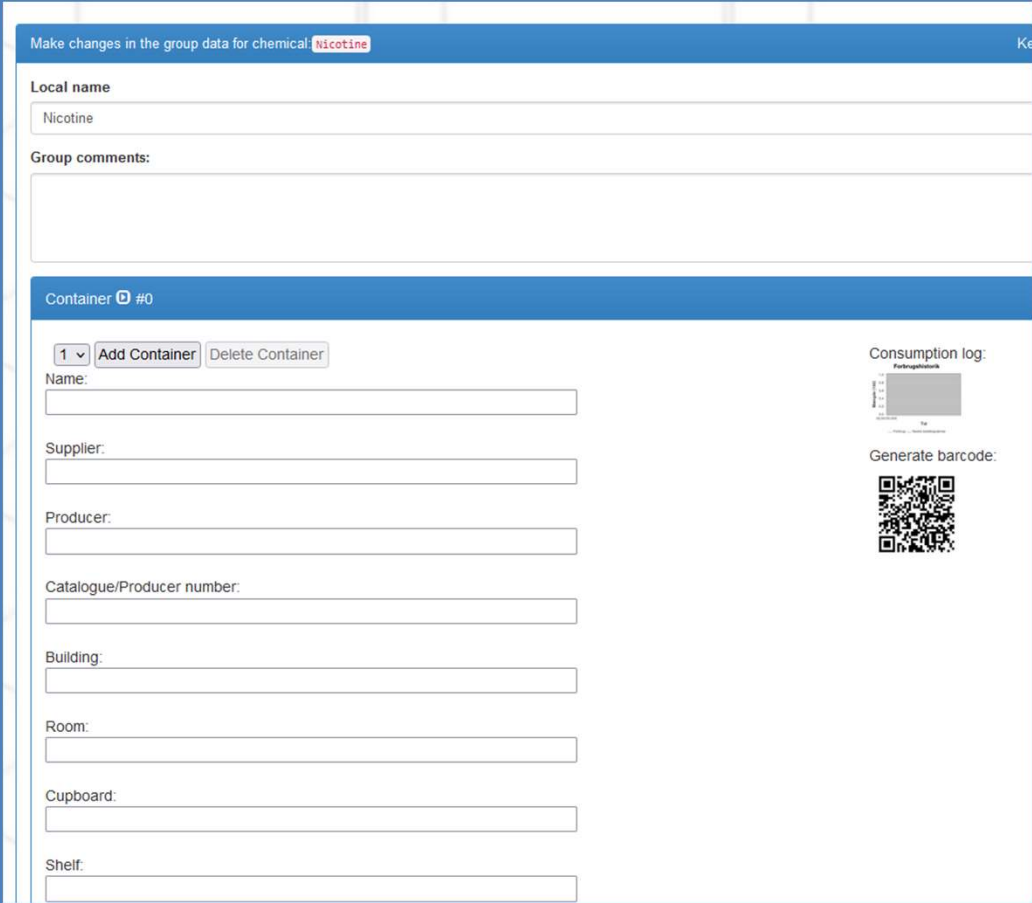
The screenshot displays the KIROS web interface. At the top left is the KIROS logo. A search bar contains the text 'nicotine', with a 'Search' button to its right. Below the search bar, there are links for 'Advanced search', 'Help', and 'About...'. A 'Print' button is visible in the top left of the results area. The search results list three items:

- 1 Nicotine **Danger**  
GHS09 GHS06 Key: 26660 CAS-no.: 54-11-5 H-code(s)/statement(s): H300-H310-H330-H411
- 2 Nicotine gel 0,25%<=konc.<0,5% **Warning**  
GHS07 Key: 52199 CAS-no.: 54-11-5 H-code(s)/statement(s): H312
- 3 Nicotineamide adenine dinucleotide free acid

A context menu is open over the first result, showing options: 'Print', 'Add' (highlighted in yellow), and 'KIROS ADMIN' with a sub-option 'Rediger Sikkerhedsdatablad (SDS)'.

# Add chemicals to your group (notifier)

....Adjust name, storage, quantity...



The screenshot shows a web interface for editing chemical group data. The title bar reads "Make changes in the group data for chemical: Nicotine". The main content area is divided into sections:

- Local name:** A text input field containing "Nicotine".
- Group comments:** A large empty text area.
- Container #0:** A section with a dropdown menu set to "1", and buttons for "Add Container" and "Delete Container".
- Form fields:** A series of text input fields for "Name:", "Supplier:", "Producer:", "Catalogue/Producer number:", "Building:", "Room:", "Cupboard:", and "Shelf:".
- Consumption log:** A small table with columns for "Date" and "Quantity".
- Generate barcode:** A QR code.

# Add chemicals to your group (notifier)

- ...and press "Save".

