iGEM 2013 Basic Safety Form

Team name: Goettingen

Deadline: 30th of August 2013

Submission method: email form to the correct email list for your region:

safety_forms_asia@igem.org
safety_forms_europe@igem.org
safety_forms_north_america@igem.org
safety_forms_latin_america@igem.org

Students can complete this safety form, but it must be read and signed (electronic or hard copy) by your team's faculty advisor. Your advisor must verify the information contained in this form and sign it.

The iGEM Safety Committee must be able to easily reach the advisor with questions or other follow-up communication. If you have made changes to your project (new coding regions or organisms) you must re-submit your safety form before wiki freeze (date TBD).

Key points to remember as you complete the safety assessment process:

- For help in completing questions 1 and 2, you may find it useful to consult the Risk Groups section of the Safety Resources List [2013.igem.org/Safety].

- The iGEM Safety Committee will be reviewing your project. To avoid temporary suspensions, answer these questions completely and accurately.

- The Safety Committee needs to be able to communicate with your faculty advisor about any safety concerns. If we cannot reach your advisor in a reasonable amount of time, you may be subject to restrictions at the Jamboree.

- Your safety page, wiki project page and poster should be consistent with each other. If you change your project, submit an updated Basic Safety Page to the iGEM Safety Committee before the wiki freeze. (Your faculty advisor must also read and sign the updated page.)

- We understand that projects may still be changing at a late date. However, large discrepancies between what you submit on the Basic Safety Page and what you present at the Jamborees may result in restrictions at the Jamboree.

Basic Safety Questions for iGEM 2013

a. Please describe the chassis organism(s) you will be using for this project. If you will be using more than one chassis organism, provide information on each of them:

	Species	Strain no/name	Risk Group	Risk group source link	Disease risk to humans? If so, which disease?
Ex	*E. coli* (K 12)	NEB 10 Beta	1	www.absa.org/riskgroups/bacteria search.php?genus=&species=coli	Yes. May cause irritation to skin, eyes, and respiratory tract, may affect kidneys.
1	E.coli(K12)	DH5 alpha	1	www.absa.org/riskgroups/bacteriasearch.php? genus=Eschericheria&species=coli	Yes, May cause irritqation to skin, eyes, and respiratory tract, may affect kidneys.
2	E.coli(K12)	XL1 blue	1	www.absa.org/riskgroups/bacteriasearch.php? genus=Eschericheria&species=coli	Yes, May cause irritqation to skin, eyes, and respiratory tract, may affect kidneys.
3	E.coli(B)	T7 express(NEB)	1	www.absa.org/riskgroups/bacteriasearch.php? genus=Eschericheria&species=coli	Yes, May cause irritqation to skin, eyes, and respiratory tract, may affect kidneys.
4	E.coli(B)	BL21	1	www.absa.org/riskgroups/bacteriasearch.php? genus=Eschericheria&species=coli	Yes, May cause irritqation to skin, eyes, and respiratory tract, may affect kidneys.
5					
6					
7					
8					

*For additional organisms, please include a spreadsheet in your submission.

2. Highest Risk Group Listed:

1 ⦿   Greater than 1 ◯

If you answered 1+, please also complete the iGEM Biosafety form part 2 for any organisms in this category.

3. List and describe *all* new or modified coding regions you will be using in your project. (If you use parts from the 2013 iGEM Distribution without modifying them, you do not need to list those parts.)

	Part number.	Where did you get the physical DNA for this part (which lab, synthesis company, etc)	What species does this part originally come from?	What is the Risk Group of the species?	What is the function of this part, in its parent species?
Ex	BBa_C0040	Synthesized, Blue Heron	Acinetobacter baumannii	2	Confers tetracycline resistance

1	BBa_K104500	Cloned from purchased Mycobacteria genome	Mycobacterium segmatis	2	The operator DNA sequence that DarR binds
2	BBa_K104501	Cloned from purchased Mycobacteria genome	Mycobacterium segmatis	2	Code regulatory protein DarR, which binds c-di-AMP
3	BBa_K104502	Cloned from Bacillus genome	Bacillus subtilis	1	The c-di-AMP sensing riboswitch YdaO
4	BBa_K104503	Cloned from Listeria monocytogenes genome	Listeria monocytogenes	2	Deadenylate cyclase domain of L. monocytogenes, cdaA
5					
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*For additional coding regions, please include a spreadsheet in your submission.

4. Do the biological materials used in your lab work pose any of the following risks? Please describe.

a. Risks to the safety and health of team members or others working in the lab?

The organism we used in the lab(E.coli) could be pathogenetic to human being, It may cause irritation to skin, eyes, and respiratory tract and affect kidneys.

b. Risks to the safety and health of the general public, if released by design or by accident?

The E.coli strains we used do have pathogenicity to human. But their relatively low pathogenicity, together with short life and vulnerability to environmental factors have limited the risk to general public.

c. Risks to the environment, if released by design or by accident?

The E.coli strains we used during the project are transformed with plasmids containing antibiotic markers. The release of those transformed strains may cause problems like the leakage of resistance genes into wild bacterial flora.

d. Risks to security through malicious misuse by individuals, groups, or countries?

The strains we used during our project do not contain hazardous genetic compartments. The risk through malicious misuse is quite low.

5. If your project moved from a small-scale lab study to become widely used as a commercial/industrial product, what new risks might arise? (Consider the different categories of risks that are listed in parts a-d of the previous question.) Also, what risks might arise if the knowledge you generate or the methods you develop became widely available? (Note: This is meant to be a somewhat open-ended discussion question.)

> The system we are trying to build is mainly for drug screening in pharmaceutical industry. The scale of production will always be limited.

6. Does your project include any design features to address safety risks? (For example: kill switches, auxotrophic chassis, etc.) Note that including such features is not mandatory to participate in iGEM, but many groups choose to include them.

> No. But as the most used model organism in molecular biology, this risk of E.coli is very low.

7. What safety training have you received (or plan to receive in the future)? Provide a brief description, and a link to your institution's safety training requirements, if available.

> Before the project started, we all received instructions concerning the safety problems, such as how to protect ourselves in the lab, how to handle the biological materials properly to lower the risk to public and environment.

8. Under what biosafety provisions will / do you work?

a. Please provide a link to your institution biosafety guidelines.

> http://www.uni-goettingen.de/en/401.html
> (this web page has links to all safety concerning documents, but all in German)

b. Does your institution have an Institutional Biosafety Committee, or an equivalent group? If yes, have you discussed your project with them? Describe any concerns they raised with your project, and any changes you made to your project plan based on their review.

> hhtp://www.uni-goettingen.de/en/401.html

c. Does your country have national biosafety regulations or guidelines? If so, please provide a link to these regulations or guidelines if possible.

> http://www.baua.de/en/Homepage.html

d. According to the WHO Biosafety Manual, what is the BioSafety Level rating of your lab? (Check the summary table on page 3, and the fuller description that starts on page 9.) If your lab does not fit neatly into category 1, 2, 3, or 4, please describe its safety features [see 2013.igem.org/Safety for help].

> The biosafety level of our lab is category 1.

e. What is the Risk Group of your chassis organism(s), as you stated in question 1? If it does not match the BSL rating of your laboratory, please explain what additional safety measures you are taking.

Risk group 1

Faculty Advisor Name:

Jörg Stülke

Faculty Advisor Signature: