

Table 2
Potential Emissions from Upgrader Unit
UOP Biofuel Production Facility
Kapolei, Oahu, Hawaii

Operating Hours 8,760 hrs/yr

Input	Upgrader Emissions		
Total Vented Flow	7.0 lb/hr		
Constituent	% by wt.	lb/hr	tons/yr
CO2	89.23	6.25	27.36
<i>hydrogen sulfide</i> ⁽¹⁾	2.00	0.140	0.614
CO	0.452	0.032	0.139
NOx	0.125	0.0087	0.038
SOx	0.120	0.0084	0.037
hydrogen chloride	0.0015	1.02E-04	4.45E-04
hydrogen	2.60E-04	1.82E-05	7.97E-05
<i>hydrogen fluoride</i>	7.0E-05	4.9E-06	2.15E-05
nitrous oxide	5.0E-05	3.5E-06	1.53E-05
ammonia	3.0E-05	2.1E-06	9.2E-06
<i>chlorine</i>	3.0E-05	2.1E-06	9.2E-06
<i>carbon disulfide</i>	3.0E-05	2.1E-06	9.2E-06
fluorine	3.0E-05	2.1E-06	9.2E-06
hydrogen cyanide	3.0E-05	2.1E-06	9.2E-06
sulfuric acid	3.0E-05	2.1E-06	9.2E-06
methane	3.80	0.266	1.166
ethane	2.11	0.148	0.648
propane	1.08	0.076	0.332
butane	0.443	0.031	0.136
pentane	0.154	0.011	0.047
ethylene	0.0015	1.05E-04	4.60E-04
n- butane	1.0E-04	7.0E-06	3.07E-05
<i>benzene</i>	5.0E-05	3.5E-06	1.53E-05
PAHs	3.0E-05	2.1E-06	9.2E-06
mercaptans	3.0E-05	2.1E-06	9.2E-06
dichloroethane	3.0E-05	2.1E-06	9.2E-06
halogenated hydrocarbons	3.0E-05	2.1E-06	9.2E-06
<i>vinyl chloride</i>	3.0E-05	2.1E-06	9.2E-06
<i>toluene</i>	2.0E-05	1.4E-06	6.13E-06
aldehyde	3.0E-05	2.1E-06	9.20E-06
acetic acid	2.0E-05	1.4E-06	6.13E-06
<i>formaldehyde</i>	1.0E-05	7.0E-07	3.07E-06
PM	0.0408	0.003	0.013
other VOCs	0.436	0.030	0.134
unknowns	2.0E-05	1.4E-06	6.1E-06
total	100.00	7.000	30.660

(1) constituents listed in italics are classified as hazardous air pollutants (HAPs)