

FACT SHEET – ChemiRisk

ChemiRisk is a tool for risk assessment of chemical related work.

This fact sheet gives you short guidance on how to carryout a coarse chemical health risk assessment using ChemiRisk. Some technical (use of keys and functions) and topical help will be given. The tool has to be used in accordance with internal criteria within your company.

If you need further help in applying ChemiRisk or understanding the tool please use:

- the help functions in the ChemiRisk tool
- contact your occupational hygienist.

Getting started

ChemiRisk can be accessed via the website:
https://chemirisk.ohs.no

Before you can start using the tool you must get a user ID and a password. You might get this from your ChemiRisk administrator (in your company) or by contacting OHS (support_chemirisk@ohs.no).

Keys and functions

In the tool you will find the following general keys and functions.

MOVING BACK AND FORWARDS

In ChemiRisk you move forwards and backwards by using the keys **"Next"** and **"Previous"**.



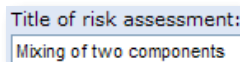
If you know which page you want to access you can click directly on the page number.

Go directly to page: [Intro](#) [KeyValues](#) [Area](#) [Activities](#) [1] 3 4 5 6 7 [Result](#) [Submit](#)

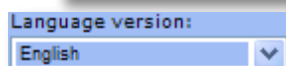
ENTERING OF INFORMATION

The information added to ChemiRisk can be entered by using:

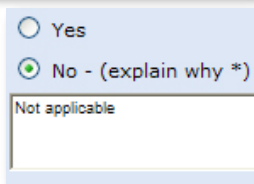
free text field



filter option



multi choice option



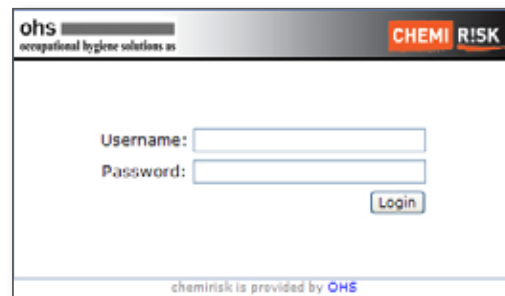
For some alternatives it will be necessary to **add describing details**. These alternatives are marked by *.

If you need (technical) support:

- for faults on PC, network or similar call your computer help desk
- for faults with ChemiRisk contact OHS via:
support_chemirisk@ohs.no or phone +47 40 00 52 07.

Disclaimer:

Safe use of chemicals is the responsible of the company responsible for the activity. ChemiRisk can provide help/guidance in this mater, however decisions made regarding actual performance of the work remain the responsibility of the company. OHS or parties involved in the development of the tool takes no responsibility of use of the tool or decisions based on it.



HELP

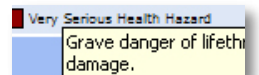
In ChemiRisk help is accessible via an own help-key, via tooltip or from "Help on the menu"

"Help" – this key will give some content dependent guidance.

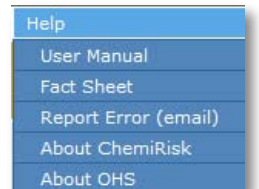


Explanation/additional information

about choice and information/colour codes in ChemiRisk will be shown as tooltips by **keeping the arrow over the text/ colour code** selected.

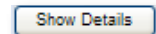


From **"Help on the menu"** you can download/ open the user manual, fact sheets and send information regarding ChemiRisk.

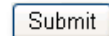


OTHER IMPORTANT KEYS

"Show details" will give further information about the evaluation.



"Submit" to save a new evaluation (or amendments to an existing evaluation) the data needs to be sent to the server by pressing the (Submit) key. To view the last page "Save".



Important! Remember nothing will be saved prior to pressing "Submit" on the last page.

AREA-, ACTIVITY- AND PRODUCT HIERARCHY

In the area-, activity- and product hierarchy you can carry out a **free text search** or choose a section from the hierarchy.

Choose one or more activities

Choose one or more products

The result of the search/choice will be shown in the middle column. Wanted activity/product will be chosen or removed from the choice column (the column to the right) by clicking on the activity or the product.



General functionality

ChemiRisk is a web-based tool containing an "Archive" of given information, and a "wizard" to carry out a risk assessment. The tool can be

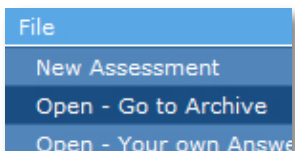
accessed in both Norwegian and English. The choice of language will be chosen on the first page.

