

**Executive Summary of the  
Emission Summary and Dispersion Modelling Report  
for the Chatham Paint Spray Booth  
dated August 15, 2008**

Union Gas Limited retained ORTECH Environmental to prepare an Emission Summary and Dispersion Modelling (ESDM) Report for the Chatham Paint Spray Booth, located at 555 Riverview Drive in Chatham, Ontario. This report is part of a Basic Comprehensive (Air) Certificate of Approval (CofA) application for all Union Gas facilities in Ontario.

This ESDM Report follows the requirements of the Ontario Regulation 419/05 Air Pollution – Local Air Quality and the Ontario Ministry of the Environment (MOE) “Procedure for Preparing an Emission Summary and Dispersion Modelling Report Version 2.0” dated July 2005 (the Procedure).

The ESDM report includes the quantification of emission rates for all significant sources of contaminants from the paint spray booth. Emission rates that have been estimated in this report are for maximum operating scenarios as per O. Reg. 419/05 regulatory requirements. Due to the underlying assumptions used for this scenario, the emission rates cannot be realistically extrapolated to annual values and should not be used for such purposes.

The Emission Summary Table (Table 1) shows all of the significant sources and associated air contaminants; the maximum source and site-wide emission rates and maximum off-property point of impingement (POI) concentrations calculated by air dispersion modelling.

As shown on Table 1 the predicted maximum Propylene Glycol and 1-Isobutyrate POI concentrations resulting from the maximum emission scenario are both  $8.1 \text{ g/m}^3$  or 8% of the MOE POI limit and 5% of the MOE JSL, respectively. The maximum Suspended Particulate Matter and Diethylene Glycol Monobutyl Ether POI concentrations resulting from the maximum emission scenario are both  $2 \text{ }\mu\text{g/m}^3$  or 2% and 3% of the MOE POI limit, respectively.

**Table 1: Emission Summary Table**

Contaminant Name	CAS#	Total Facility Maximum Emission Rate (g/s)	Air Dispersion Model Used	Maximum POI Concentration ( $\mu\text{g}/\text{m}^3$ )	Averaging Period (hr)	POI Limit ( $\mu\text{g}/\text{m}^3$ )	Limiting Effect	Regulation Schedule # or Alternate	Maximum % of POI Limit (%)
SPM	--	0.007	Reg. 346	2.0	0.5	100	Visibility	Schedule 1	2%
Propylene Glycol	57-55-6	0.03	Reg. 346	8.1	0.5	100	Particulate	Guideline (1)	8%
1-Isobutyrate	25265-77-4	0.03	Reg. 346	8.1	0.5	165	-	Jurisdictional Screening Level (2)	5%
Diethylene Glycol Monobutyl Ether	112-34-5	0.007	Reg. 346	2.0	0.5	65	Health	Schedule 1 (24h guideline)	3%

Notes: (1) Taken from "Summary of O. Reg. 419/05 Standards and Point of Impingement Guidelines & Ambient Air Quality Criteria (AAQCs), December 2005.

(2) Taken from "Jurisdictional Screening Level List" February 2008.