

	Westlake Corporation		Approved By: R. Estevens		
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1.0 PURPOSE

- 1.1. The purpose of this policy is to provide minimum requirements for working with Inert Atmospheres.

2.0 APPLICABILITY

- 2.1. This policy applies to the Westlake Geismar site.
- 2.2. This policy shall not supersede any governmental regulation which applies more stringent requirements than the minimum requirements set forth in this policy.

3.0 DEFINITIONS

- 3.1. Asphyxiant: Agents that prevent the delivery of oxygen from the bloodstream to cells or that disable cellular respiration even in the presence of adequate oxygen levels (e.g. Nitrogen, Carbon Monoxide).
- 3.2. Confined Space: A space that is large enough and so configured that an employee can bodily enter and perform assigned work, has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry), and is not designed for continuous employee occupancy.
- 3.3. Cryogenic Liquid: Liquid agents with a boiling point below -130°F (-90°C) with hazards classifications consisting of, but not limited to, fire, explosion, embrittlement, frostbite and asphyxiation (e.g. Argon, Nitrogen, Helium).
- 3.4. Hot Work: Any work that can produce a spark, arc, flame or static charge that is capable of initiating fires and explosions.
- 3.5. Immediately Dangerous to Life or Health (IDLH): An atmosphere that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a space.
- 3.6. Inert Atmosphere: A space having an atmosphere containing less than 19.5% oxygen due to the presence of an Asphyxiant or Cryogenic Liquid.
- 3.7. Inert Gas: A gas that exhibits stability and has an extremely low reaction rate. (Examples: Nitrogen, Helium, Argon, and CO₂).
- 3.8. Lower Explosive Limit (LEL): The lower limit of flammability of a gas or vapor at ordinary ambient temperatures expressed in a percent of the gas or vapor in air by volume.
- 3.9. Oxygen Deficient Atmosphere: An atmosphere containing less than 19.5% oxygen by volume.

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4.0 RESPONSIBILITIES

- 4.1. It is the responsibility of each Plant Manager, or their designee, to fully implement this policy at their site(s). Further, it is the responsibility of each Plant Manager, or their designee, to develop and implement site-specific procedures to comply with this policy. The Plant Manager, or their designee, will be responsible to assure that site personnel have been trained in the procedures developed and that all required documentation is completed and maintained.

5.0 PROCEDURE

5.1. General

- 5.1.1. The Westlake Geismar site shall conduct a site workplace hazard assessment to identify potential Inert Atmospheres which include Asphyxiants and/or Cryogenic Liquids whether permanently installed or used for maintenance work, or produced from equipment on-site.

5.2. Engineering Controls

- 5.2.1. All piping used to transfer Inert Gases from their source (cylinder or otherwise) shall be included in an inspection program.
- 5.2.2. Ventilation systems in occupied buildings or enclosures where Inert Gases are permanently used shall have adequate air flow of six to twelve air changes per hour, at a minimum.
- 5.2.3. Where Inert Gases are used in enclosed buildings, an atmospheric monitoring system with audio and/or visual alarms shall be installed to alert personnel of an Immediately Dangerous to Life and Health (IDLH) atmosphere.
- 5.2.4. Audio/visual alarms for atmospheric monitoring systems shall be placed so that they can be seen and/or heard both inside and outside of the enclosure.
- 5.2.5. Atmospheric monitoring systems shall be placed in a preventative maintenance system, or similar system, that ensures that all manufacturer recommendations on maintenance and calibration are conducted. Calibrations should take place at least quarterly. Sensors shall be replaced on the frequency per the original equipment manufacturer's recommendation.

5.3. Safe Work Practices

- 5.3.1. When Inert Gases are used to prevent ignition, purge hydrocarbons from equipment, remove oxygen from equipment, and/or dry out equipment, a restricted area shall be established barricaded, and warning signs placed to alert employees of the hazard.

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- 5.3.2. When Inert Gases are stored or used in laboratories or instrument/analyzer building Warning signs stating “Caution Nitrogen Asphyxiation Hazard Possible” or similar language shall be posted outside of labs or other enclosures.

5.4. Hot Work

- 5.4.1. All Hot Work shall follow the requirements set forth in Westlake Geismar Policy HSP-504 Hot Work Permit in conjunction with the requirements of this policy.
- 5.4.2. When an Inert Atmosphere is required to eliminate a potentially flammable atmosphere, the following steps shall be taken, at minimum:
 - 5.5.2.1. Close all container openings except fill and vent openings;
 - 5.5.2.2. Maintain the flow of Inert Gas throughout the entire hot work; and,
 - 5.5.2.3. Oxygen content of the container must be monitored throughout the entire Hot Work and maintained near zero percent oxygen. (Suspend hot work at 2% oxygen).

5.5. Confined Space Entry

- 5.5.1. Working inside a Confined Space that contains an Immediately Dangerous to Life and Health (IDLH) atmosphere is prohibited by Westlake for Westlake employees.
- 5.5.2. Before allowing work in an Immediately Dangerous to Life and Health (IDLH) atmosphere, alternatives shall be reviewed by site management.
- 5.5.3. Only third-party contractors who specialize in entry and rescue will be allowed into a Confined Space with an Immediately Dangerous to Life and Health (IDLH) and must provide a comprehensive written safety plan with the following information, at a minimum:
 - 5.5.3.1. Maximum allowable oxygen content;
 - 5.5.3.2. Maximum allowable lower explosion limit;
 - 5.5.3.3. Minimum Inert Gas flow rate/ consumption;
 - 5.5.3.4. Persons responsible for monitoring Inert Gas and breathing air;
 - 5.5.3.5. Rescue Plan; and,
 - 5.5.3.6. Training documentation for all employees involved

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6.0 TRAINING

- 6.1. The Westlake Geismar site shall develop a training plan and frequency to ensure the competency of site employees whom are assigned responsibilities with potential Inert Atmospheres.
- 6.2. The Westlake Geismar site shall develop a job specific orientation for contractors whom are assigned responsibilities with potential Inert Atmospheres.

7.0 PROGRAM REVIEW

- 7.1. The HSE Department shall review this policy every three years, at a minimum, to ensure compliance objectives are being set per regulatory and industry standard.
- 7.2. The Westlake Geismar site shall perform a documented review of the written Inert Atmosphere program every five (5) years, at a minimum.

8.0 RECORDKEEPING

- 8.1. All inspections required in this policy shall be maintained for a minimum of one year.

9.0 REFERENCES

- 9.1. HSP-504; Hot Work Permit
- 9.2. HSP-503; Confined Space Entry
- 9.3. OSHA 1910.146; Permit required Confined Spaces
- 9.4. ANSI Z117.1; Safety requirements for entering Confined Spaces.

10.0 DOCUMENT CONTROL AND HISTORY

The following information documents at least the last 3 revisions to this document, with all the changes listed (most current is first):

Date of Review	Author / Reviewer	Revision No.	Description of Change	Approved By:	Initials
7/18/2023	A. Pennison	00	Implementation	R. Esteves	