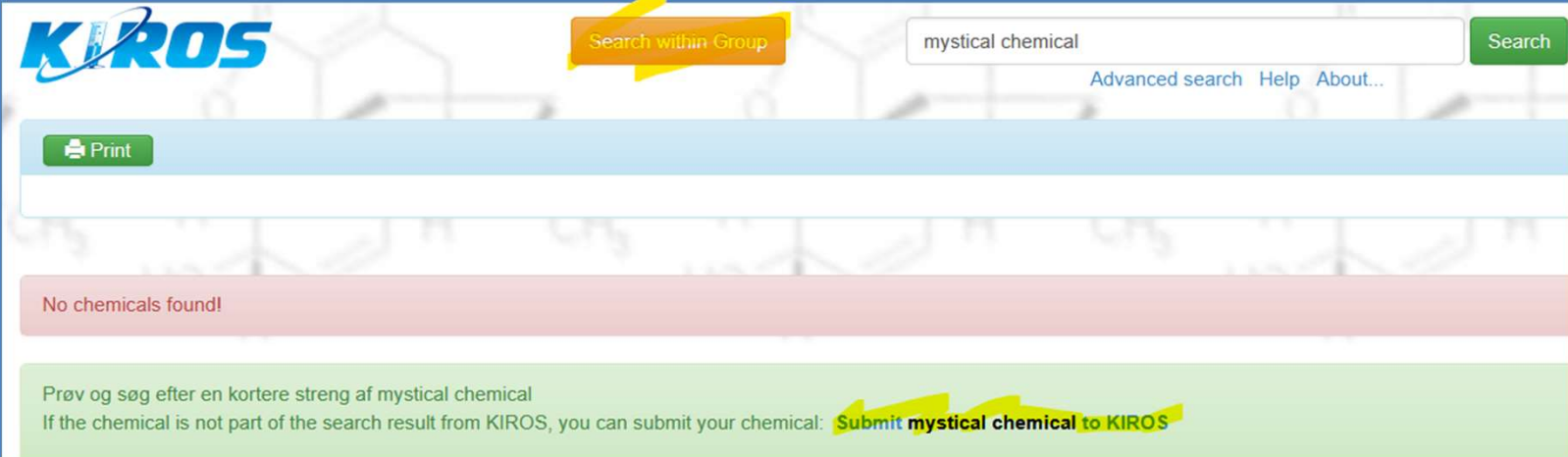


The screenshot shows a web application interface for adding chemicals to a group. The interface is in Norwegian and includes the following elements:

- Navigation bar:** KIRROS, HSB, Gruppe, Veibeskringer, Viktig informasjon, Serviceside, HSB, Global Database, Språk.
- Form fields:**
  - Løsløst navn: Nicotine
  - Løsløst kommentar:
  - Beholder (l):
    - 1 Tilleggs beholder, 0 Beholder
    - Navn:
    - Levetid:
    - Produent/Kemikaliefirma:
    - Artikkel/Katalog/Produentnummer:
    - Bilting:
    - Løsløst:
    - Størrelse:
    - Hvite:
    - Løsløst til:
    - Løsløst Dato:
    - Merke:
    - Konstans:
    - Løsløst:
    - Batchnummer:
    - Hele gruppen for meldinger (email notification til gruppe admin):
    - Kemikalienummer:
- Buttons:** Forbudsforord, Generer angivelse, and a yellow 'Save' button at the bottom right.
- Footer:** Information til APB B

# Add chemicals to your group (notifier)

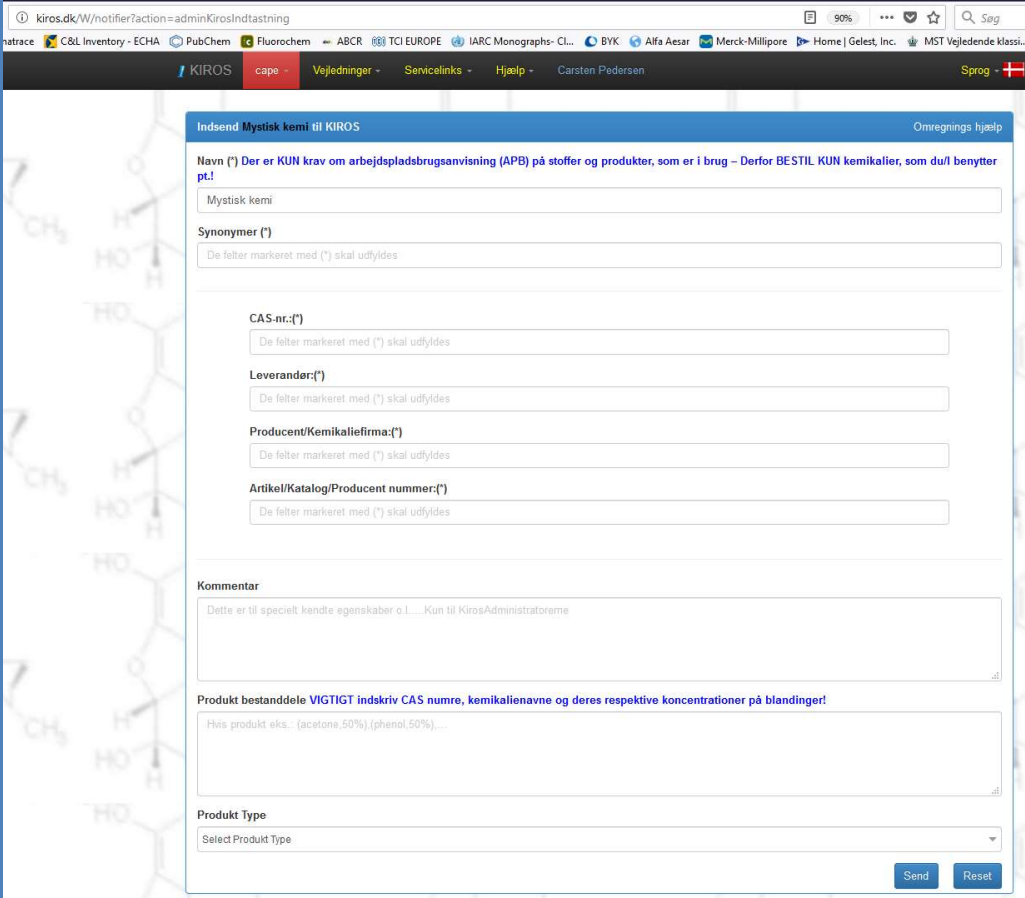
- Substance not in Kiros yet? Send it in!



The screenshot shows the KIROs search interface. At the top left is the KIROs logo. To its right is a search bar containing the text "mystical chemical" and a green "Search" button. Above the search bar is a yellow callout box with the text "Search within Group". Below the search bar are links for "Advanced search", "Help", and "About...". A green "Print" button is located on the left side of the search results area. A red banner across the middle of the page reads "No chemicals found!". Below this banner is a green box containing the text: "Prøv og søg efter en kortere streng af mystical chemical" and "If the chemical is not part of the search result from KIROs, you can submit your chemical: [Submit mystical chemical to KIROs](#)". The text "Submit mystical chemical to KIROs" is highlighted with a yellow callout box.

