

Attachment A – Raw Materials

Proposed Lime Silo TAC Emission Calculations: For bulk lime handled in the lime silo, potential estimated TAC emissions are below the applicable thresholds in the CAO Exempt TEU Reporting document:

Product(s)	Estimated maximum usage (pounds/year) ¹	Estimated maximum usage (tons/year)	PM EF (pounds/ton product) ²	TAC	CASRN(s) ³	TAC weight percent in product ⁴	TAC emissions (pounds/year) ⁵	CAO reporting threshold (lb/yr)
BULK LIME	5,892,960	2,946	0.022	Silica, crystalline (respirable)	14808-60-7 7631-86-9	0.50005	0.32	20

¹ From Attachment J of the supporting information for CSRSM's February 13, 2023 CAO Emissions Inventory submittal.

² AP-42 Table 11.17-4, "Emission Factors for Lime Manufacturing Raw Material And Product Processing And Handling": product transfer and conveying with 99 percent baghouse control.

³ CASRN 14808-60-7 identifies a specific form of crystalline silica (quartz), which falls under the general crystalline silica category (CASRN 7631-86-9).

⁴ Weight percent of crystalline silica in lime is from the SDSs for Greymont "High Calcium Quicklime" provided by CSRSM in Attachment J of the supporting information for CSRSM's February 13, 2023 CAO Emissions Inventory submittal (the average of the range is used).

⁵ TAC emissions (pounds/year) = product usage (tons/year) x PM EF (pounds/ton product) x TAC weight percent/100.

Other Materials: Based on information provided by CSRSM on February 13, 2023, the following raw materials used contain TACs:

Material	TACs
Silicomanganese	manganese (CASRN 7439-96-5); phosphorus (DEQ SEQ ID 504)
Ferromanganese	manganese (CASRN 7439-96-5), chromium (chromium VI, CASRN 18540-29-9), nickel (CASRN 7440-02-0)
Ferrocolumbium	aluminum (CASRN 7429-90-5)
Ferrovandium	vanadium (CASRN 7440-62-2)
Ferrochromium	chromium (chromium VI, CASRN 18540-29-9)
Electrolytic manganese	manganese (CASRN 7439-96-5)
MMFX ladle slag	calcium fluoride (DEQ SEQ ID 239), quartz (crystalline silica, CASRN 14808-60-7)
LC slag	aluminum compounds (CASRN 7429-90-5), crystalline silica (CASRN 14808-60-7)
WR slag	calcium fluoride (DEQ SEQ ID 239), crystalline silica (CASRN 14808-60-7)
Slag Conditioner	aluminum compounds (CASRN 7429-90-5), crystalline silica (CASRN 14808-60-7)
Vanadium carbide nitride	vanadium (CASRN 7440-62-2), aluminum (CASRN 7429-90-5), manganese (CASRN 7439-96-5), chromium (chromium VI, CASRN 18540-29-9), phosphorus (DEQ SEQ ID 504)
Fluorite/fluorspar	calcium fluoride (DEQ SEQ ID 239)
Dolomitic lime and lime super sacks	crystalline silica (CASRN 14808607)
Carbolon	crystalline silica (CASRN 14808-60-7)