THEMICAL, EMISSIONS & ELECTRICITY COMPLIANCE REPORT

Industrial Safety & Environmental Impact Assessment

OSHA Certified

EPA Compliant

ISO 14001

Energy Star

REPORT ID

ASSESSMENT DATE

NEXT REVIEW

CHM-ELE-2023-Q4-008 December 31, 2023 March 31, 2024

COMPLIANCE OFFICER

Dr. Sarah Johnson



CHEMICAL INVENTORY & SAFETY MANAGEMENT

Hydrochloric Acid (HCI)

HIGH RISK

Isopropyl Alcohol (IPA)

HIGH RISK

Volume: 2,500 L

Purpose: PCB Etching Process Storage: Ventilated Chemical Cabinet Classification: Corrosive, Class 8 **Volume:** 1,800 L

Purpose: Component Cleaning Storage: Fireproof Storage Room Classification: Flammable, Class 3

Acetone

MEDIUM RISK

Distilled Water

LOW RISK

Volume: 950 L

Purpose: Degreasing Operations **Storage:** Temperature-Controlled Facility

Classification: Flammable, Irritant

Volume: 15,000 L
Purpose: Cooling & Cleaning

Storage: Standard Tanks
Classification: Non-Hazardous

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- ✓ Chemical Safety Data Sheets (SDS) All chemicals have current SDS on file
- ✓ **Storage Compliance** All chemicals stored per manufacturer guidelines
- ✓ **Employee Training** 100% completion rate for chemical handling certification
- Waste Disposal Q1 2024 contract renewal pending with certified disposal company



FUME OUTLETS & AIR EMISSIONS MONITORING



Fume Outlet Infrastructure

Total Fume Outlets: 12 Active Units | **Stack Height:** 25 meters | **Last Maintenance:**

November 2023

Outlet	Location	Emission Type	Volume (m³/hr)	Control System	Compliance Status
FO- 001	Production Floor	Chemical Vapors	2,400	Scrubber System	COMPLIANT
FO- 002	PCB Manufacturing	Acid Fumes	1,800	Activated Carbon Filter	COMPLIANT
FO- 003	Cleaning Station	Solvent Vapors	3,200	Thermal Oxidizer	MONITORING
FO- 004	Quality Control Lab	Mixed Emissions	950	HEPA Filtration	COMPLIANT

III Annual Air Emissions Summary

Total Air Emissions: 145.7 tons/year Particulate Matter (PM2.5): 12.3 tons/year

Volatile Organic Compounds: 85.2 tons/year NOx Emissions: 23.8 tons/year

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ELECTRICITY CONSUMPTION & ENERGY MANAGEMENT

ANNUAL CONSUMPTION

8,750,000

kWh/Year

RENEWABLE ENERGY

35

Percentage (%)

PEAK DEMAND

1,250

kW

GRID INDEPENDENCE

15

Percentage (%)

Energy Source	Consumption (kWh)	Percentage of Total	Cost (\$)	Carbon Impact (tCO ₂)
Grid Electricity (Fossil)	5,687,500	65%	\$683,250	2,844
Solar (On-site)	1,750,000	20%	\$0 (Owned)	0
Wind (PPA Contract)	1,312,500	15%	\$118,125	0

Energy Efficiency Initiatives

- ✓ **LED Lighting Conversion** 100% facility conversion completed Q3 2023
- ✓ **Smart HVAC System** Al-controlled climate system operational
- ✓ **Energy Star Certification** Facility certified for top 25% energy performance
- Battery Storage Expansion 500kWh system installation planned Q2 2024

Chemical Safety Officer	Environmental Engineer	Energy Manager	
Dr. Michael Chen, P.E.	Lisa Rodriguez, EIT	James Park, CEM	
December 31, 2023	December 31, 2023	December 31, 2023	

CONFIDENTIAL INDUSTRIAL COMPLIANCE REPORT

Chemical, Emissions & Electricity Assessment | GreenTech Solutions Ltd

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