About the archive

The archive is accessible from "File" on the tool line.



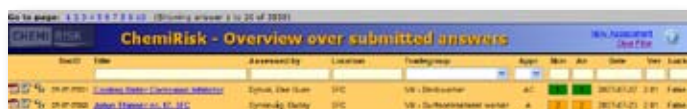
Choose: Open – go to archive. You can also choose only to show own evaluations by: Open – own evaluations.



Use the "Help" function for a more in depth description of the filtering codes.



Ver "1%" only gives old evaluations carried out by the MsAccess version. Ver "2%" gives evaluations carried out in the web-version.



The archive contains all evaluations carried out using ChemiRisk in Statoil. In the window you can see the last 20 evaluations.

Go to page: 1 2 3 4 5 6 7 8 9 10 (Showing answer 1 to 20 of 2375)

Clicking on the next page you will gain access to the next 20 evaluations.

SOME IMPORTANT THINGS TO KEEP IN MIND

- %` means 'to match every combination of signs'
- `_` (underscore) means 'to match each sign'.
- In the columns 'Skin' and 'Air' you can give intervals by typing 1-2 to match all numbers between 1 and 2 or use '>' and '<'.
- In the column 'Lock' type 'true' or 'false' as criteria
- In the 'date' fields yyyy-mm-dd format is being used, but you can also use %. For example Sept.2006 will be `2006-09%`

In the archive the risk evaluations will be accessible using:

Title Link – the risk evaluation will be shown via the wizard (not possible to change)



Edit – editing of the risk evaluation (access only by HMS-personnel)



Report – (PDF-format) Assessments can be opened and printed as PDF reports.



Copy – Dublication of an assessment.



Lock – The assessment is locked (finished) and cannot be further edited.

FILTERING OF THE ARCHIVE LIST

The sorting function can be used to limit the number of evaluations shown. Write the criteria in the column you wish to sort, and press enter.



About ChemiRisk

ChemiRisk will help you to evaluate the risk of disease or injuries to skin, airways or internal organs caused by the use of chemicals. The tool can also be used to evaluate suggested effects of an exposure reducing measure / barrier.

When using ChemiRisk you shall:

- identify which chemicals used, and
- describe the environment in which the chemicals are being used (effect of exposure reducing barriers).

Therefore you will need access to / an overview of:

1. Which chemicals are being used (incl. SDS) or other chemical emissions from the process or activity (e.g. welding smoke, process emissions etc) that can cause exposure.
2. Information about which activities / work tasks which are being assumed possible for exposure (refilling, cleaning etc). Each current activity will have its own risk evaluation. The total of all activities constitutes the basis of work which will be evaluated.
3. About the use contains special relations which leads to a higher risk, for example dusting, thermal de-composure or rapid evaporation due to application onto a hot surface or heating.
4. Information about the effectiveness of adopted engineering barriers or technical solutions (closed-open area, ventilation equipment, enclosure etc).
5. Information about the effectiveness of adopted existing administrative barriers (implemented or intended shift arrangements, exemption for pregnant women, special competence actions or procedures/ instructions etc).
6. Information about existing personal barriers (implemented or intended use of personal protection equipment (PPE) and if routines/procedures for control of the equipment has been started). Personal protection equipment, is normally not accepted as a permanent risk controlling measure.
7. Information on expected frequency and duration of the work tasks (approximate measurements over how often and how long the chemical can give exposure). The considerations are based on frequency and duration of the work / activity at the plant / installation not the individual worker.

Make a note of:

Hidden in ChemiRisk all Risk- and Safety sentences (R and S-sentences) are evaluated in consideration to whether they are designated as a health risk to the skin, airways or inner organs.

Hidden in ChemiRisk the possibility for possible inhalation and skin contact is based on the chemicals physical existence (i.e. Fluid or gas, easy to evaporate).

In ChemiRisk you can characterise a work task by choosing a pre graded activity. This is based on experience in relation to possible inhalation and skin contact.

Substances which can be absorbed through the skin (H-notation) gives an extra contribution to exposure of internal organs. This is taken into consideration in ChemiRisk.

... and some important limitations:



ChemiRisk does not support an evaluation of individual relation i.e. The worker moving to a new installation to carry out the same work task.



ChemiRisk has been developed to evaluate work, not the risk of an accident, i.e. risk of suffocating as a result of lack of oxygen.



