To: UBC Chemistry Department

From: Jordan Heyes

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Subject: *Proposal for Determining the Feasibility of Implementing a Recycling Program for Used Latex Gloves in the UBC Chemistry Department*

**Introduction**

In UBC’s Chemistry department, laboratory safety is a very important for students and faculty while working in labs. Standard personal protective equipment includes appropriate goggles, lab coats, and nitrile gloves for dangerous chemicals. Other safety practices include tying back long hair, wearing pants instead of shorts or skirts, and wearing close-toed shoes.

In addition to these safety practices, students are also generally required to wear latex gloves in the lab for less dangerous materials such as solvents, weak/low concentration acids and bases, and solutions of analyte. This helps promote lab safety, and these gloves are disposed of after an experiment or if something has been spilled on them. However, simply throwing these gloves away isn’t an ideal way to dispose of them due to the sheer number of students that use them and the amount of waste they generate.

**Statement of Problem**

Latex gloves are thrown out after use in the Chemistry department and most likely in other departments as well. Because of the Waste Disposal guidelines, gloves are excluded from the Soft Plastics program due to their possible contamination with dangerous chemicals. This is of great concern since possibly thousands of students use these gloves every month and they aren’t being recycled. Currently, plastics contribute greatly to the total volume in landfills, when they can be recycled instead to reduce making more plastics and using more petroleum to make them.

**Proposed Solution**

A possible solution for disposal of latex gloves can be a recycling program that sorts latex gloves based on what chemicals they have come in contact with. Similar to chemical waste where they are sorted into halogenated and non-halogenated compounds, latex gloves could be sorted into ones that have been in contact with different chemicals. They could be sorted by benign solvents, acids, and bases, gloves in contact with organic/inorganic compounds, and gloves that came in contact with hazardous materials. This could be used to recycle gloves that have been used for relatively harmless chemicals to be recycled, and thus reduce the amount of waste produced from latex gloves.

**Scope**

To assess whether a recycling program for latex gloves is a feasible solution, I plan to carry four areas of major inquiry:

1. What is the current disposal methods for used latex gloves and what is its cost to the department?
2. How often do faculty and students use latex gloves in lab and what is the estimated volume of waste produced from their use?
3. What types of chemicals are usually encountered when wearing latex gloves and how harmful are they to human health?
4. What are alternatives to the current model of latex glove disposal and how feasible are they if a partial recycling program is implemented?

**Methods**

My primary **s**ources will include interviews with faculty members, particularly teaching lab faculty, to gauge the use and chemicals encountered in the lab. Interviews will also be conducted with the waste management team about latex gloves and their disposal. As well, I will attempt to conduct a survey for chemistry students regarding their use of gloves, and their thoughts on implementing a program to recycle them.

My secondary sources will involve researching publications and papers regarding the recycling and possible programs for the recycling of latex gloves in academic and industrial laboratories.

**My Qualifications**

I am currently a 5th year Chemistry student with an intended focus on polymer science. I have worked in labs at school and while doing co-op work terms that promote the use of latex gloves, and I have worked with synthesizing latex on a work term. I am also an executive member of the Undergraduate Chemistry Society, and so I have the means to contact faculty and students about this issue. These reasons, along with my chemical knowledge and researching skills, will be vital in performing this feasibility study.

**Conclusion**

Reducing the waste produced from the use of disposable latex gloves in the Chemistry department will help contribute to reducing our carbon footprint and CO2 emissions, thus ensuring a greener future for generations. By addressing the four mentioned areas of inquiry, I can determine if implementing a recycling program for latex gloves is a feasible solution to reducing latex waste. With your approval, I will research at once.