



APEX
ENVIRONMENTAL

**UPL South Africa - Cornubia Warehouse Fire:
Human Health Risk Assessment**

Key work & Milestones to date:

HHRA Co-ordination, collation and oversight

- HHRA Sampling and Data Collection (Primary function)
- HHRA Reporting (Multifaceted team approach)
- Health Risk Oversight to other specialist areas (Multifaceted team approach)
- Complaints Co-ordination (Primarily administrative function)
- Medical Surveillance of clean-up crews and first responders (OH Support function)
- UPL Clinic (Support function)
- Occupational Hygiene Risk Assessment and Monitoring (Primary function)

Human Health Risk Assessment: Directive



6.1.6	Occupational Health Risk Specialist	✓
6.1.7	Human Health Risk Assessment following the methodology provided by the United States Environmental Protection Agency (USEPA), which includes but is not limited to: <ul style="list-style-type: none"> • Hazard assessment • Dose-response assessment (toxicological assessment) • Exposure assessment • Risk characterization 	✓
	[And] uncertainty review, and supported by an independent Toxicologist	
	Which must include:	
	a) A register of the complaints that were submitted to UPL and the manner in which these were resolved; and	✓
	b) Any of the measures described under the air quality section numbered 6.1.1.5 (d) and (e) above;	✓
6.1.8	The Human Health Risk Assessment (“HHRA”) must be informed by outputs of the: <ul style="list-style-type: none"> • Dispersion modelling • Complaints registered • Deposition sampling, and • Any other referenced sources that will add value to the study 	✓
6.1.9	In consultation with the Health Cohort, UPL will be required to provide a fully resourced mobile clinic in the impacted area; and	✓
6.1.10	A health monitoring programme will need to be implemented and funded by UPL. This programme will be guided by the: <ul style="list-style-type: none"> • Human health risk assessment • Specialist reports • Referenced sources and environmental health science based on exposure and health outcome Including: <ul style="list-style-type: none"> • Structured interviews • Clinical assessments • Biological monitoring Appropriate interventions will be implemented in the event of any adverse health outcomes detected at individual or community levels	

Key work & Milestones to date:

- HHRA: Inhalation Risk Report (Revision 1) – submitted 7 November 2022
- HHRA: Inhalation Risk Report – accepted and approved 31 March 2023
- Health Cohort Response – 31 March 2023
- HHRA Response – 31 May 2023
- Apex/ UPL and Health Cohort engagement – ongoing

Preceding Two Months:

- Engagement with HHRA specialist team regarding the Health Cohort Response (March – September 2023)
- Engagement with Professor Jason Weeks conducting peer-review of the HHRA approach, reports and recommendations (July – September 2023)
- Professor Mary Gulumian directly involved and overseeing the Human Health Risk of surface and groundwater (for the CSM)

Recent Results and findings:

- Apex: No new findings or results

Possible Authorisations and Authority Support:

- Finalisation of recommendation action plan

Overall Prognosis by Specialist:

➤ **Short-term impacts:**

- Short-term acute inhalation exposure – as far as 10 km
- Moderate to severe acute exposure – Reddam House School and Blackburn Communities
- Risk for non-cancer adverse health effects – minimal
- Increased risks for cardio-pulmonary and lung cancer mortality
- Aluminium, calcium, manganese and phosphorous (particle-bound) - substantial risks for non-cancer adverse health effects

➤ **Long term impacts:**

- Inconclusive

Challenges & Concerns:

- Time constraints regarding health monitoring recommendations

Moving forward: Next two months

- Receival of peer-reviewed report from Professor Jason Weeks
- Finalisation of recommendation action plan
- Continuation of involvement: Professor Mary Gulumian



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Questions & Discussion

THANK YOU

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