Sample interpret SPIC Pharma

Date of Sampling: 30 July 2007
Time of Sampling: 11:10 pm
Location of sample and general conditions during sampling: The sample was taken on the Eachangadu village road (near the Eachangadu school) on the north side of SPIC boundary wall. There was a strong pungent odour with the odour of rotten eggs. Odour was ranked at 8 and it caused severe headache and vomiting sensation. Wind direction was from South to north.
Sample taken in the presence of: Members of SIPCOT Area Community Environmental Monitors

Results of the sample:

1. Total of 4 chemicals found. These chemicals are hydrogen sulphide, carbon disulphide, methyl mercaptan and n-butyl acetate.
2. 3 out of 4 chemicals were found in levels above the safe levels prescribed by the US EPA or any other statutory regulations prescribed in United States.
   - Hydrogen Sulphide was found in levels 980 times above the safe limits.
   - Methyl Mercaptan was found in levels 110 times about the safe limits.
   - Carbon Disulphide was found in levels 6.6 times about the safe limits.

3. Out of the 4 chemicals found all of them target the central nervous system and eyes, 3 chemicals target the respiratory system and skin, and 1 chemical targets the peripheral nervous system, cardiovascular system, kidneys, liver, reproductive system and blood.

S No	Name of Chemical	Levels detected (ug/m3)	Safe Level (ug/m3)	Number of times above health-based screening levels	Odour	Health Effects	Target Organs	Carcinogen
1.	**Hydrogen Sulphide**	**980**	**1.0** (*USEPA Region 6 health based screening levels*)	**980**	A strong odour of rotten eggs	Irritation eyes, respiratory system; coma, convulsions; conjunctivitis, eye pain, discharge of tears, abnormal visual intolerance to light, dizziness, headache, weakness, exhaustion, irritability, insomnia; gastrointestinal disturbance	Eyes, respiratory system, central nervous system	No

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2.	**Carbon Disulphide**	**20**	**3** (Texas Long-Term Screening Levels)	**6.6**	A sweet ether-like odour.	Dizziness, headache, poor sleep, weakness, exhaustion, anxiety, weight loss; gastritis; kidney, liver injury; eye, skin burns; dermatitis; reproductive effects	central nervous system, peripheral nervous system, cardiovascular system, eyes, kidneys, liver, skin, reproductive system	No
3.	**Methyl Mercaptan**	**22**	**0.2** (Texas Long-Term Screening Levels)	**110**	A disagreeable oduor like garlic or rotten cabbage	Irritation eyes, skin, respiratory system; convulsions	Eyes, skin, respiratory system, central nervous system, blood	No
4.	**n-Butyl Acetate**	**9.69**	--	--	A fruity ordour	Irritation eyes, skin, upper respiratory system; headache, drowsiness, narcosis	Eyes, skin, respiratory system, central nervous system	No

Children are more vulnerable than adults to the gases: Because they breathe more rapidly, taking in significantly more pollution per kilogram of body weight than do adults. A resting infant, for example, inhales twice as much air, relative to its size, as does a resting adult. Children spend an average of about 50% more time outdoors than adults. Children are three times more active while outdoors than adults, engaged in sports and other vigorous activities; this increased activity raises breathing rates and significantly increases inhalation and in some cases swallowing of pollutants. Children are particularly vulnerable to toxic substances because their bodies are immature and rapidly growing.

Children are in their prime learning years and exposure to Hydrogen Sulphide and other sulphur gases causes brain damage. The impairment of mental faculties in a child amounts to a lifetime of harm.