

Interpretation of Sample results taken from Downwind of TANFAC in SIPCOT Cuddalore

Date of Sampling: 7 July 2010

Time of Sampling: 10.27 pm

Location: Downwind of TANFAC on the service road on the Northern side near their pilot plant.

Wind direction: South East to North West

Description of sampling conditions and location: The sample was taken during a routine pollution patrol exercise of the SIPCOT Area Community Environmental Monitors in SIPCOT Cuddalore. According to their report, there was a strong acid like odour noticed from the area which caused headache, eye burning, throat irritation and suffocation among the monitors.

Results:

- 6 chemicals were found – Hydrogen Sulfide, Isopropyl Alcohol, Ethyl Acetate, Toluene, Tetrachloroethene, Chlorobenzene.
- 3 chemical were found to exceed United States Environmental Protection Agency's health based screening levels, or other relevant safety limits. These chemicals were Hydrogen Sulfide, Tetrachloroethene and Chlorobenzene.
- Tetrachloroethene known to cause cancer in humans and/or animals. This chemical was found 2.5 times above safe levels prescribed by the United State Environment Protection Agency Region 6 (US EPA).
- Out of the 6 chemicals found – all chemicals affect the eyes and respiratory system; 5 chemicals affect the skin; 3 chemicals affect the Central Nervous System and Liver; 2 chemicals affect the kidneys and one chemical affects the heart.

S No.	Name of the Chemical	Odour	Levels detected (ug/m3)	Health based Screening levels (ug/m3)	Number of times exceed the screening levels (approx)	Symptoms	Target Organs	Carcinogen
1.	Hydrogen Sulphide	Rotten eggs	7.8	1.0 (EPA Region 6 Screening Level)	7.8	Irritation of eyes, respiratory system; coma, convulsion, conjunctivitis, eye pain, tears to eyes, dizziness, headache, weakness and exhaustion, insomnia, gastrointestinal disturbance	Eyes, respiratory system, Central Nervous System	No
2.	Toluene	Sweet pungent benzene like odour	11.0	--	--	Irritation of eyes, nose, weakness and exhaustion, confusion, euphoria, dizziness, headache, dilated pupils and tears to eyes, anxiety, muscle fatigue, insomnia, dermatitis, liver injury, kidney damage	Eyes, skin, respiratory system, Central nervous system, liver and kidney	No
3.	Isopropyl Alcohol	Odour of rubbing alcohol	11.0	--	--	Irritation eyes, nose, throat; drowsiness, dizziness, headache; dry cracking skin	Eyes, skin, respiratory system	No
4.	Chlorobenzene	Almond like odour	110	46.0 (Texas Long-Term Screening Levels)	2.4	Irritation eyes, skin, nose; drowsiness, incoordination; central nervous system depression; in animals: liver, lung, kidney injury	Eyes, skin, respiratory system, central nervous system, liver	No

5.	Tetrachloroethene / Trichloroethene	A chloroform-like odor	8.5	3.3 (EPA Region 6 Screening Level)	2.5	Irritation of eyes and skin; headache, visual disturbances, weakness and exhaustion, dizziness, tremor, drowsiness, nausea, vomiting, dermatitis, liver injury	eyes, skin, respiratory system, heart, liver, kidneys	Yes potential occupational carcinogen Cancer Site [in animals: liver & kidney cancer]
6.	Ethyl Acetate	A fruity like odour	23	--	--	Irritation eyes, skin, nose, throat; narcosis; dermatitis	Eyes, skin, respiratory system	No