8. Exposure controls/personal protection

Occupational exposure limits

Components	for Air Contaminants (29 CFR 1910.1) Type	Value	Form
Barium sulphate (CAS 7727-43-7)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Cellulose (CAS 9004-34-6)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Graphite (CAS 7782-42-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Magnesium oxide (CAS 1309-48-4)	PEL	15 mg/m3	Total particulate.
US. OSHA Table Z-3 (29 CF Components	•	Value	Form
	Туре		
Barium sulphate (CAS 7727-43-7)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Graphite (CAS 7782-42-5)	TWA	15 mppcf	
Magnesium oxide (CAS 1309-48-4)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Mullite (CAS 1302-93-8)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
		• • • • • • • • • • • • • • • • • • • •	
			Form
US. ACGIH Threshold Limit Components	Туре	Value	Form
Components Barium sulphate (CAS 7727-43-7)	Type TWA	Value 5 mg/m3	Form Inhalable fraction.
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6)	Type TWA TWA	Value 5 mg/m3 10 mg/m3	Inhalable fraction.
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5)	Type TWA TWA TWA	Value 5 mg/m3 10 mg/m3 2 mg/m3	Inhalable fraction. Respirable fraction.
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS	Type TWA TWA	Value 5 mg/m3 10 mg/m3	Inhalable fraction.
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4)	Type TWA TWA TWA TWA TWA	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3	Inhalable fraction. Respirable fraction. Inhalable fraction.
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8)	Type TWA TWA TWA TWA TWA TWA	Value 5 mg/m3 10 mg/m3 2 mg/m3	Inhalable fraction. Respirable fraction.
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide t	Type TWA TWA TWA TWA TWA TWA	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3	Inhalable fraction. Respirable fraction. Inhalable fraction.
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide to Components	Type TWA TWA TWA TWA TWA TWA TWA O Chemical Hazards	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3 1 mg/m3	Inhalable fraction. Respirable fraction. Inhalable fraction. Respirable fraction.
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide to Components Barium sulphate (CAS	Type TWA TWA TWA TWA TWA TWA TWA O Chemical Hazards Type	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3 Value 5 mg/m3	Inhalable fraction. Respirable fraction. Inhalable fraction. Respirable fraction. Form Respirable.
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide to Components Barium sulphate (CAS 7727-43-7)	Type TWA TWA TWA TWA TWA TWA O Chemical Hazards Type TWA	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3 Value 5 mg/m3 10 mg/m3	Inhalable fraction. Respirable fraction. Inhalable fraction. Respirable fraction. Form Respirable. Total
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide to Components Barium sulphate (CAS 7727-43-7)	Type TWA TWA TWA TWA TWA TWA TWA O Chemical Hazards Type	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3 Value 5 mg/m3 10 mg/m3 5 mg/m3	Inhalable fraction. Respirable fraction. Inhalable fraction. Respirable fraction. Form Respirable. Total Respirable.
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide to Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6)	Type TWA TWA TWA TWA TWA O Chemical Hazards Type TWA TWA	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3 1 mg/m3 Value 5 mg/m3 10 mg/m3 5 mg/m3 10 mg/m3	Inhalable fraction. Respirable fraction. Inhalable fraction. Respirable fraction. Form Respirable. Total Respirable. Total
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide to Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6)	Type TWA TWA TWA TWA TWA TWA O Chemical Hazards Type TWA	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3 Value 5 mg/m3 10 mg/m3 5 mg/m3	Inhalable fraction. Respirable fraction. Inhalable fraction. Respirable fraction. Form Respirable. Total Respirable.
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide to Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5)	Type TWA TWA TWA TWA TWA O Chemical Hazards Type TWA TWA	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3 1 mg/m3 Value 5 mg/m3 10 mg/m3 5 mg/m3 10 mg/m3 2.5 mg/m3	Inhalable fraction. Respirable fraction. Inhalable fraction. Respirable fraction. Form Respirable. Total Respirable. Total
Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide t Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) ogical limit values ropriate engineering	Type TWA TWA TWA TWA TWA O Chemical Hazards Type TWA TWA TWA TWA	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3 1 mg/m3 Value 5 mg/m3 10 mg/m3 5 mg/m3 10 mg/m3 2.5 mg/m3 or the ingredient(s). nent if airborne dust levels are	Inhalable fraction. Respirable fraction. Inhalable fraction. Respirable fraction. Form Respirable. Total Respirable. Total Respirable. Total Respirable. Total Respirable.
Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide to Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) ogical limit values ropriate engineering trols vidual protection measures	Type TWA TWA TWA TWA TWA TWA O Chemical Hazards Type TWA TWA TWA TWA TWA TWA TWA TW	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3 1 mg/m3 Value 5 mg/m3 10 mg/m3 5 mg/m3 10 mg/m3 2.5 mg/m3 or the ingredient(s). nent if airborne dust levels are posure Limits and minimize the	Inhalable fraction. Respirable fraction. Inhalable fraction. Respirable fraction. Form Respirable. Total Respirable. Total Respirable. high. Provide adequate
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide to Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) ogical limit values ropriate engineering trols vidual protection measures Eye/face protection	Type TWA TWA TWA TWA TWA O Chemical Hazards Type TWA TWA TWA TWA TWA TWA TWA TW	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3 1 mg/m3 Value 5 mg/m3 10 mg/m3 5 mg/m3 10 mg/m3 2.5 mg/m3 or the ingredient(s). nent if airborne dust levels are posure Limits and minimize the	Inhalable fraction. Respirable fraction. Inhalable fraction. Respirable fraction. Form Respirable. Total Respirable. Total Respirable. Total Respirable. Total Respirable.
Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide to Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) ogical limit values ropriate engineering trols vidual protection measures Eye/face protection	Type TWA TWA TWA TWA TWA TWA O Chemical Hazards Type TWA TWA TWA TWA TWA TWA TWA TW	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3 1 mg/m3 Value 5 mg/m3 10 mg/m3 5 mg/m3 10 mg/m3 2.5 mg/m3 or the ingredient(s). nent if airborne dust levels are posure Limits and minimize the	Inhalable fraction. Respirable fraction. Inhalable fraction. Respirable fraction. Form Respirable. Total Respirable. Total Respirable. Total Respirable. Total Respirable.
Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) Magnesium oxide (CAS 1309-48-4) Mullite (CAS 1302-93-8) US. NIOSH: Pocket Guide to Components Barium sulphate (CAS 7727-43-7) Cellulose (CAS 9004-34-6) Graphite (CAS 7782-42-5) ogical limit values ropriate engineering trols	Type TWA TWA TWA TWA TWA TWA O Chemical Hazards Type TWA TWA TWA TWA TWA TWA TWA TW	Value 5 mg/m3 10 mg/m3 2 mg/m3 10 mg/m3 1 mg/m3 Value 5 mg/m3 10 mg/m3 5 mg/m3 10 mg/m3 2.5 mg/m3 or the ingredient(s). ment if airborne dust levels are posure Limits and minimize the posure Limits and mi	Inhalable fraction. Respirable fraction. Inhalable fraction. Respirable fraction. Form Respirable. Total Respirable. Total Respirable. total Respirable. rotal Respirable. of dust.