



INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

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Subject: Collection of gas cylinders

Location: R-103 (~885 Sq. ft.) in the Ground Floor of the ERU Building

Gas	Estimated no.	Connected to Chamber	Nature of Gas	Hazardous Nature
1. Silane (SiH_4)	14-15	4-5	Pyrophoric, toxic	Highly hazardous – spontaneously flammable, toxic
2. Phosphine (PH_3)	6-8	2-3	Pyrophoric, toxic	Highly hazardous – flammable, extremely toxic
3. PH_3 in SiH_4 mixture	1-2	1-2	Pyrophoric, toxic mixture	Highly hazardous – toxic and reactive
4. Carbon Monoxide (CO)	3-4	2-3	Toxic, reducing gas	Highly hazardous – toxic (odorless, colorless)
5. Diborane (B_2H_6)	3-5	1-2	Pyrophoric, toxic	Highly hazardous – extremely flammable and toxic
6. Methane (CH_4)	1-2	1-2	Flammable gas	Hazardous – flammable
7. Acetylene (C_2H_2)	1-2	No info	Highly flammable	Hazardous – explosive in certain conditions
8. Ammonia (NH_3)	1-2	No info	Toxic, corrosive	Hazardous – toxic and corrosive
9. Hydrogen (H_2)	6-8	2-3	Flammable gas	Hazardous – highly flammable
10. Helium (He)	1-2	1-2	Inert	Not hazardous
11. Argon (Ar)	1	1	Inert	Not hazardous
12. Nitrogen (N_2)	2-3	2-3	Inert	Not hazardous

Key summary:

- **Extremely hazardous gases:** Silane (SiH_4), Phosphine (PH_3), Diborane (B_2H_6), and PH_3 in SiH_4 mixtures — all are **pyrophoric and/or toxic**.
- **Flammable gases:** Methane, Acetylene, Hydrogen.
- **Toxic/corrosive:** Ammonia.
- **Inert gases:** Helium, Argon, Nitrogen — not reactive, used as carrier or purge gases.
- **Total number of hazardous gas cylinders (approx.):** ~25-30 (considering all pyrophoric, toxic, flammable gases).

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