# Add chemicals to your group (notifier)

- Fill in the registration form and press "Send"



The screenshot shows a web browser window with the URL [kiros.dk/W/notifier?action=adminKirosIndtastning](http://kiros.dk/W/notifier?action=adminKirosIndtastning). The page title is "Indsend Mystisk kemi til KIROs". The form contains the following fields:

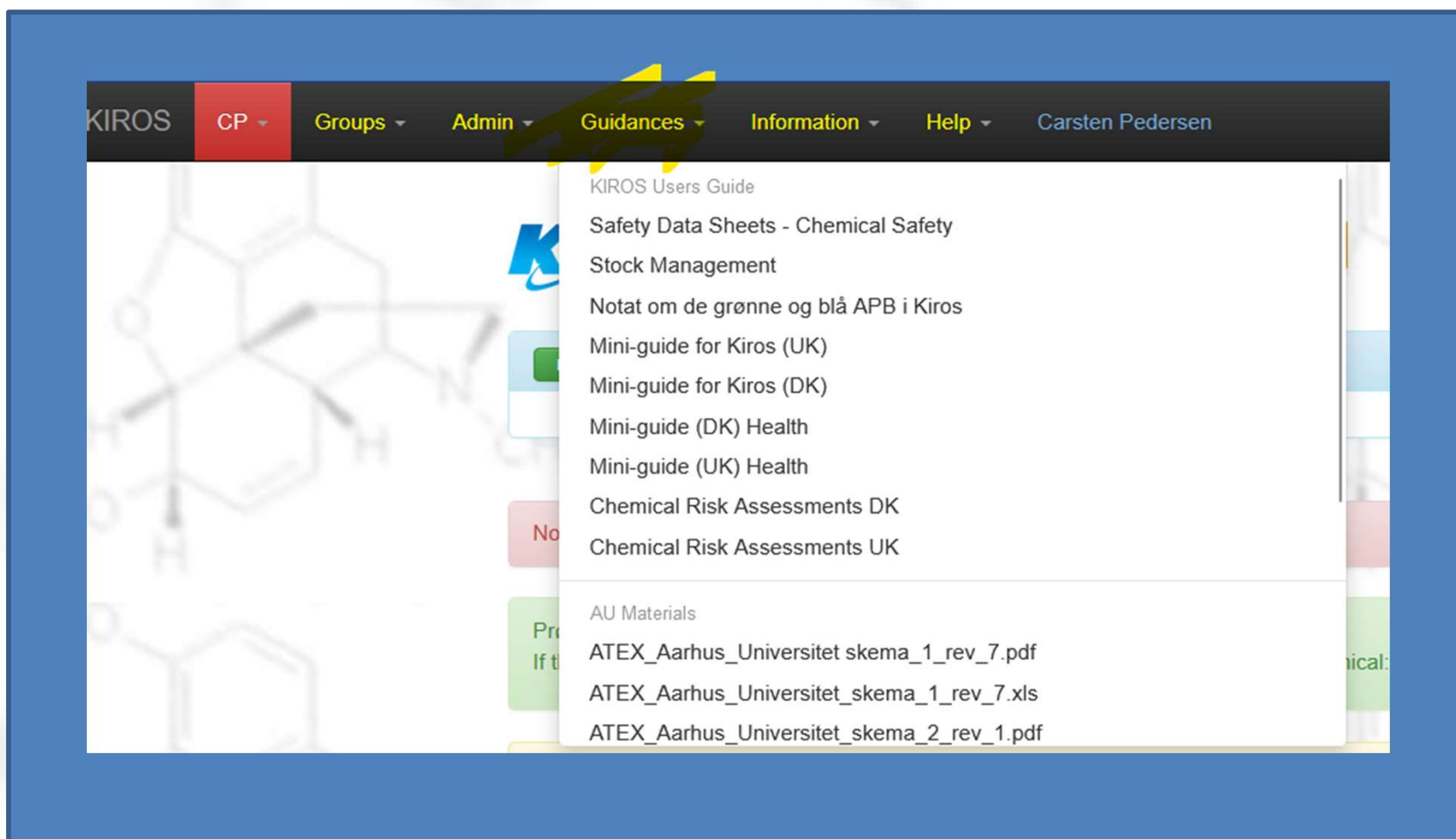
- Navn (\*)**: Der er KUN krav om arbejdspladsbrugsanvisning (APB) på stoffer og produkter, som er i brug – Derfor BESTIL KUN kemikalier, som du/I benytter pt!  
Mystisk kemi
- Synonymer (\*)**: De felter markeret med (\*) skal udfyldes
- CAS-nr. (\*)**: De felter markeret med (\*) skal udfyldes
- Leverandør (\*)**: De felter markeret med (\*) skal udfyldes
- Producent/Kemikaliefirma (\*)**: De felter markeret med (\*) skal udfyldes
- Artikel/Katalog/Producent nummer (\*)**: De felter markeret med (\*) skal udfyldes
- Kommentar**: Dette er til specielt kendte egenskaber o.l. Kun til KiroAdministerore
- Produkt bestanddele VIGTIGT indskriv CAS numre, kemikalienavne og deres respektive koncentrationer på blandinger!**: Hvis produkt eks. (acetone,50%),(phenol,50%)...
- Produkt Type**: Select Produkt Type

Buttons for "Send" and "Reset" are located at the bottom right of the form.



# Guidance documents in Kiros

- Lots of practical info in the Kiros menu.



