

NTNU		Hazardous activity identification process		Prepared by	Number	Date
				HSE section	HMSRV2601E	09.01.2013
HSE				Approved by		Replaces
				The Rector		01.12.2006

Unit: Department of Mechanical and Industrial Engineering

Date: 15.01.2019

Line manager:

Participants in the identification process (including their function): Student and supervisor

Short description of the main activity/main process: Master project for student Mari Gansmoøy Aspnes. Formulation and Testing of New Environmentally Acceptable Lubricants (EAL) for Use in Maritime Gear Components.

Is the project work purely theoretical? (YES/NO): NO

Signatures: Responsible supervisor:  Student: Mari Gansmoøy Aspnes

ID nr.	Activity/process	Responsible person	Existing documentation	Existing safety measures	Laws, regulations etc.	Comment
1	Pin on disk	Student	Information paper	Glasses/gloves	Arbeidsmiljøloven	
2	SEM/IFM	Student	Information paper	Gloves	Arbeidsmiljøloven	
3	Working with chemicals	Student	Safety sheet	Glasses/gloves	Arbeidsmiljøloven	

NTNU	Risk assessment			Prepared by	Number	Date
				HSE section	HMSRV2603E	04.02.2011
HSE/KS				Approved by		Replaces
				The Rector		01.12.2006

Unit: Department of Mechanical and Industrial Engineering

Date: 15.09.2019

Line manager:

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Signatures: Responsible supervisor:

Student:

Activity from the identification process form	Potential undesirable incident/strain	Likelihood: Likelihood (1-5)	Consequence:			Risk Value (human)	Comments/status Suggested measures
			Human (A-E)	Environment (A-E)	Economy/material (A-E)		
1	Damage of the material/ no safety stop on the equipment	2	A	A	B	2A	
2	Damage of the material/equipment	2	A	A	E	2A	
3	Human and environmental harm	3	D	C	B	3C	Read chemical safety sheet, wear gloves/glasses.

Likelihood, e.g.:

- Minimal
- Low
- Medium
- High
- Very high

Consequence, e.g.:

- Safe
- Relatively safe
- Dangerous
- Critical
- Very critical

Risk value (each one to be estimated separately):

Human = Likelihood x Human Consequence
 Environmental = Likelihood x Environmental consequence
 Financial/material = Likelihood x Consequence for Economy/material

NTNU	Risk assessment			Prepared by	Number	Date
				HSE section	HMSRV2603E	04.02.2011
HSE/KS				Approved by The Rector		Replaces 01.12.2006



Potential undesirable incident/strain

Identify possible incidents and conditions that may lead to situations that pose a hazard to people, the environment and any materiel/equipment involved.

Criteria for the assessment of likelihood and consequence in relation to fieldwork

Each activity is assessed according to a worst-case scenario. Likelihood and consequence are to be assessed separately for each potential undesirable incident. Before starting on the quantification, the participants should agree what they understand by the assessment criteria:

Likelihood

Minimal 1	Low 2	Medium 3	High 4	Very high 5
Once every 50 years or less	Once every 10 years or less	Once a year or less	Once a month or less	Once a week

Consequence

Grading	Human	Environment	Financial/material
E Very critical	May produce fatality/ies	Very prolonged, non-reversible damage	Shutdown of work >1 year.
D Critical	Permanent injury, may produce serious serious health damage/sickness	Prolonged damage. Long recovery time.	Shutdown of work 0.5-1 year.
C Dangerous	Serious personal injury	Minor damage. Long recovery time	Shutdown of work < 1 month
B Relatively safe	Injury that requires medical treatment	Minor damage. Short recovery time	Shutdown of work < 1 week
A Safe	Injury that requires first aid	Insignificant damage. Short recovery time	Shutdown of work < 1 day

The unit makes its own decision as to whether opting to fill in or not consequences for economy/materiel, for example if the unit is going to use particularly valuable equipment. It is up to the individual unit to choose the assessment criteria for this column.

Risk = Likelihood x Consequence

Please calculate the risk value for "Human", "Environment" and, if chosen, "Economy/materiel", separately.

About the column "Comments/status, suggested preventative and corrective measures":

Measures can impact on both likelihood and consequences. Prioritise measures that can prevent the incident from occurring; in other words, likelihood-reducing measures are to be prioritised above greater emergency preparedness, i.e. consequence-reducing measures.

NTNU		Risk matrix				
						
HSE/KS						
		prepared by	Number	Date		
		HSE Section	HMSRV2604	8 March 2010		
		approved by	Page	Replaces		
		Rector	4 of 4	9 February 2010		

MATRIX FOR RISK ASSESSMENTS at NTNU

CONSEQUENCE	Extremely serious	E1	E2	E3	E4	E5
	Serious	D1	D2	D3	D4	D5
	Moderate	C1	C2	C3	C4	C5
	Minor	B1	B2	B3	B4	B5
	Not significant	A1	A2	A3	A4	A5
		Very low	Low	Medium	High	Very high
LIKELIHOOD						

Principle for acceptance criteria. Explanation of the colours used in the risk matrix.

Colour	Description
Red	Unacceptable risk. Measures must be taken to reduce the risk.
Yellow	Assessment range. Measures must be considered.
Green	Acceptable risk Measures can be considered based on other considerations.