In ChemiRisk the possible effect of exposure by swallowing or effect of breastfeeding children has not been taken into consideration.



ChemiRisk is based on information about health danger and physical conditions given in the SDS.

ChemiRisk – step by step

In ChemiRisk you are being guided by a wizard through the following steps:

1. key information
2. choice of area
3. choice of activity / activities;
For **each** chosen activity you will go through the following sub steps;

- the character of the activity
- choice of chemical product
- initial evaluation – potential risk
- evaluation of elimination and substitution
- exposure control/barriers
- frequency and duration
- part conclusion

4. conclusion – summary of assessment

Key information

Name a describing title for the risk evaluation you are about to carry out. The text should contain product name and/or description of the working process. The text you use will be the title of the rapport the tool generates.

Describe in the free text field the work you wish to evaluate. The concept work process is a gathering of one or more working tasks the work process contains. You can name the person (profession) carrying out the work, the amount of the substance used (approx amount) and similar tasks.

Choice of area (areas)

Name the setting the chemical (chemicals) will be used.

Choice of activity (activities)

A good risk evaluation is dependent on identifying the activities/ actions involving risk. Therefore emphasise activities which can lead to inhalation or skin contact with chemicals. To aid this you will find a list with pre graded activities. These activities you choose by clicking on the activity in the left column on the activity in the left column. To remove the activity you click on earlier activity in the right column.

Choice of chemical product(s)

The product overview contains all products recorded in Fellesdata-basen a SDS-databases for chemical products used in the Norwegian oil industry (see also www.chemtox.no). In addition - company specific products can be added (only accessible for the company that registered the product. Contact the The Chess database, as well as substances connected to the Chemical Centre. If you cannot find the ChemiRisk administrator in your company.

Initial assessment – potential risk

Based on information about the inherent health hazard of the chemical product, the physical state and the given activity, ChemiRisk will carryout an initial assessment of the potential of risk related to the activity. At this stage exposure reducing barriers, frequency and duration of the activity is not taken into consideration.

Elimination and substitution

Take into consideration if you can remove the activity/ work task (elimination) or if the chemical can be changed to a less health dangerous substance (substitution). Reason your choice.

Exposure reducing measures (barriers)

Exposure reducing measures (barriers) has been graded in relation to its effect. Choice of 'effective control' or 'very effective control' will need documentation of the effect and routines for systematic follow up (a specific description by the criteria for grading the barriers given on the following page - also accessible through the help function in the tool). In ChemiRisk "partial control" will give limited reduction in the calculated risk.

Engineering / technical barriers are technical solutions or physical barriers (closed – open area, built in, enclosures, local ventilation, outside/ general ventilation etc.) that reduce the chemical exposure.

Administrative barriers are the administrative arrangements limiting exposure (accomplished or planned shift work, omission of pregnant women, formal requirements to teaching etc).

Personal protective equipment for skin is personal protective equipment for skin (gloves, chemical suit, safety boots etc).

Personal protection equipment for airways is personal protection equipment for protecting the airways (respiration equipment).

Exposure Reducing Measures (Barriers)

Activity: Mixing (manually) |||

1. Engineering / Technical barriers

- No control
 Partial control
 Effective control *
 Very efficient control *

(*) Comments

2. Administrative / organisational barriers

- No control
 Partial control
 Effective control *

(*) Comments

3a. Use of personal protective equipments - Skin

- No control
 Partial control
 Effective control *

(*) Comments

3b. Use of personal protective equipments - Air

- No control
 Partial control
 Effective control *

(*) Comments

Evaluations of technical barriers

VENTILATION SYSTEM (GENERAL VENTILATION, LOCAL VENTILATION OR EXTRACTOR BOOTH, NATURAL VENTILATION)

Very effective	An alarm will go if ventilation stops or if ventilation is lower than the requirements. The effectiveness is documented.
Effective	The system is being surveyed by having a maintenance programme, regular check ups etc. and is being documented in relation to requirements and experience the worker has.
Partly	A used system without any documentation. Working outside without any gathering of gasses.
None	None

CLOSED SYSTEM

Very effective	Routine concentration measurements confirming a smaller leak, without any real effect and under norms and standards which regulates the atmosphere. Larger leaks being monitored by an alarm.
Effective	Measurement (concentration- or gas leak measurements) or visual inspection/ inspections where leakages will be visible (visible dust, coloured fluid or gas) can confirm possible smaller leak, without any real effect and under norms and standards which regulates the atmosphere. Routines or technical installations which quickly will discover leaks.
Partly	Measurements not carried out. Due to experience the area is dense with a few, smaller leaks.
None	Measurements not carried out. Due to experience the area will have smaller and larger leaks.