# Guidance documents in Kiros

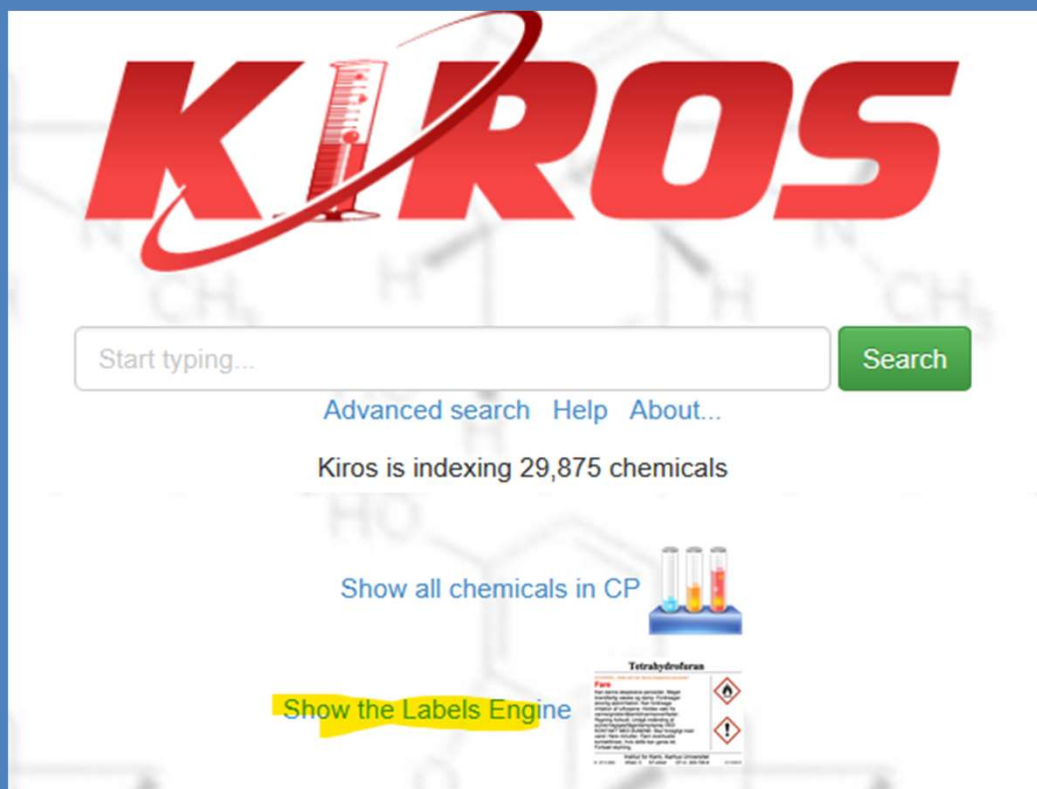
- Such as the difference between "blue" and "green" APB.

The screenshot displays the Kiros web application interface. At the top, the Kiros logo is on the left, and a search bar contains the text 'toluene'. To the right of the search bar are links for 'Advanced search', 'Help', and 'About...'. Below the search bar is a 'Print' button. The main content area lists seven search results for 'toluene' and its derivatives, each with a hazard level (Danger or Warning) and associated GHS hazard pictograms. The H-code(s)/statement(s) for the first and last results are highlighted in yellow.

Item	Name	Hazard Level	GHS Codes	Key	CAS-no.	H-code(s)/statement(s)
1	Toluene	Danger	GHS02, GHS07, GHS08	27108	108-88-3	H225-H304-H315-H336-H361d-H373
2	Toluene-3,4-dithiol	Warning	GHS07	13367	496-74-2	H302-H315 + H335-H318
3	Toluene-4-sulfonylhydrazide	Danger	GHS02, GHS07	4671	1576-35-8	H225-H302-H315 + H319 + H335
4	Toluene-d8 (2000µg/ml methanol)	Danger	GHS02, GHS06, GHS08	57503	2037-26-5, 67-56-1	H225-H301 + H311 + H331-H370.1
5	Toluene-d8, contains 0,03% v/v TMS	Danger	GHS02, GHS07	6054	2037-26-5	H225-H332
6	Toluene-d8	Danger	GHS02, GHS08, GHS07	22058	2037-26-5	H225-H315-H373-H304-H336-H361d
7	Toluene	Danger	GHS02, GHS07, GHS08	1391	108-88-3	H225-H304-H315-H336-H361d-H373.19-H412

# Printing labels in Kiros

- Can be accessed from the main menu:



The screenshot displays the Kiros website interface. At the top, the word "KIROS" is written in large, bold, red letters, with a red orbital ring around the letter "I". Below the logo is a search bar with the placeholder text "Start typing..." and a green "Search" button. Underneath the search bar are links for "Advanced search", "Help", and "About...". A message states "Kiros is indexing 29,875 chemicals". Below this is a link "Show all chemicals in CP" accompanied by an icon of three test tubes in a rack. At the bottom, there is a link "Show the Labels Engine" highlighted in yellow, and a small thumbnail image of a chemical label for "Tetrahydrofuran" with hazard symbols.

# Printing labels in Kiros

- Large (x8) and small (x24) labels (helpers)

Labels maskine

Store labels (J8165-25 99.1 x 67.7 mm x 8): 

1. 26376 	2. key 	
3. key 	4. key 	
5. key 	6. key 	
7. key 	8. key 	

Vis affalds gruppe:

Vis Avanceret udgave

Små labels (J4773-10 63,5 x 33,9 mm x 24): 

**Brug af labels maskinen** New: Small Labels Print 

# The list of chemicals (notifier)

- Edit chemicals registered in your group.

The screenshot displays the KIROs web application interface. At the top, a navigation bar includes links for 'HB', 'Groups', 'Guidances', 'Viglig information', 'Servicelinks', 'Help', and 'Carsten Pedersen'. The main header features the 'KIROs' logo in red, a search bar, and a 'Search' button. Below the search bar, there are links for 'Advanced search', 'Help', and 'About...', and a status message: 'Kiros is indexing 27,419 chemicals'. A yellow button labeled 'Show all chemicals in HB' is also visible, along with an 'Administrator Links' button.

The lower portion of the screenshot shows a detailed view of a chemical list. It includes a 'Print' button, a 'Search in KiroS' field, and a 'Search' button. The list contains three entries, each with a 'GHS05' hazard label and a 'Danger' tag:

- 1 Hydrogen peroxide solution, 30% in water (Danger)  
GHS05 Key: 385 CAS-no.: 7722-84-1 H-code(s)/statement(s): H318-H412
- 2 Piranha opløsning (Danger)  
GHS05 Key: 46621 CAS-no.: 7664-93-9 H-code(s)/statement(s): H290-H314
- 3 Sulfuric acid, conc., 98,5% (Danger)  
GHS05 Key: 1350 CAS-no.: 7664-93-9 H-code(s)/statement(s): H290-H314

On the right side, a 'Menu' dropdown is open, showing options: 'Print', 'Local addition to supplier manual', 'Ask for update', 'Edit', 'Change the referenced chemical' (highlighted in yellow), and 'Delete'. Below the menu, the user is identified as 'KIROs ADMIN' with a link to 'Rediger Sikkerhedsdatablad (SDS)'.

