

**CENTER FOR NUCLEAR WASTE  
REGULATORY ANALYSES**

**ADMINISTRATIVE PROCEDURE**

Proc. TOP-019

Revision 0

Page 1 of 3

Title TOP-019 PREPARATION OF GROUND BOROSILICATE GLASS  
SAMPLES

**EFFECTIVITY AND APPROVAL**

Revision 0 of this procedure became effective on <sup>2/7/92</sup>~~1/31/92~~ *BSM*. This procedure consists of the pages and changes listed below.

<u>Page No.</u>	<u>Change</u>	<u>Date Effective</u>
ALL	0	<del>1/31/92</del> <sup>2/7/92</sup> <i>BSM</i>

**SUPERSEDED**

Supersedes Procedure No. None

**Approvals**

Written By <i>Hersh K. Manaktala</i> Hersh K. Manaktala	Date 2/5/92	Technical Review <i>Gustavo A. Cagnolino</i> Gustavo A. Cagnolino	Date 2/5/92
Quality Assurance <i>Bruce Mabrito</i> Bruce Mabrito	Date 2/7/92	Cognizant Director <i>Wesley C. Patrick</i> Wesley C. Patrick	Date 2/7/92

**CENTER FOR NUCLEAR WASTE  
REGULATORY ANALYSES**

**TECHNICAL OPERATING PROCEDURE**

Proc. TOP-019

Revision 0

Page 2 of 3

**TOP-019 PREPARATION OF GROUND BOROSILICATE GLASS SAMPLES**

1. PURPOSE

The purpose of this procedure is to describe the method to be utilized for preparation, identification, storage, and record keeping of the leaching samples. This procedure is applicable only to **non-radioactive** samples. This procedure implements the requirements of the Center QA Manual Sections 3, 8, and 13.

2. RESPONSIBILITY

2.1 The Principal Investigator of the project and personnel involved in sample preparation shall be responsible for the implementation and control of this procedure.

3. EQUIPMENT & SUPPLIES

The following equipment or equivalent (as determined by the Principal Investigator) is needed to implement the procedure.

Equipment	Manufacturer	Model No.	Calibration Required
Grinding Mill	Tekmar Company	Model A-10	No
Tungsten Carbide Blade	Tekmar Company	For Model A-10	No
Sieve Shaker/Sifter	ATM Corporation	Model 10	No
Horizontal Pulse Accessory	ATM Corporation	For Model 10	No
Sieves	ATM Corporation	ASTM Standard Brass/ Stainless Steel	No

**CENTER FOR NUCLEAR WASTE  
REGULATORY ANALYSES**

**TECHNICAL OPERATING PROCEDURE**

Proc. TOP-019

Revision 0

Page 3 of 3

4. PROCEDURE

- 4.1 Break large size sample(s) into small pieces to fit the grinding mill bowl. To accomplish this, the sample(s) must be placed in double- or triple-layered thick cloth bags and hammered lightly so as not to produce large amount of powder. Discard fine powder.
- 4.2 Place small size chunks in the grinder bowl and operate the grinder intermittently for a few seconds before opening the cover. [Caution: Use tungsten carbide blade only in the grinding mill. Standard stainless steel blade can lead to contamination of the samples.] Transfer the ground/crushed glass on a non-absorbing paper prior to transferring to the sieve stack. Operate the grinder again to reduce the size of the remaining glass chunks. Continue the process as many times as necessary.
- 4.3 Fractionate the ground sample according to particle size, -40 + 60 mesh, -60 + 80 mesh, -80 + 100 mesh, -100 + 200 mesh, -200 + 325 mesh, -325 + 400 mesh, using U.S. standard sieves in a sonic sieve stack with a tapper attachment. Sieve for a minimum of 30 minutes, in three or more numbers of cycles.

5. STORAGE, IDENTIFICATION, AND DOCUMENTATION OF SAMPLES PREPARED

Store the prepared ground/crushed glass samples in individually sealed plastic bottles with lids. Identify the following on each bottle: (i) date of sample preparation, (ii) type of glass, (iii) sample fabricator's identity, (iv) sample batch number, and (v) quantity prepared (optional). The samples shall be stored in a desiccator. The base sample shall have a sample custody record, and each sub-sample shall be identified by a unique number.

6. RECORDS/DATA RETENTION

Sample Custody records shall be retained as required by TOP-012 and CNWRA QA Manual.

**CENTER FOR NUCLEAR WASTE  
REGULATORY ANALYSES**

**TECHNICAL OPERATING PROCEDURE**

Proc. TOP-019

Revision 1

Page 1 of 1

Title **PREPARATION OF GROUND BOROSILICATE GLASS SAMPLES**

**EFFECTIVITY**

Revision 1 of this procedure makes this procedure obsolete. This procedure consists of the pages and changes listed below.

<u>Page No.</u>	<u>Change No.</u>	<u>Date Effective</u>
1	0	12/11/2000

**Note: This procedure, TOP-019, has been replaced by an ASTM Test Method C 1285-97.**

**Please remove and destroy the referenced procedure in your notebook/holder and return the acknowledgment page to CNWRA Document Control with your signature and date.**

Supersedes Procedure No. N/A

**Approvals**

Written by *Vijay Jain*  
Vijay Jain

Date  
12/11/00

Technical Review *Gustavo Cragolino*  
Gustavo Cragolino

Date  
12/11/2000

Quality Assurance *Bruce Mabrito*  
Bruce Mabrito

Date  
12/11/2000

Cognizant Director *Budhi Sagar*  
Budhi Sagar

Date  
12/12/2000