Evaluations of administrative barriers

Effective	Work, HSE requirements and actions are described in procedures. The manager monitors that the worker knows and follows the procedures. Work and system is regularly inspected. The worker is aware of the health dangers related to the work, the SDS is understood and necessary teaching has been carried out. There is when needed working limitations, shift work. Prospective actions for pregnant women and other vulnerable workers are being used. Technical equipment is being used in accordance to functional requirements, and faults are being repaired immediately. Possible health monitoring.
Partly	Work, HSE requirements and actions are described in procedures, Safe Job Analysis (SJA) or through other documentation, followed up by occasional supervision. SDS are available and read.
None	No written HSE requirements or procedures. It is only general knowledge that SDS exists.

Evaluation of personal protecting equipment

Effective	Correct personal protection equipment is being used. The equipment is being well maintained and is cleaned on a regular base. The equipment is personal. Faults and defects are being repaired immediately. Special equipment over the normal standard is supplied if needed. People with a beard using face masks are given suitable pressurised equipment. The worker has been taught the right use and adapted to the worker.
Partly	Correct protection equipment is being used. Maintenance, cleaning and control for faults and defects is being carried out by the used when they feel necessary. The workers needing special equipment has not been taken into consideration. No specific teaching.
None	Relevant protection equipment is not used, or when needed random equipment will be used without checking if the equipment is suitable for the type of work carried out.

Frequency and duration

Frequency – naming how often the work is being carried out.

The starting point is how often the work task is being carried out on your plant / installation without taking into consideration when the work is being carried out i.e. different time of the day or shift work.

Duration – naming how long the work task is carried out during a work shift. The starting point is how long the work task is being carried out without taking into consideration if the work is being carried out by different people.

Conclusion for the activity (activities)

By using the wizard you have now reached a conclusion for the activity (activities) based on the initial assessment, the effect of the barrier, as well as frequency and duration. Normally only the conclusion will be shown, but by pressing “show details” all details will be shown as the table below.

Show Details

Conclusion / result

On the last page “result” the main conclusion based upon the activity (activities) being assessed will be shown.

STANDARD CONCLUSIONS IN CHEMIRISK IS BASED ON THE FOLLOWING CATEGORISATION OF RISK

Low risk	The risk is considered as low as possible (ALARP). Not necessary to monitor health danger more than normally.
Medium risk	The risk is considered to be lowered in correlation to the general principles of the HMS regulations by elimination and substitution, use of better technical solutions (BAT) and following ALARP principles. No immediate changes necessary.
High risk	The risk is considered high. Changes needs to be done to reduce the risk. Until these changes have been implemented the work will be considered stopped. Get in contact with the area leader and the chemical responsible/ occupational hygienist. High risk is also a situation where the uncertainty of the health danger or exposure can be so high that without any further investigations it will be unjustifiable to continue work in the area.

Before the evaluation can reach a conclusion a critical and an overall evaluation and proposed actions will be carried out.

Overall Evaluation / Suggested Measures (based on calculated summary together with the stipulated barrier information)

It should also be named if the chemical, due to the background of the evaluation should be approved for use. These are three alternatives:

- Not approved (N)
- Approved under conditions (AC) (* must be named)
- Approved (A)

Authorization for use * Conditions

Approved (A) ▼

Not Approved (N)

Approved (A)

Approved under conditions (AC)*

ger:

To document that the evaluation has been brought up with the responsible area leader, it is possible to give a title and the name of the person concerned, as well as noting that the evaluation has been accepted.

Nearest responsible line manager:

Title: Name:

A copy of this risk assessment (paper / link) is communicated to line manager / responsible, who is aware of existing or new remedial actions necessarily for achieving an acceptable risk level.

When the evaluation is finished and the necessary quality assurance by the occupational hygienist has been carried out it shall be locked.

Lock submitted answer

If checked, the submitted answer will no longer be editable....

Locked evaluations cannot be changed. If changes needs to be carried out this will be documented by a new evaluation, based on a copy of the original evaluation. The copy can be found in the archive by using the copy sign.



Notes