# The list of chemicals (html)

- Detailed list

KIROS HB Groups Guidances Vigtig information

- Navigator (Group Edition)
- Stock (Group Edition)
- Login with AU ID
- Guidance for AU ID login
- Logout

Search in the chemicals from: Department of Chemistry, Aarhus U

List all the chemicals in the group (HB):

- HTML
- Tab separated (.txt)
- PDF

Key	Navn	Beholder navn	CAS-nr.	Bygning	Lokale	Skab	Hylde	Kemikalienummer
55462	5(6)-carboxyfluorescein N-hydroxysuccinimide ester		117548-22-8	1592	129	Freezer -20		
7356	Acetic acid		64-19-7	1592	129	acids		
27120	Acetone (laboratoriebrug)		67-64-1	1592	129	14		
405	Acetone-d6		666-52-4	1592	129	Excicator		
				1592	129	Excicator		

# Tillægsdatabladet

- ..in the menu under "Admin"

4. First aid precautions:	_____
5. Fire flight:	_____
6. Precautions in case of spill and accident:	_____
7. Handling and safekeeping:	_____
8. Exposure control/ personal safeguard:	_____
13. Disposal:	_____
14. Transportation information:	_____
15. Information on regulation:	_____
16. Further information:	_____
IN CASE OF ACCIDENT	_____

The screenshot displays the iNano system interface. At the top, a navigation bar includes 'HB', 'Groups', 'Admin', 'Guidances', 'Information', 'Help', and 'Carsten Pedersen'. A dropdown menu under 'Admin' is open, showing options: 'Show/Edit addition to supplier manual for HB (for Nat-Tech users)', 'Show/Edit standard texts for manuals for HB (for HEALTH users: SDS => APB)', and 'Storeroom users'. Below this, two side-by-side panels are shown. The left panel, titled 'Standard supplement til sikkerhedsdatablade, gældende for gruppe HB:' (with a Danish flag), is dated 'Revideret den: 2021-09-14' and contains text under the heading '4. Førstehjælpsforanstaltninger:'. The right panel, titled 'Default addition to supplier manual for groups HB:' (with a British flag), is dated 'Last updated: 2021-09-14' and contains text under the heading '4. First aid precautions:'. Both panels include a rich text editor toolbar and detailed instructions in their respective languages.

# Tillægsdatabladet

- Both can be filled out.

The screenshot displays a web application interface for editing safety data sheets. At the top, there is a navigation bar with the following items: HB, Groups, Admin, Guidances, Information, Help, and Carsten Pedersen. The main content area is divided into two columns, each representing a different language version of a document.

**Left Column (Danish):** The title is "Standard supplement til sikkerhedsdatablade, gældende for gruppe HB:". It was last revised on 2021-09-14. The section is titled "4. Førstehjælpsforanstaltninger:". The text includes: "Øjenskyllflaske, nødbruser og brandtæppe forefindes på de fleste eksperimentelle laboratorier. Førstehjælpskasser forefindes centralt på de enkelte etager eller på laboratorierne. Hjertestarter hænger på væggen i indgangen mellem byg. 1590 og 1592 i stueetagen. Giftcenteret: 82121212. Nødtelefonnr: 112. [Instruktion i tilfælde af hjertestop.](#) [Instruktion i brug af hjertestarter.](#)

**Right Column (English):** The title is "Default addition to supplier manual for groups HB:". It was last updated on 2021-09-14. The section is titled "4. First aid precautions:". The text includes: "Eye rinsing bottles, emergency shower and fire blanket are to be found in most experimental laboratories. First aid boxes are to be found at each floor at a central place or in the laboratories. Defibrillator is located on the wall at the entrance between building 1590 and 1592 on the ground floor. Poison center: 82121212. Emergency phone number: 112. [Instructions in case of a heart attack](#) [Instruction for using a defibrillator](#)

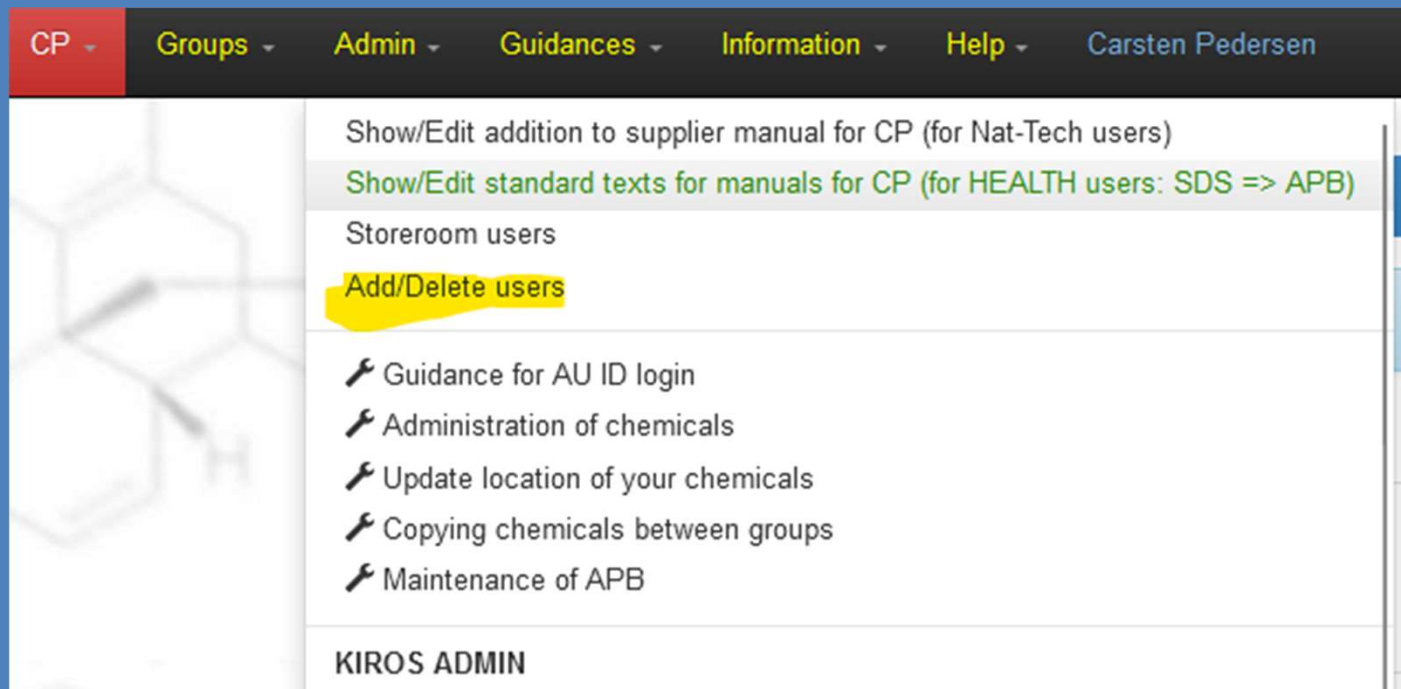
**Standard texts for security manuals:** This section contains three input fields for standard texts that can be reused for all chemicals. Each field has a checkbox for "Use as standard for all".

