



Certificate

Certificat

报告编号: (SH24-017 / 第 1 版)

温室气体查证报告意见书 (SHGHG24017-02)

查证范围: 光洋化学应用材料科技(昆山)有限公司
中国江苏省昆山市昆山经济开发区吴淞江南路 168 号

查证准则: ISO 14064-1 : 2018

查证目标: 法标根据 ISO14064-3 : 2019 标准, 确认上述组织之温室气体声明(温室气体盘查报告书) 依据双方协议之查证准则进行盘查并提出报告, 法标以客观公正的立场及原则(相关性、完整性、一致性、准确性、透明度)执行查证。

数据期间: 2025 年 01 月 01 日至 2025 年 12 月 31 日 (检视的数据为历史性质)

查证结果: 直接温室气体排放量(类别 1): 228.4722 公吨 CO₂e
能源间接温室气体排放量(类别 2): 2788.9517 公吨 CO₂e
间接温室气体排放量(类别 3~6): 24520.6189 公吨 CO₂e

全球暖化潜势值(GWP): 引用 IPCC 第 6 次评估报告, 2021 年

声明依据: 本声明必须与下列文件作为一个整体以进行解释说明。

温室气体盘查报告(版次: 2 ; 日期: 2026 年 02 月 03 日)

温室气体盘查清册(版次: 2 ; 日期: 2026 年 02 月 03 日)

实质性: 5% (类别 1 及类别 2)

意见类型: ☒ 不含保留意见 ☐ 含保留意见(请见附页) ☐ 放弃签发

查证结论: 确认组织依据双方协议查证准则之要求提出温室气体声明, 并公正地呈现温室气体数据及相关资讯, 与双方协议的查证范围、目标和准则一致。

意见书盘查数据之合理保证等级为类别 1 及类别 2 ; 有限保证为类别 3 至类别 6 。

本文件核发日期: 2026 年 03 月 31 日

APPROVED BY

Dr. August Tsai
Director for Certification
ON BEHALF OF
AFNOR ASIA

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各类别排放量数据：

类别	内容说明	温室气体排放量 (公吨 CO ₂ e)	备注
(类别 1) 直接温室气体排放	固定式燃烧源、移动式燃烧源、制程排放源、 逸散性排放源	228.4722	
(类别 2) 输入能源之间接温室气体排放	电力、蒸汽、热能、冷却、压缩空气	2788.9517	所在地基准
(类别 3) 运输之间接温室气体排放	燃料运输、原物料上游运输、产品下游运输、 员工通勤、商务旅行、	162.6629	
(类别 4) 组织使用的产品之间接温室气体排放	购买产品、产品委外加工、资本财、使用的服务、 废弃物处理、资产使用、	24357.9560	
(类别 5) 使用组织的产品之间接温室气体排放	无本类别排放源	不适用	
(类别 6) 其他来源之间接温室气体排放	无本类别排放源	不适用	

生质燃烧排放： 0.0000 公吨 CO₂e

注：本意见书之数据小数点后呈现方式，依照受查验方之盘查程序等文件之定义呈现；如未定义，则依所在地相关法规习惯呈现

其他查证相关资讯

组织边界设定：	营运控制权
温室气体类型：	二氧化碳(CO ₂)、甲烷(CH ₄)、氧化亚氮(N ₂ O)、氢氟碳化物(HFCs)、全氟碳化物(PFCs)、六氟化硫(SF ₆)、三氟化氮(NF ₃)
预期使用目的：	自愿理解温室气体排放状况做为减量策略依据。 (本声明责任仅适用于上述预期使用目的，不适用其他任何目的。)



