

## STATEMENT OF WORK

### 1. TITLE

Purchase of a benchtop ball mill

### 2. SCOPE

#### 2.1. Introduction

The Product Safety Laboratory (PSL) requires a multipurpose benchtop ball mill for use in the sample preparation of consumer products. The mill will be used for the determination of hazardous compounds in plastic, paint, fibers and cosmetics.

#### 2.2. Objectives of the Requirement

To produce reliable and accurate test results, it is essential that samples are homogenized to an adequate degree of analytical fineness. Ball mills provide versatile sample preparation of hard, brittle and fibrous materials by reducing specimen size. This instrument can be used for dry, wet and cryogenic grinding of small sample amounts for a range of applications from fibrous, brittle, soft, medium hard, and hard samples.

#### 2.3. Background and Specific Scope of the Requirement

PSL currently possesses a grinder that can be used for some sample preparation of brittle material, but it does not provide the degree of analytical fineness or versatility of a ball grinder. It can only be used for dry milling with particle size options down to 250 µm while a ball grinder can be used for dry, wet and cryogenic milling and has grind sizes as low as 5 µm. Currently, paint and plastic samples must often be filed by hand and manually sieved to provide a degree of sample homogeneity. A ball mill will significantly improve sample homogeneity, resulting in more reproducible results, and reduce time spent on manually reducing specimen sizes.

This instrument will support the core activities of risk assessment and risk management of consumer products under the Canada Consumer Products Safety Act, the Food and Drugs Act and its Regulations relating to cosmetics, and the Chemicals Management Plan.

### 3. REQUIREMENTS

#### 3.1. Tasks, Activities, Deliverables and/or Milestones

The objective of this requisition is to acquire a benchtop ball mill system.

#### 3.2. Specifications and Standards

- The instrument must be able to produce grind fineness as low as 20 µm or smaller.
- The instrument must be equipped with 6 grinding stations to process up to 6 samples simultaneously.
- The instrument must be able to accommodate jar sizes from 5 ml to 35 ml or larger ranges to accommodate different sample volumes.
- The instrument must be able to accommodate a wide range of grinding tools including polytetrafluoroethylene (PTFE), stainless steel, and tungsten carbide to process a wide range of hardness of materials.
- The instrument must be suitable for dry, wet and cryogenic grinding.

- The instrument must be able to operate with a vibrational pulverization frequency from 10 up to 35 Hz or wider.
- The instrument must be able to perform grinding periods from 10 min up to 24 hours or wider to accommodate the sample preparation of a wide variety of sample matrices.
- The instrument must be able to store at least 10 methods for different applications.
- The instrument must be equipped with a safety shield.
- The instrument must operate at 120V.

The supplier must provide:

- One (1) benchtop ball mill.
- Six (6) 10 mL stainless steel jars.
- Four (4) safety elements for empty grinding stations.
- One (1) jar wrench.
- 50 gaskets for 10 mL grinding jars.
- One (1) cryo kit for cooling the grinding jars with liquid nitrogen.
- One (1) instruction manual (hard-copy or e-copy).
- Cables necessary to set-up the instrument.
- 1 year warranty on parts and labour.

### **3.3. Technical, Operational and Organizational Environment**

The benchtop ball mill that will be acquired will be installed at PSL located at 1800 Walkley road. The facility has controlled environmental conditions of temperature and humidity to allow a maximum performance of the utilisation of the instrument.

### **3.4. Method and Source of Acceptance**

Work will be deemed acceptable once the instrument is delivered.

### **3.5. Reporting Requirements**

N/A

### **3.6. Project Management Control Procedures**

N/A

## **4. ADDITIONAL INFORMATION**

### **4.1. Canada's Obligations**

PSL will provide access to the laboratories to the Courier for the period required for the delivery of the instrument. Our laboratory has an obligation to prepare the site for the installation of the analytical instrument. This may include addition or modification of the existing facilities such as electrical outlet or fume extractor. These modifications to our facilities are not part of this contract.

### **4.2. Contractor's Obligations**

- Title to the equipment/furnishings charged against this Contract shall vest in Canada upon payment of invoiced amounts and must remain so vested at all times.
- For each item of equipment/furnishings that is purchased, the Contractor is to record the name, manufacturer, model number, serial number, optional equipment, supplier and price and forward this information to the Project Authority.

- The Contractor must label all equipment/furnishings as being the property of Canada.
- Notwithstanding the fact that the equipment/furnishings under this Contract become vested in Canada, the equipment/furnishings must remain within the custody and control of the Contractor until such time as the Project Authority provides instructions for its delivery. During this period of time, the Contractor must take reasonable and proper care of the equipment/furnishings.

**4.3. Location of Work, Work site and Delivery Point**

The instrumentation that will be acquired will be located at PSL located at 1800 Walkley road. The facility has a loading dock to facilitate the delivery of the instrument to our building.

**4.4. Language of Work**

NA

**4.5. Travel and Living**

NA

**5. PROJECT SCHEDULE**

**5.1. Schedule and Estimated Level of Effort (Work Breakdown Structure)**

NA

**6. APPLICABLE DOCUMENTS AND GLOSSARY**

**6.1. Applicable Documents**

N/A

**6.2. Relevant Terms, Acronyms and Glossaries**

PSL: Product Safety Laboratory

**SECURITY REQUIREMENT FOR CANADIAN SUPPLIER:**

Not applicable. Delivery of goods only

1. The Contractor personnel requiring access to PROTECTED information, assets or sensitive work site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by Health Canada/PHAC or the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).

**This is not applicable for contractor personnel that are travelling from the USA. Contractor personnel will be escorted at all time by Health Canada employees during their visit to our facilities.**

2. The Contractor MUST NOT remove any PROTECTED information or assets from the identified work site(s), and the Contractor must ensure that its personnel are made aware of and comply with this restriction.

3. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of Health Canada/PHAC.

**EXIGENCE EN MATIÈRE DE SÉCURITÉ POUR ENTREPRENEUR CANADIEN:**

1. Les membres du personnel de l'entrepreneur devant avoir accès à des renseignements ou à des biens PROTÉGÉS, ou à des établissements de travail dont l'accès est réglementé, doivent TOUS détenir une cote de FIABILITÉ en vigueur, délivrée ou approuvée par Santé Canada/Agence de la santé publique ou la Direction de la sécurité industrielle canadienne (DSIC) de Travaux publics et Services gouvernementaux Canada (TPSGC).
2. L'entrepreneur NE DOIT PAS emporter de renseignements ou de biens PROTÉGÉS hors des établissements de travail visés; et l'entrepreneur doit s'assurer que son personnel est au courant de cette restriction et qu'il la respecte.
3. Les contrats de sous-traitance comportant des exigences relatives à la sécurité NE DOIVENT PAS être attribués sans l'autorisation écrite préalable de Santé Canada/Agence de la santé publique.