Text Type	Location	Usage	Local Precautions	Use as standard for all
Location of use:	Laboratorie	Laboratorie	Laboratorie	<input checked="" type="checkbox"/>
Usage:	Laboratorie	Laboratorie	Laboratorie	<input checked="" type="checkbox"/>
Local precautions:				<input type="checkbox"/>



# Add new users (notifier)

- ..in the menu under "Admin"

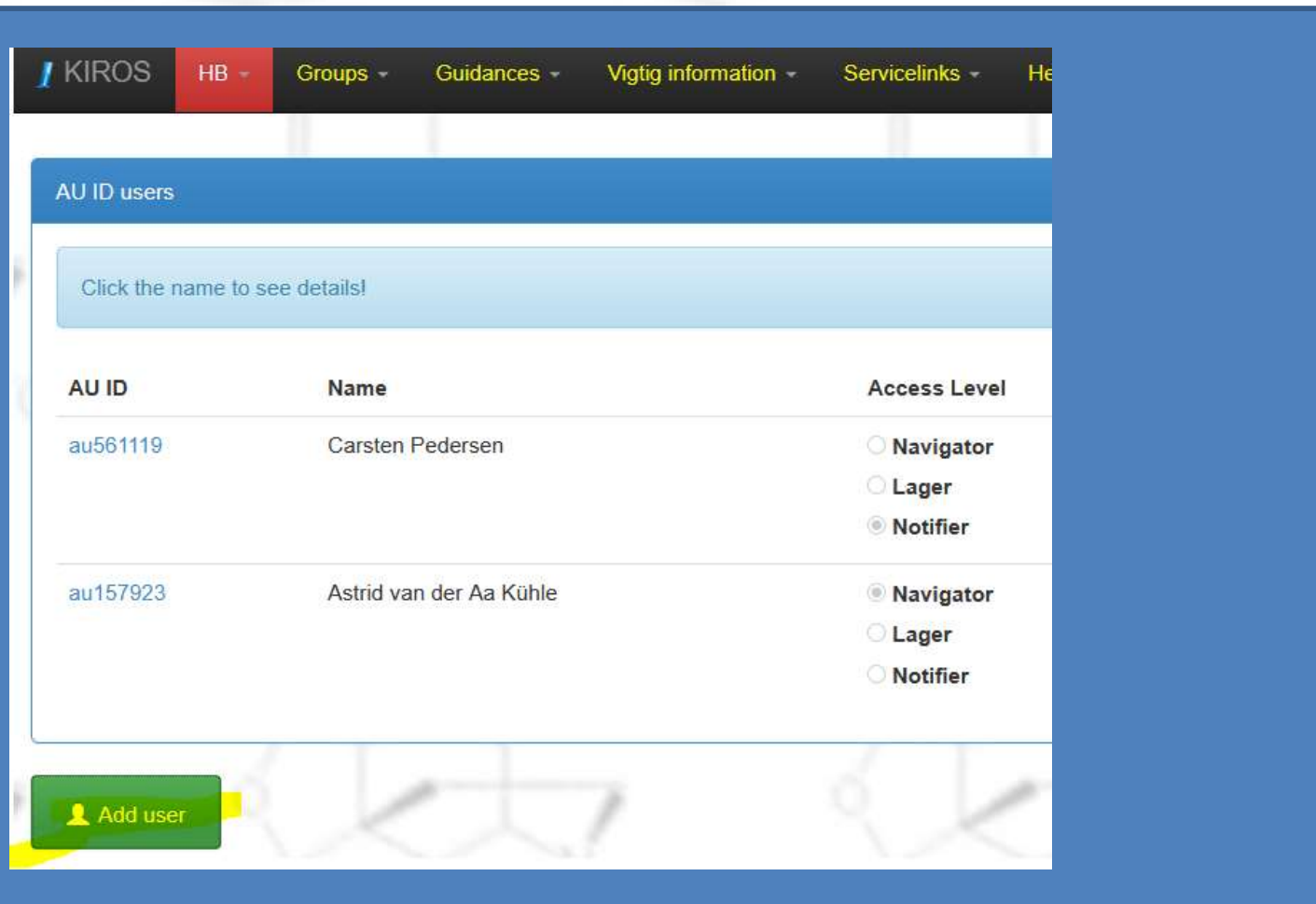


The screenshot shows a navigation bar with the following items: CP, Groups, Admin, Guidances, Information, Help, and Carsten Pedersen. The 'Admin' dropdown menu is open, displaying the following options:

- Show/Edit addition to supplier manual for CP (for Nat-Tech users)
- Show/Edit standard texts for manuals for CP (for HEALTH users: SDS => APB)
- Storeroom users
- Add/Delete users** (highlighted in yellow)
- Guidance for AU ID login
- Administration of chemicals
- Update location of your chemicals
- Copying chemicals between groups
- Maintenance of APB

At the bottom of the dropdown menu, the text 'KIROS ADMIN' is visible.