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间接排放重大性 准则：	- 已鉴别利害相关者要求： ☒ 是 ☐ 否 - 已鉴别法规要求： ☒ 是 ☐ 否 - 已鉴别排放量大小： ☒ 是 ☐ 否 - 其他说明：无
电力系数：	引用 2025 年 12 月 31 日 中华人民共和国生态环境部公告之 2023 年度电力系数
数据来源：	☒ 初级数据来源于现场营运活动的数据搜集。 ☒ 类别 3~6 排放量计算为使用估算数据。 次级数据来源为：省级温室气体清单编制指南、中国产品全生命周期温室气体排放系数库、中华人民共和国生态环境部发布的 2023 年全国电力平均碳足迹因子等 ☒ 其他说明：无
查证方法	☒ 现场查证 ☐ 其他
保留意见：	无
其他：	无
查证作业实施日期：	2026 年 01 月 26 日 2026 年 01 月 27 日 2026 年 02 月 05 日
报告日期及版次：	2026 年 03 月 01 日，第 01 版。

查证团队与技术审查

主导查证员：王化丰

签名：王化丰

查证员：高士杰

签名：高士杰

独立审查者：曾诗婷

签名：曾诗婷

查证程序

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(本文件不可单页使用，单页使用无效。)

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法标以风险评估方法及管制为基础，证据搜集程序包括：行前评估、现场访视、与场址的人员访谈、确认所提供的文件证据、对排放数据进行抽样、评估数据管理系统、确认排放数据的搜集与汇总、生产与能源消耗之间的分析，并确认所参考的协议条款是否被适当应用。

角色与职责

受查组织责任方依据查证准则规定，负责准备并提出温室气体声明。此项责任包括规划、实施及维护与温室气体声明有关的数据管理系统，温室气体盘查清册和盘查报告确认。

法标对所报告的温室气体排放量提供独立的第三方查证，出具本次查证组织型温室气体排放量之查证意见。查证团队具独立及公正性，不存在任何利益冲突。

Report No. : (SH24-017 / Version 1)

Greenhouse Gas Verification Report Opinion
(SHGHG24017-02)

Verification Scope: Solar Chemical Applied Material Technology(Kunshan)Co.,Ltd
No.168 Wusongjiang Road (S) ,Kunshan Economic and Technology Development
Zone Kunshan City Jiangsu Province P.R.C

Verification Criteria: ISO 14064-1 : 2018

Verification Objectives : According to ISO 14064-3:2019, AFNOR Asia Ltd. (AFNOR ASIA) confirms that the GHG statement (GHG inventory report) of the above-mentioned organization(s) is reported in accordance with the verification criteria agreed by both parties. AFNOR ASIA performs the verification with an objective and fair position and principle (relevant, complete, consistent, accurate, and transparent).

Data Period : From 01 01, 2025 to 12 31, 2025 (The data being viewed is historical in nature)

Verification Data : Direct GHG Emissions (Category 1): 228.4722 tCO₂e

Energy Indirect GHG Emissions (Category 2): 2788.9517 tCO₂e

Indirect GHG Emissions (Category 3~6): 24520.6189 tCO₂e

Global Warming Potential (GWP) : Refer to IPCC The 6th-assessment report 2021 Year

Statement Basis : This statement must be interpreted as a whole with the following.

(Version : GHG Inventory Report 2 ; Date : 02 03, 2026)

(Version : GHG Inventory 2 ; Date : 02 03, 2026)

Materiality : 5% (Category 1 and Category 2)

Type of Opinion : ☒ Unqualified ☐ Qualified (see the subsequent page) ☐ Disclaim the issuance

Verification Conclusion: To confirm that the organization submits a GHG statement in accordance with the requirements of the verification criteria agreed by both parties, and fairly presents the GHG data and related information, which are consistent with the verification scope, objectives and criteria agreed by both parties.

Declares that the reasonable assurance level of the inventory data is Category 1 and Category 2; the limited assurance level of the inventory data is Category 3 to Category 6.

