Risk Assessment of Laboratory Work with Chemicals (AFS 2011:19)1 (LBE)2 (MSBFS 2020:1)3

Department/Division: **Pure and Applied Biochemistry**

Operation/Activity: **Colony PCR**

	The operation includes handling of the following chemicals, mixtures and solutions			
	Chemical/Mixture/Solution	CAS No.	Amount	Indications of danger
1	Taq 2x Master mix	Cat. No.: A190303	> 1 mL	Not hazardous
2	Forward/ Reverse primer	N/A	50 µl	Not hazardous
3	DNA template	N/A	50 µl	Not hazardous
4	Nuclease Free H20	N/A	1.5 mL	Not hazardous
5	Ethanol	64-17-5	500 ml	Flammable, eye irritation, health hazard

	Identification of separate operations/activities that may involve the risk of accident or risk to health					
	Operation/Activity	Risk/Problem	Consequence	Probability	Assessed risk	Risk-reducing measures
1	Transfer of bacterial colonies	Exposure to *E. coli* and *C. Necator*	Serious	Unlikely	Moderately hazardous	Wear protective clothing (safety glogges, lab coat, gloves). Wash hands after handling bacteria. Disinfect all surfaces with 70% ethanol. Dispose of biowaste in designated place.
2	Using the Bunsen Burner	Exposure to the Bunsen Burner	Serious	Possible	Hazardous	Wear protective clothing (safety glasses, lab coat). Never leave the Bunsen burner out of sight.
3	PCR machine	Exposure to heat	Mild	Unlikely	Moderately hazardous	Wait until lid has cooled down before opening
4	Cleaning bench with ethanol	Handling of toxic hazardous compound	Serious	Possible	Hazardous	Wear protective clothing (safety goggles, lab coat, gloves). Close any source of fire before using ethanol. eep container tightly closed.If eye irritation persists: Get medical advice or attention. Store in a well-ventilated place. Keep cool.

	Yes/No	Comments:
Rules for working alone has been observed	**Yes**	Supervisor needs to be present at all time, no individual work allowed
The possibility of evacuation and ventilation/water/power failure has been taken into account	**Yes**	Work will be stopped, flasks closed, staff will evacuate (long power outage) or wait until the power/water/ventilation will be turned on
Environmental issues have been considered	**Yes**	Follow waste management rules, no concentrated substance will be poured down the drain
Special risk assessment for pregnant staff has been done	**Yes**	Pregnant woman should be aware of the exposure to ethanol and GMO and biological waste

References:

Taq DNA Polymerase 2x Master Mix RED , ampliquon catalogue

Chemical Database KLARA

General Safety Regulations

Date: 2026-06-17

Risk assessment made by:

Name: Emma Igem Lund 2025, Hamsini Bharat

Risk assessment checked by:

Name:

1) AFS 2011:19 Chemical Hazard in the Working Environment, provisions (amanded and reprinted in 2014:5; 2014:43; 2017:4; 2018:2; 2019:9)

2) Lag (2010:1011) om brandfarliga och explosiva varor (LBE)

3) MSBFS 2020:1 föreskrifter om hantering av brandfarlig gas och brandfarliga aerosoler

Last updated 2025-06-06