# Add new users (notifier)



The screenshot displays the KIROS user management interface. At the top, there is a navigation bar with the KIROS logo and several menu items: HB, Groups, Guidances, Vigtig information, Servicelinks, and He. Below the navigation bar, the main content area is titled 'AU ID users'. A light blue box contains the instruction 'Click the name to see details!'. Below this, there is a table with three columns: AU ID, Name, and Access Level. The table lists two users: Carsten Pedersen (AU ID: au561119) and Astrid van der Aa Kühle (AU ID: au157923). For each user, there are three radio button options for the Access Level: Navigator, Lager, and Notifier. The 'Notifier' option is selected for both users. At the bottom left of the interface, there is a green button with a person icon and the text 'Add user'.

AU ID	Name	Access Level
au561119	Carsten Pedersen	<input type="radio"/> Navigator <input type="radio"/> Lager <input checked="" type="radio"/> Notifier
au157923	Astrid van der Aa Kühle	<input checked="" type="radio"/> Navigator <input type="radio"/> Lager <input type="radio"/> Notifier

[Add user](#)

# Add new users (notifier)

A screenshot of a web form for adding a new user. At the top is a green button with a white person icon and the text "Add user". Below this is a light green section with the heading "AU ID". Under the heading is a text input field containing "au561119". Below the input field is a smaller text label: "AU ID-uden @uni.au.dk (au1-6-tal)". Further down is the heading "Access Level" followed by two radio button options: "Navigator" (which is selected) and "Lager".

**Add user**

**AU ID**

au561119

AU ID-uden @uni.au.dk (au1-6-tal)

**Access Level**

Navigator

Lager

# New in Kiros !

- Easy exchange of APB reference
- Easy request for updates
- Download all the group's SDS (offline)
- Risk assessment draft for users (navigators)

# Chemical Risk Assessment



The dark side of the story reveals that Siemens Wind Power has exposed its wind turbine workers to dangerous chemicals.

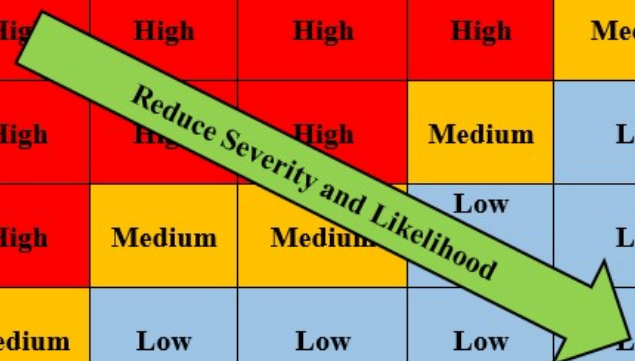
The chemicals have caused the workers to develop chronic illnesses such as asthma or eczema. Some have developed both. DR News has learned this after gaining access to reports from the National Board of Industrial Injuries in Denmark.

Even though the wind turbine manufacturer's workers have been exposed to the chemicals for years, none of them have come forward about it. But now many of them are speaking out:

More ← HAZARD PROBABILITY → Less

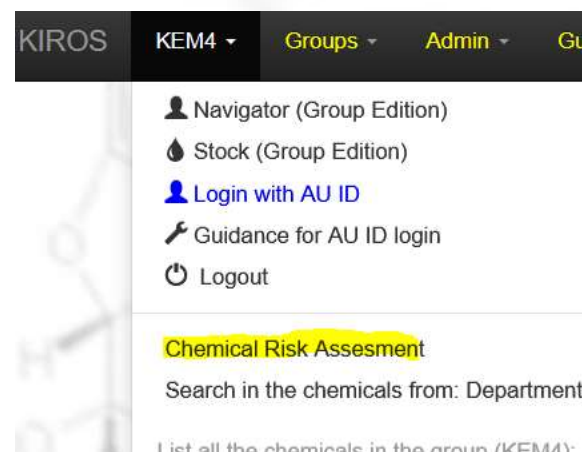
More ↑ HAZARD SEVERITY ↓ Less

	A Frequent	B Probable	C Occasional	D Remote	E Improbable
1 Catastrophic	High	High	High	High	Medium
2 Critical	High	High	High	Medium	Low
3 Marginal	High	Medium	Medium	Low	Low
4 Negligible	Medium	Low	Low	Low	Low



# Chemical Risk Assessment

- Format is free, can be 1 line or several pages
- Which chemicals in the process?
- Hazards related to usage (incl quantities, frequency)
- Route of exposure
- Mandatory safety gear, instruction
- Conclusion – is it safe?
- Action plan (if needed)



# Chemical Risk Assessment

smf ▾ Groups ▾ Admin ▾ Guidances ▾ Information ▾ Help ▾ Victoria Birkedal

Chemical risk assessment, test module under development – please send input to [the three chemical consultants at Kiros](#), and AU's chemicals network will look into it.

## Chemical Risk Assessment List

Id	Title of the work process	Type	Last updated	
26	Western blotting	Example	2021-09-15	
21	Piranha bath		2021-09-14	
22	Amino-silanization of Slides (and Coverslips)		2021-09-06	
23	Generelt laboratoriearbejde på lab xxxx-xxx		2021-09-09	
24	Working with cancerogenic/mutagenic/terrogene compounds		2021-09-07	
25	Working with toxic compounds		2021-09-07	

[+ Add Chemical Risk Assessment](#)

# Chemical Risk Assessment

Chemical Risk Assessment (21)

Instruct the employees and students orally and in writing before the work is initiated. The local unit (department or centre) is responsible for ensuring that the right instruction is provided, and that relevant written material is made available to staff and students.

