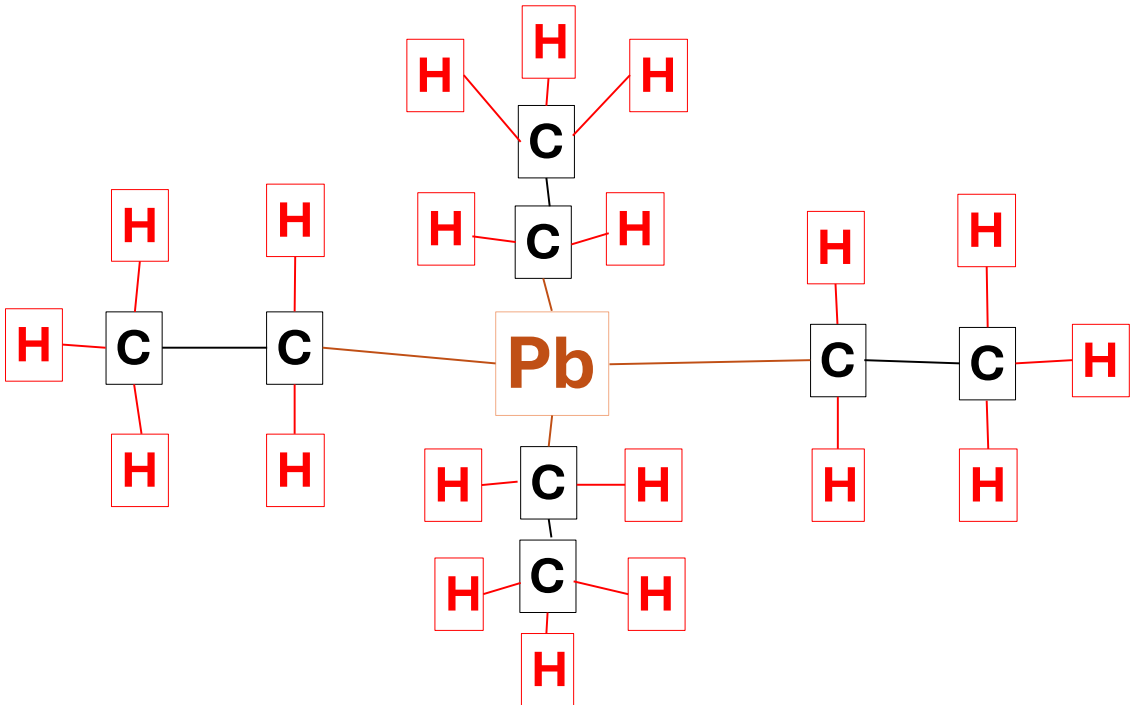
Chemical of the Week – Part 2

Hazard Profile	
Chemical Name and Pseudonyms	Tetraethyl lead, TEL, Tetraethylplumbane, Lead tetraethyl, 78-00-2,
UN Number	1649
Chemical Formula	$Pb(C_2H_5)_4$
NFPA Hazard Class (H-F-R-Ⓞ)	3 – 2 – 2 - ₩
Hazards	Toxic by all routes, combustible liquid, water reactive, decomposes
PPE Considerations	SFPC or CPC with flash protection with SCBA based on assignment
Fire Fighting Considerations	ATC AFFF, dry chem, CO_2. Fight fire from explosive resistant location. Consider use of unmanned monitors. AT ELEVATED TEMPERATURE IN LIQUID PHASE LEAD ALKYLS HAVE BEEN REPORTED TO EXPLODE. AN EXPLOSIVE CONDITION IS OFTEN PRECEDED BY THE LEAD ALKYL RAPIDLY TURNING BLACK. Stabilization has been reported by the addition of 0.5% stearic acid.
Decontamination	Water with surfactant, forced air for vapor exposure
Detection and Monitoring	spectroscopy, chemical sensor, colormetric, combustible gas detector, PID (IP = 11.10 eV)
Chemical and Physical Properties	
Physical State	Unless dyed, colorless liquid with sweet odor
Vapor Pressure	.2 mm/Hg
Boiling Point	228°F (decomposes)
Vapor Density	8.6
Specific Gravity	1.65
Miscibility/Solubility	.00002%
Flash Point	200°F
LEL/UEL	1.6 / - %
Autoignition Temp	230°F
pH	-
Toxicity	
IDLH	40 mg Pb/m^3

AEGL1/AEGL 2/AEGL 3 – 10 Min	- / - / -
Protective Action Criteria (PAC) 1/2/3	.3 / 4 / 40 mg/m^3 (LEL = 18000 ppm)
Emergency Response Planning Guides (ERPG)	- / -/ -
PEL/REL/STEL	.075 / .075 / .1 mg/kg (skin)
LD50	12.3 mg/kg (oral), 990 mg/kg (dermal)
LC50	850 mg/m^3
Radioactive (Yes/No)	No
Medical	
Toxicological Considerations	Hazardous by all routes
Signs/Symptoms of Exposure	CNS, bradycardia, hypotension, hypothermia, nausea, psychosis, convulsions, hallucinations
Medical Treatment	Fresh air, water flush with surfactant for skin exposure, treat symptomatically
Other Information	
Incompatible/reacts with oxidizers, sulfuryl chloride, rust, potassium permanganate, UV light. Decomposes in air, heat, UV light	
Chemical Structure