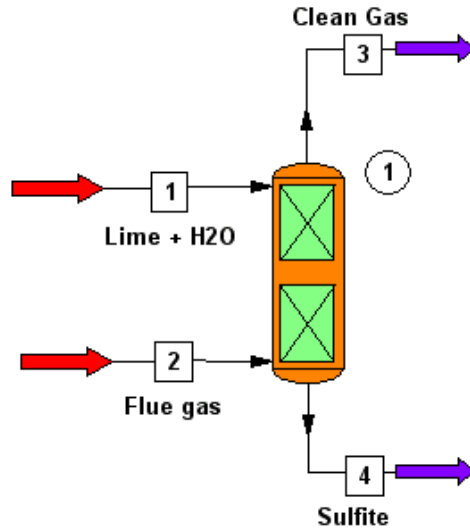


Wet Desulfurization of Flue Gas



DESCRIPTION:

One of methods to clean up flue gas is the wet process. Aqueous lime suspension is introduced onto the top of a spray tower, and flue gas counter-currently contacts liquid droplets. Sulfur dioxide is converted into sulfites, and CO₂ is released.

Enhanced electrolyte package being an integral portion of CHEMCAD 5 makes this sort of calculations feasible. The unique True Species Approach treats electrolyte species as they were regular components, so the calculation results reflect true distribution of material into molecules and ions. The Electrolyte Expert tool helps setting up the electrolyte system very effectively; this action is almost transparent to the user.

Stream No.	1	2	3	4
Stream Name	Lime + H2O	Flue gas	Clean Gas	Sulfite
Temp C	20.0000*	40.0000*	15.2654	15.1076
Pres bar	1.1000*	1.1000*	1.0000	1.0000
Ph value	10.1498	0.0000	0.0000	6.2584
Ionic strength molal	0.0006	0.0000	0.0000	3.2546
Total kg/hr	55296.2303	1800000.0139	1819076.1812	36219.9106
Flowrates in kmol/hr				
Sulfur Dioxide	0.0000	28.0965	0.0005	0.0000
Carbon Dioxide	0.0000	4089.9795	4114.8903	0.0824
CalciumCarbonate	52.9916	0.0000	0.0000	27.6882
Water	2774.9948	0.0000	1098.0072	1673.8902
Nitrogen	0.0000	57764.0000	57764.0000	0.0214
CO3--	0.0033	0.0000	0.0000	0.0008
HCO3-	0.0051	0.0000	0.0000	0.3176
HSO3-	0.0000	0.0000	0.0000	5.8884
SO3--	0.0000	0.0000	0.0000	22.2080
Ca++	0.0084	0.0000	0.0000	25.3118