Title of the work process **ⓘ**  
Acidification of quartz slides (Piranha bath)

Links and files **ⓘ**

Files **Add**

piranha.pdf

Links **Add**

<https://labbook.eu/dk/w/1K05Gg>

<https://labbook.eu/dk/display/biophotonics/Single-Molecule-Passivation-with-PEG>

Standard information for the group (also see each chemical) **ⓘ** [insert standard text](#)  
Look in the "Standard addition to the supplier manual" (in the menu).

Safety data sheets used in the work process **ⓘ** **Add**

205 Hydrogen peroxide solution, 30% in water **Danger**

CA S-no.: 7722-84-1 H318 H412  
[Look addition to supplier manual Manual Hydrogen Peroxide Solution DK 2016.pdf Hydrogen Peroxide Solution UK 2017.pdf](#)

45021 Piranha etching **Danger**

CA S-no.: 7664-93-9 H290 H314  
[WPC5 App](#)

1360 Sulfuric acid, conc., 98.5% **Danger**

CA S-no.: 7664-93-9 H290 H314  
[Look addition to supplier manual Manual Sulfuric acid DK 2022.pdf Sulfuric acid UK 2022.pdf](#)

Risks & preventive measures in the work process **ⓘ** **Save**

Hazards	Preventive measures	Notes
Hydrogen peroxide solution, 30% in water		
ooo	uu	ku
Piranha etching		
xxx	uu	uk
Sulfuric acid, conc., 98.5%		
uuu	uu	uk

None of the chemicals used in this process can be substituted by safer alternatives.

General:  
The Piranha mixture is made and used for removing any organic residue on quartz slides. It is a highly acidic, corrosive, oxidizing, hot mixture, hence all the dangerous handling must take place in the fume hood and with labcoat, goggles and gloves. Procedure is described in Labbook procedure "Single-Molecule Passivation with PEG". The lab is very narrow and with frequent traffic which makes the process more dangerous.

Particularly dangerous stages in the process:  
1) Moving large bottles from Chemical closet to fume hood. The process involves quite high quantities of conc sulfuric acid and hydrogen peroxide, so large bottles are often used. If they are dropped, corrosion hazards.  
2) When mixing sulfuric acid and hydrogen peroxide for the Piranha mixture it can be dangerous, since the piranha mixture can be overheated. If wrong ratio of sulfuric acid to hydrogen peroxide is used, the mixture can boil or even explode, corrosion and explosion hazards.  
3) Discarding Piranha mixture to waste container. Spill is difficult to avoid and can create a mess, corrosion hazards. Only prepare the volume needed for the working process.

General:  
Instructions and side-by-side training is required. Always follow the instructions given in the lab procedure.  
Have workspace cleaned out before procedure.  
Be prepared and have tools (funnel, waste container) available in fume hood before the procedure.  
Handling must take place in the fume hood. Use nitrile gloves, protective goggles, lab coat and avoid lab coats with loose sleeves.  
Have Vermiculite (for spills) and eye wash ready and close by. Since the lab is very narrow and with frequent traffic, you must warn nearby colleagues to reduce the traffic during the work process.



# Toxic compounds

- There are special rules for use of toxic compounds. (klassificeringsbekendtgørelsen, MST rules)
- Toxic substances or H370 (>125mL) or CMR cat 1.



- Store locked up. Poison responsible who ensures correct storage. Warning sign on poisons locker/lab.
- List available in Kiros.
- Tox cat 1-3: theft must be reported



# Carcinogenic substances

- There are special rules for the use and labelling of CMR substances and waste
- All substances/mixtures with:
  - >0,1% Carcinogenic or mutagenic cat 1 (CM)
  - >0,3% Toxic to reproduction (R)
  - >1% Carcinogenic cat 2
- For instance, THF and TiO<sub>2</sub> (powder <10µm) H351
- List available in Kiros

# Carcinogenic substances

»Indeholder et stof, der er omfattet af dansk arbejdsmiljøregulering med hensyn til kræftisiko«.

- Extra attention to the complete elimination of exposure. Consider your process.
- Use fumehood/glove box
- If exposure cannot be eliminated or by accidents, users must be registered and the info kept for 40 years
- §20 substances has particular attention – only use in closed systems
- Avoid that substances spread in your lab (clean workspace, regular lab coat wash)

# Pregnant and breastfeeding

- Special attention to exposure concerning some classifications and types of chemicals (toxic, organic solvents, endocrine disruptors, cancerogenic etc)
- 1/10 GV (fetus special/unknown effects)
- Also heavy lifting, cold/warm work environment, radiation etc.
- AT guidance: [at.dk/regler/at-vejledninger/gravides-ammendes-arbejdsmiljoe-a-1-8/](http://at.dk/regler/at-vejledninger/gravides-ammendes-arbejdsmiljoe-a-1-8/)
- List available in Kiros

# Explosives precursors

- EU regulation 2019/1148 in effect 1. feb 2021
- H<sub>2</sub>O<sub>2</sub> (12%), nitric acid (3%), ammonium nitrate, conc sulphoric acid (15%), perchlorates control&notification. Also metalpowders, acetone, other nitrates notification.
- Suppliers must get costumer declarations and ask for ID (for instance drivers license)
- Supplier must store info on transactions for 18 months.
- Notification within 24 h if theft is suspected!

# Chemical Risk Assessment Exercise

- Log into the Kiros group CP with AU-ID
- Read the procedure “Single-molecule...” step “Acidification of quartz slides (Piranha.pdf)”
- The piranha mixture is described in Wikipedia:  
[https://en.wikipedia.org/wiki/Piranha\\_solution](https://en.wikipedia.org/wiki/Piranha_solution)
- Create a Risk Assessment draft and name it with your au id
- Load the necessary chemicals into it
- Decide if you want to risk assess each chemical or the overall process. Or both. Fill out the corresponding tabs.

! Assume a crowded lab

! Assume this is a repeated process

! Assume grad level training

? Any chronic hazards (allergy/CMR)

? What are the main risks