Date of Issuance: 03 31, 2026

APPROVED BY

Dr. August Tsai
Director for Certification
ON BEHALF OF
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Report No. : (SH24-017 / Version 1)

Emissions Data for Each Category :

Category	Description of Content	GHG Emissions (tCO ₂ e)	Note
(Category 1) Direct GHG emissions	Stationary emissions, Mobile emissions, Process emissions, Fugitive emissions	228.4722	
(Category 2) Indirect GHG emissions from imported energy	Electricity, steam, heat, cooling, compressed air	2788.9517	Location-based standard
(Category 3) Indirect GHG emissions from transportation	Fuel transport, Upstream transportation of raw materials, Downstream transportation of products, Employee commuting, Business travel	162.6629	
(Category 4) Indirect GHG emissions from products used by organization	Purchased goods, Product Outsourcing, Capital Goods, Services Used, Waste treatment, Assets used	24357.9560	
(Category 5) Indirect GHG emissions associated with the use of products from the organization	NA	NA(不適用)	
(Category 6) Indirect GHG emissions from other sources	NA	NA(不適用)	

Biomass Burning Emission : 0.0000 tCO₂e

Note: The presentation of data after the decimal point in this Verification Report Opinion shall follow the definition of the inventory procedures and other documents of the organization being verified; if not defined, it shall be presented by the provisions of the organizational level of MOENV: 4 decimal places.

Emission Unit: tCO₂e

Report No. : (SH24-017 / Version 1)

Other Related Verification Information

Organization Boundaries :	Operational control
GHG Type :	Carbon dioxide (CO ₂), Methane (CH ₄), Nitrous oxide (N ₂ O), Hydrofluorocarbon (HFCs), Perfluorocarbon (PFCs), Sulfur hexafluoride (SF ₆), Nitrogen trifluoride (NF ₃)
Purpose of Intended Use:	Voluntarily understanding the status of greenhouse gas emissions as a basis for developing reduction strategies. (This statement of responsibility applies only to the purpose of intended use mentioned above and not to any other purpose.)
Criteria For Significance of Indirect Emissions :	- Identified stakeholder requirements: ☒ Yes ☐ No - Identified regulation requirements : ☒ Yes ☐ No - Identified magnitude of emissions : ☒ Yes ☐ No - Others : None
Purchased Power Factor:	Refer to the 2023 annual power factor announced by the Ministry of Ecology and Environment of the People's Republic of China on 12 31, 25
Purchased Steam Factor :	Refer to the steam factor in Guidelines for Accounting and Reporting Greenhouse Gas Emissions of Other Industries Enterprises of China
Data Sources :	☒ The primary data is collected from on-site operation activities. ☒ Category 3~6 emissions are calculated with estimated data. The secondary data sources are: China CPCD database, Guidelines for Provincial Greenhouse Gas Inventory Compilation in China, 2023 annual average carbon footprint factor of national electricity announced by the Ministry of Ecology and Environment of the People's Republic of China, etc. ☒ Others : None
Verification Method:	☒ On-site ☐ Other _____
Qualified Opinion :	No
Others :	No
Verification Date :	01 26, 2026 01 27, 2026 02 05, 2026
Report Date & Version :	03 01, 2026, Version : 01



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Verification Team and Technical Review

Lead Verifier : **Cavin Wang**

Signature : *Cavin*

Verifier : **Farrah Gao**

Signature : *Farrah Gao*

Independent Review : **Shih-Ting Tseng**

Signature : *Shih-Ting Tseng*

Verification Processes

AFNOR ASIA is based on risk assessment methods and controls. Evidence collection procedures are including pre-trip assessment, on-site visits, interviews with site personnel, confirmation of documented evidence provided, sampling of emission data, evaluation of data management systems, confirming the collection and compilation of emission data, analysis between production and energy consumption, and confirmation of whether the terms of the agreement referred to are properly applied.

Roles and Responsibilities

The verified organization is responsible for preparing and submitting a GHG statement in accordance with the verification criteria. This responsibility includes the planning, implementation and maintenance of data management systems related to GHG declarations, GHG inventory and GHG inventory reports.

AFNOR ASIA provides independent third-party verification of the reported GHG emissions and issues verification opinions for the organizational GHG emissions. The verification team is independent and impartial, and there is no conflict of interest.