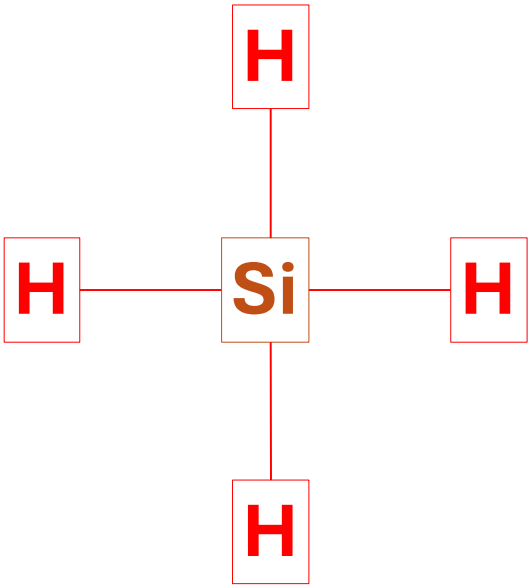
Chemical of the Week – Part 2

Hazard Profile	
Chemical Name and Pseudonyms	Silane, Silicon tetrahydride, Silicane, Monosilane, silicon hydride, Silicomethane, 232-263-4
UN Number	2203
Chemical Formula	SiH_4
Hazards	Compressed gas (expansion ratio), toxic, flammable, air reactive, oxygen displacement
NFPA Hazard Class (H-F-R-Ⓞ)	1 – 4 – 3 –
PPE Considerations	CPC with flash protection or SFPC with SCBA based on assignment
Fire Fighting Considerations	Cool containers and shut flow of gas
Decontamination	Flushing water or water with surfactant
Detection and Monitoring	Colorimetric, spectroscopy, electrochemical sensor, CGI
Chemical and Physical Properties	
Physical State	Colorless gas with repulsive odor.
Vapor Pressure	>1 ATM
Boiling Point	-169°F
Vapor Density	1.1
Specific Gravity	Decomposes in water
Miscibility	Decomposes in water
Flash Point	-
LEL/UEL	1.4% / 96%
Autoignition Temp	Pyrophoric in air
pH	-
Toxicity	
IDLH	-
LC50	4000 ppm
LD50	3450 mg/kg
AEGL1/AEGL 2/AEGL (10 Min)	100 / 170 / 300 ppm
Emergency Response Planning Guide (ERPG) 1/2/3	- / - / - ppm
Protective Action Criteria (PAC) 1/2/3	100 / 130 / 270 ppm
PEL/REL/STEL	- / -/ 5 ppm
Radioactive (Yes/No)	No
Medical	
Toxicological Considerations	Inhalation and contact

Signs/Symptoms of Exposure	Headache, dizziness, skin/eye irritation
Medical Treatment	Fresh air, water flush, treat symptomatically
Other Information	
Spontaneous combustion in air, water reactive. Incompatible with halogens.	
Chemical Structure