

BP OIL -- TOLEDO REFINERY

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TOLEDO REFINERY

RCF

OPERATIONS & MAINTENANCE PROGRAM

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1.0 REFRACTORY CERAMIC FIBER GUIDELINE

1.1 Policy

In order to minimize the potential hazards of Refractory Ceramic Fibers (RCF's), this guideline applies to all employees and contractors who are involved in the fabrication, installation or removal of RCF materials. New applications using RCF's require submittal of MSDS and Chemical Health Effects Forms on a case by case basis to the competent person on site.

This procedure does not apply to carbon fibers, fibrous glass wools or mineral wools.

1.2 Responsibility

The Asbestos Program Manager is responsible for the implementation of this program.

Contract administrators are responsible for informing contractors of the requirements in this guideline.

1.2.1 Work Practices

1.2.2 Material Description

RCF's are widely used as a thermal insulation material, particularly in high heat applications, such as inside furnaces or during stress relief maintenance activities. RCF is made from molten silica, alumina or kaolin clays. RCF materials are manufactured under many trade names. Some of the more common brand names are listed below by manufacturer:

- Thermal Ceramics (formerly Manville) - Cerafiber, Cerawool, Cerablanket, Cerachrome, Cerachem, Cerefelt and Kem star.
- A.P. Greene - Inswool
- Babcock & Wilcox - Kaowool
- Carborundum - Fiberfrax

- Concentrations of RCF are suspected or known to be higher than 10 times the exposure limits.
- Working in a confined or enclosed areas and using mechanical ventilation and/or wetting procedures **when removing after – service RCF insulation.**
- Disposable one-piece clothing with head and foot coverings and gloves must be worn if RCF's are installed by spray application and in any removal situations.
- Cotton gloves should be worn at all times when handling RCF's.

1.6 Housekeeping

- Drop cloths should be used where floor gratings, openings or other circumstances would allow for RCF materials to fall to a lower level.
- All external surfaces in the work area shall be maintained free of accumulation of RCF. Good housekeeping should be maintained by wet sweeping and vacuuming. Vacuums must be equipped with HEPA filters.
- All RCF waste and disposable clothing shall be collected and disposed of in covered containers, dumpsters or sealed impermeable plastic bags.

1.7 Personal Hygiene

- Individuals that work in restricted areas are required to remove protective clothing and wash all areas of exposed skin in warm water and mild soap before consuming food or beverages.
- During removal activities, employees must shower at the end of the job or workshift.
- No eating, drinking, smoking, chewing of gum/tobacco etc., will be allowed in the RCF work area..

1.8 Restricted Areas - Demarcation

- During installation or removal of RCF's, the work area must be barricaded with barricade tape at a distance from the actual work so employees cannot inadvertently walk into the work area.
- Caution signs must be posted at such a distance from the work location so other employees can read them so they can take the necessary precautions. The following language is suggested for signs:

WARNING

**Airborne Refractory Ceramic Fibers
Skin, Eye & Respiratory Irritant
Suspect Cancer Hazard*
Authorized Personnel Only
Protective Equipment Required**

*2001 ACGIH Threshold Limit Value A-2

1.9 Fabrication, Installation, Removal, Demolition, Etc.

- Whenever practical, RCF products should be wetted with water from a fine spray nozzle and hose prior to removal. Effective use of the wetting procedures will reduce the cristoballite exposure hazard of RCF products that have been exposed to temperatures above 1600°F.
- All activities involving the cutting of RCF products shall be restricted to a designated area. Caution signs must be posted before work begins. Local exhaust ventilation must be employed.
- Removal and demolition of RCF insulation should begin at the top of a structure and progress downward. Do not drop insulation from elevated areas to ground levels. Each project needs evaluated by a competent person to determine appropriate work practices.

1.10 Training

- All employees who may be occupationally exposed to RCF materials must be informed of their potential health effects.
- All employees involved with the installation or removal of RCF products or who have a potential for exposure to RCF's above the established AEL's shall receive additional training as outlined in this guideline.
- Employees who receive the additional RCF training shall also receive the Respirator Protection Program Training.

1.11 Monitoring

- Air Monitoring shall be conducted during fabrication, installation and removal activities to determine employee exposures to RCF's and to ensure appropriate respiratory protection is worn.

1.12 Waste Disposal

- Wastes generated during fabrication, installation or removal of RCF's is not defined as hazardous by RCRA. All waste should be disposed of in closed trash containers or dumpsters to prevent the release of airborne dusts and fibers. Contact the site Environmental or Safety Department for questions regarding disposal of all wastes. It is recommended that a separate RCF dumpster is located near the asbestos roll-off dumpster.

Revision history

The following information documents at least the last 3 changes to this document, with all the changes listed for the last 6 months.

Date	Revised By	Changes
8/1/11	Hasbrouck	Re-name IH Procedure to SAF-110 and change header and footer and add revision history. First issuing as SAF, so it is revision 0. No change to content of procedure. MOC# 20114521-001.
5/13/13	Michael Chambers	Changed approver, owner, effective date, and revision number. Made minor formatting changes to align with the current SAF format. Clarified requirements for a full-facepiece supplied air by added specification that a full-facepiece supplied air respirator must be worn when removing after-service RCF insulation in a confined or enclosed area. MOC#M20126398-001