

## INTRODUCTION

Acrylic acid and its derivatives are primarily used in the preparation of solution and emulsion polymers. The objective of this project is to design an acrylic acid plant that will produce glacial acrylic acid, which is at 99.0% purity. Because acetic acid, a by-product, is also a marketable commodity, purification of acetic acid to 95% purity is also desirable. Acrylic acid is produced via the catalytic partial oxidation of propylene. The desired products must be separated from the rest of the reactor product stream. This stream consists of acrylic acid, acetic acid, water, oxygen, nitrogen, and carbon dioxide. Goal is to produce 200 TPD of 99.0% acrylic acid utilizing 8000 hours a year. The one month of shut-down time is most likely for catalyst regeneration and equipment maintenance.

## PRODUCT IDENTITY

Common name:	Acrylic acid
CAS name:	2-Propenoic acid
CAS registry number:	79-10-7
EEC No:	607-061-00-8
DOT UN:	22-18-29
RTECS Number:	AS 4375000
Synonyms:	acroleic acid 2-propenoic acid vinylformic acid propene acid ethylenecarboxylic acid UN 2218 propenoic acid ethene carboxylic acid

Chemical formula:  $C_3H_4O_2$