OxyChem®

Basic Chemicals

Sodium Chlorite
Scrubber Odor Control

Application Description

The process of rendering, or the thermal processing of waste animal proteins in cookers, results in the formation of several undesirable chemical compounds. Among these decomposition products are several odorous and highly toxic substances such as cadaverine ((1,5-pentanediamine) and putrescine (1,4-butanediamine). These products, members of a chemical family known as ptomaines, are foul smelling, highly toxic, and must be removed from process air or water prior to discharge.

Chlorine dioxide generated from sodium chlorite solutions is effective as a chemical oxidant for controlling such products generated from cookers in rendering operations associated with meat and poultry processing establishments. In this process, odorous compounds generated from the rendering process are collected and fed to recirculating scrubber systems. The scrubber water is treated with a chemical oxidant to remove the offensive contaminants.

Chlorine is not cost-effective in removing secondary and tertiary amines, due to its preferential reactivity towards ammonia and primary amines. In contrast, chlorine dioxide, does not react with ammonia and primary amines and selectively reacts with these compounds, making it the most effective means to destroy these compounds.

Feed Requirements

For effective odor control in scrubber systems, apply sodium chlorite solutions as necessary through a chlorine dioxide generation system to maintain a residual concentration of up to 5 parts per million (ppm) chlorine dioxide in the scrubber water.

Method of Feed

For odor control in scrubber systems, chlorine dioxide should be fed below the water level or into the recirculation line of the scrubber system.

Further Information

More detailed information on sodium chlorite applications is available upon request through the OxyChem Technical Services Department. Call or write to:

OxyChem Technical Service Department
6200 S. Ridge Rd.
Wichita, Kansas 67215
800-733-1165 Ext. 1
OxyChem_Tech_Service@oxy.com

Wichita Technical Service Department
6200 South Ridge Road, Wichita, KS 67215
Tel: 800-733-1165 ext. 1
OxyChem_Tech_Service@oxy.com