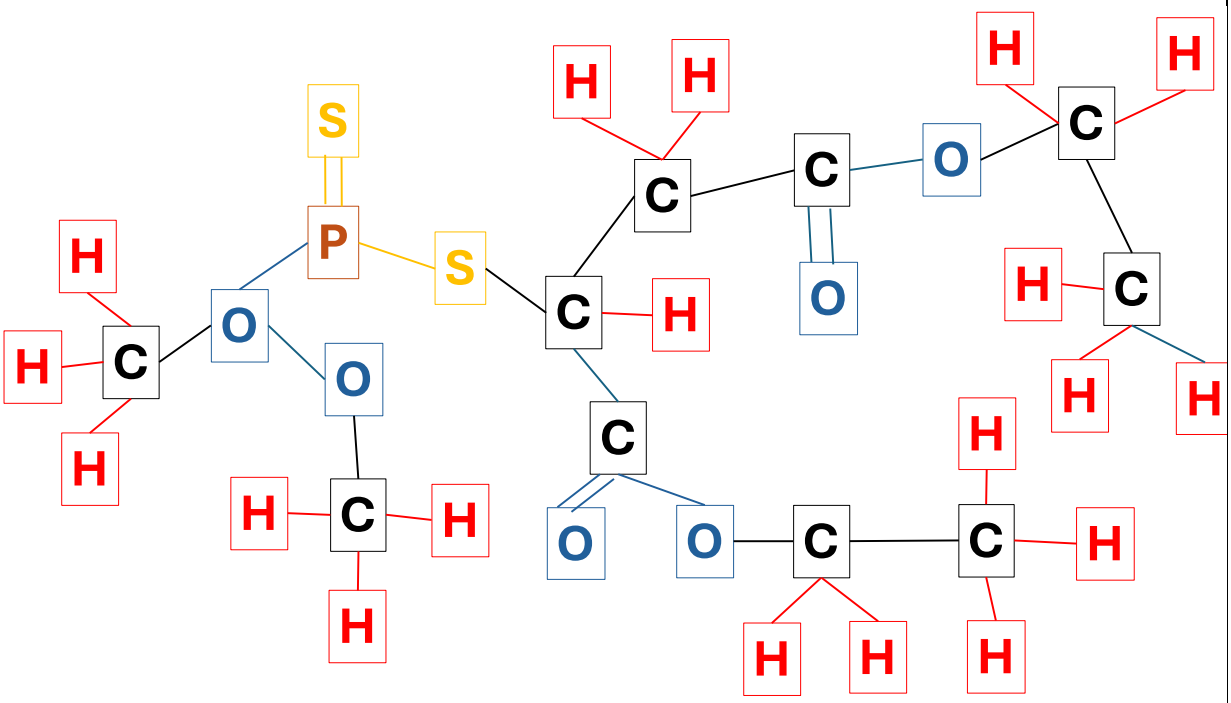
Chemical of the Week – Part 2

Hazard Profile	
Chemical Name and Pseudonyms	Malathion, S-[1, 2-bis(ethyoxycaronyl) ethyl]O, O-dimethyl-phosphorodithioatel Diethyl (dimethoxyphosphinothioythio) succinate
UN Number	2783
Chemical Formula	$C_{10}H19O_5PS_2$
Hazards	Toxic, combustible. Found commercially mixed with solvents.
NFPA Hazard Class (H-F-R-Ⓞ)	2 – 2– 0 –
PPE Considerations	CPC or SFPC with SCBA based on assignment
Fire Fighting Considerations	CO_2, Dry chemical, water, ATC AFFF
Decontamination	Ventilation, water with surfactant
Detection and Monitoring	Colorimetric, spectroscopy, FTIR, electrochemical sensor
Chemical and Physical Properties	
Physical State	Deep brown to yellow liquid. Solid below 37°F
Vapor Pressure	.0004 mm/Hg (but may be higher when mixed with solvents)
Boiling Point	140°F (decomposes)
Vapor Density	11.4
Specific Gravity	1.23
Miscibility	.02%
Flash Point	>100°F
LEL/UEL	- / -%
Autoignition Temp	-
pH	-
Toxicity	
IDLH	250 mg/m^3
LC50	43790 ug/m^3
LD50	50 mg/kg
AEGL1/AEGL 2/AEGL (10 Min)	15/150/ 500 mg/m^3
Emergency Response Planning Guide (ERPG) 1/2/3	- / - / -
Protective Action Criteria (PAC) 1/2/3	15 / 120 / 390 mg/m^3
PEL/REL/STEL	15 / 10/ - mg/m^3
Radioactive (Yes/No)	No
Medical	
Toxicological Considerations	Toxic inhalation by inhalation, ingestion, and contact

Signs/Symptoms of Exposure	Respiratory/skin/eye irritation, CNS s/s, headache, confusion, nausea & vomiting, SLUDGEM/DUMBELS
Medical Treatment	Fresh air, water flush, treat symptomatically, consider antidote kit
Other Information	
Fumes from fire are hazardous. Incompatible with strong oxidizers, magnesium, alkaline pesticides.	
Chemical Structure