

- Creosote (a wood preserving mixture of chemicals) and other soil and water contaminants have been identified by the Texas Commission of Environmental Quality (TCEQ) as chemicals of concern (COC) found at the Union Pacific Railroad Co. Houston Wood Preserving Works.
- Many of these COCs have been assessed by the U.S. Environmental Protection Agency (EPA) and have been found to be associated with an increased risk of various health outcomes, including specific cancers and noncancerous health effects, depending on the length and route of exposure.¹
 - o Associated cancer tumor sites include:
 - Hepatic (Liver),
 - Dermal (Skin),
 - Hematologic (Blood),
 - Gastrointestinal,
 - Respiratory, and
 - Endocrine.
 - o Associated noncancer systems include:
 - Hepatic (Liver),
 - Dermal (Skin),
 - Hematologic (Blood),
 - Nervous,
 - Respiratory,
 - Cardiovascular,
 - Developmental,
 - Immune, and
 - Urinary.
- Although exposure to these COCs was likely greater in the past, TCEQ is conducting further analysis to determine current exposure risk.
- Detailed information on these identified COCs, cancer types, noncancerous health effects, and routes of exposure can be found in Table 1 (on the back of this page).
- Additional information on creosote and COCs can be found at:
 - o EPA's IRIS: <https://www.epa.gov/iris>
 - o ATSDR on Creosote: <https://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=18>
 - o TCEQ on Creosote: https://www.tceq.texas.gov/assets/public/comm_exec/pubs/gi/gi-285.pdf

Reference:

1. Environmental Protection Agency. Integrated Risk Information System (IRIS). Available at https://cfpub.epa.gov/ncea/iris_drafts/AtoZ.cfm

Table 1. TCEQ-identified chemicals of concern found at the Union Pacific Railroad Co. Houston Wood Preserving Works and EPA-assessed associated health risks.

Chemical of Concern	CANCER				NONCANCER	
	Oral Exposure		Inhalation Exposure		Oral Exposure (System: Basis)	Inhalation Exposure
	Tumor Site	Tumor Type	Tumor Site	Tumor Type		
1,2-Dichloroethane	Other	Hemangiosarcomas	Other	Hemangiosarcomas	NA	NA
1,2-Diphenylhydrazine	Hepatic	Hepatocellular carcinomas and neoplastic liver nodules	Hepatic	Hepatocellular carcinomas and neoplastic liver nodules	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	Nervous, Hematologic: Clinical signs (lethargy, prostration, and ataxia) and hematological changes	NA
2-Methylnaphthalene	NA	NA	NA	NA	Respiratory: Pulmonary alveolar proteinosis	NA
Arsenic	Dermal	Skin cancer	Respiratory	Lung cancer	Cardiovascular, Dermal: Hyperpigmentation, keratosis and possible vascular complications	NA
Benzene	Hematologic	Leukemia	Hematologic	Leukemia	Immune: Decreased lymphocyte count	Immune: Decreased lymphocyte count
Benzo(a)pyrene	Gastrointestinal	forestomach, esophagus, tongue, and larynx tumors	Gastrointestinal, Respiratory	Squamous cell neoplasia in the larynx, pharynx, trachea, nasal cavity, esophagus, and forestomach	Developmental: Neurobehavioral changes	Developmental: Decreased embryo/fetal survival
bis(2-Ethylhexyl)phthalate Synonym: Di (2-ethylhexyl)phthalate (DEHP)	Hepatic	Hepatocellular carcinoma and adenoma	NA	NA	Hepatic: Increased relative liver weight	NA
Fluorene	NA	NA	NA	NA	Hematologic: Decreased RBC, packed cell volume and hemoglobin	NA
Fluoranthene	NA	NA	NA	NA	Hepatic, Urinary: Nephropathy, increased liver weights, hematological alterations, and clinical effects	NA
Naphthalene	NA	NA	NA	NA	Other: Decreased mean terminal body weight in males	Nervous, Respiratory: Nasal effects: hyperplasia and metaplasia in respiratory and olfactory epithelium, respectively
Pentachlorophenol	Hepatic, Endocrine	Hepatocellular adenomas or carcinomas and adrenal benign or malignant pheochromocytomas	NA	NA	Hepatic: Hepatotoxicity	NA
Phenol	NA	NA	NA	NA	Other: Decreased maternal weight gain	NA
Pyrene	NA	NA	NA	NA	Urinary: Kidney effects (renal tubular pathology, decreased kidney weights)	NA
Toluene	NA	NA	NA	NA	Urinary: Increased kidney weight	Nervous: Neurological effects in occupationally-exposed workers
Vinyl chloride	Hepatic	Total of liver angiosarcoma, hepatocellular carcinoma, and neoplastic nodules	Hepatic	Liver angiosarcomas, angiomas, hepatomas, and neoplastic nodules	Hepatic: Liver cell polymorphism	Hepatic: Liver cell polymorphism