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Approval process

审批过程

	Name **姓名**	**Title** **职务**	**Signature** **签名**	**Date** **日期**
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Approved by **批准人**		Campus Safety Committee;		

Reversion records

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Relevant departments (select relevant departments with a "√")

相关部门 (用√勾选相关部门)

Institute Construction Dept. 校园建设部	√	Institute Operation Dept. 校园运营部	√	Human Resource Dept. 人力资源部	√
Research, Innovation and	√	Undergraduate Teaching Dept.	√	Computer Information Dept.	√

Postgraduate Dept. 研究创新和研究生部		本科教学部		电脑信息部	

Relevant documents

相关文件

Waste Management Procedure

《废弃物管理程序》

Leakage Management Regulations

《泄漏管理规定》

Chemicals Warehouse Operation Instruction

《化学品仓作业指导书》

New Chemicals Evaluation Admittance

《新化学品评估准入》

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电子版 ■ 纸版 □

1. Purpose 目的

The Procedure is hereby formulated to standardize various links of chemical goods (including use, storage, and discarding), and prevent environmental pollution and personal & property accident caused by improper chemical management.

为规范化学物品的使用、储存和废弃等各个环节，防止因化学物品管理不善而导致的环境污染、人身及财产事故，特制定本程序。

2. Scope 范围

The Procedure is applicable to the management of such processes as procurement, transportation, storage, handling, use and discarding of all chemicals in Guangdong Technion-Israel Institute of Technology (GTIIT).

本程序适用于广东以色列理工学院(GTIIT)内所有化学物品的采购、运输、储存、搬运、使用和废弃过程的管理。

3. Responsibilities 职责

3.1 EHS Officer

EHS officer官员

- Formulate and implement this document;
  负责本文件的制定和推行；
- Declare for the procurement permit of explosive, precursor and highly toxic chemicals;
  负责易制爆、易制毒、剧毒化学品购买许可证的相关申报工作；
- Renew the chemical information management system;
  负责更新化学品信息管理系统；
- Assist in new chemicals application and assessment;
  协助进行新引入化学品申请和评估；
- Review the qualification of chemical suppliers;
  审核化学品供应商资质；
- Update the chemical management list of the Institute according to new chemicals;
  负责根据新进化学品更新校内化学品管理清单；
- Store and manage chemicals in the Institute (including loading, unloading, storage, abandonment and waste management), and finish such management work as monthly inventory and statistics;
  负责学校化学品的仓储管理工作，包括：装卸和储存、报废和废弃物管理；以及

月度盘点统计等管理工作；

- Inspect the use and storage of chemicals in the Institute on a regular basis
  定期检查学校化学品的使用和储存工作。

3.2 Chemical Warehouse Keeper 化学品仓库管理员

- Coordinate new chemical application and assessment in the Institute, and assist in identifying the risk of new chemicals;
  负责协调学院内新引入化学品申请和评估，协助新化学品危险性的识别；
- Regularly collect the purchase request information about various chemicals (including TDS technical data sheet and MSDS material safety data sheet of the purchased materials), and summarize and submit to EHS Officer;
  定期收集各类化学品请购信息（包括采购物料的 TDS 技术数据表以及 MSDS 物料安全数据表。）汇总并提交至 EHS 官员；
- Make sure the service-safety of various laboratory chemicals;
  负责各实验室化学品使用安全使用工作；
- Temporarily store the wastes generated by various laboratories;
  负责各实验室产生废弃物的临时存放工作；
- Regularly report chemical management to EHS Officer
  向 EHS 官员定期汇报化学品管理工作。

3.3 Procurement Department 采购部门

- Require the chemical supplier to meet and verify whether the chemical supplier meets relevant chemical selling qualification, and whether the carrier has corresponding chemical transportation qualification;
  要求并核实化学品供货商满足相应的化学品销售资质，运输商具备相应的化学品运输资质；
- Purchase relevant chemicals according to the summarized chemical procurement information;
  根据汇总的化学品采购信息，完成化学品的采购工作；
- Assist in the chemical supplier qualification review
  协助化学品供应商资质审核工作。

3.4 Chemical User Department (Laboratory Administrator and Researcher) 化学品使用部门（实验室管理员、研究员）

- Identify the risk of new chemicals;
  负责新化学品危险性的识别；
- Organize the new chemical application and assessment;
  负责组织进行新引入化学品申请和评估；
- Manage the quality of the purchased chemicals;
  负责购买化学品的质量管理；
- Handle relevant raw materials, and take charge of temporary storage in the laboratory, handling and service safety;
  负责实验原料的搬运、实验室内现场暂存、搬运、使用安全；
- Regularly report chemical management to EHS Officer
  向 EHS 官员定期汇报化学品管理工作。

3.5 Other Departments 其它部门

- Take charge of such safety management work as transportation, storage, use and discarding of related chemicals in this department
  负责本部门相关化学品的运输、存储、使用及废弃等安全管理工作。

4. Terminology 术语

- Chemicals: all chemical goods in the Institute, including chemicals, finished products, chemical reagents, chemicals used for maintenance, sanitation, and hygiene of relevant facilities and equipment in the Institute and other chemical substances causing environmental impacts.
  化学品：指学校内所有的化学物品，包括化学品、成品、化学试剂、校园设备设施维护保养和清洁卫生时所使用的化学品以及其他能对环境造成影响的化学物质。
- Chemical type: research model chemicals and non-research model chemicals
  化学品类型：研究试验型化学品和非研究试验型化学品。
- TDS: Technical Data Sheet
  TDS:技术数据表
- MSDS: Material Safety Data Sheet
  MSDS：物料安全数据/化学品安全技术说明书
- EHS: Environment, Health, and Safety

EHS：职业健康安全环保

- GHS: Globally Harmonized System of Classification and Labeling of Chemicals
  GHS：全球化学品统一分类和标签制度 (Globally Harmonized System of Classification and Labeling of Chemicals) 简称 GHS
- SOP: Standard Operation Procedure
  SOP： 标准操作流程
- JHA: Job Hazard Analysis
  JHA：工作危害分析

5.0 Flow 流程

5.1 Introduction of New Chemicals 新化学品的引入

5.1.1 Pre-procurement Assessment 采购前评估

●Before procurement of all new chemicals, the Procurement Department shall ask the supplier for MSDS, product safety label and other necessary information for risk assessment, provide to the principal of the Institute and EHS Department for assessment, and then register in the MSDS database under the document control management system.
所有新引进化学品在采购前必须由采购部向化学品供应商索取 MSDS、产品安全标签以及其他用于风险评估所需要的信息，提供给学院负责人和学院 EHS 部门评估通过，并在文控管理系统下的 MSDS 数据库中完成登记；

●During chemical registration, EHS shall assess according to the nature of chemicals, fill in the chemical hazard assessment information sheet, judge the inflammability, reactivity and health impacts of this material, make sure that the environmental facilities comply with the chemical storage and operation requirements, and select appropriate PPE.
EHS 进行化学品登记时应根据新化学品性质评估，填写化学品危害评估信息表，判断此物料的易燃性、反应性、对健康等方面的影响，确保使用环境设施设备符合化学品储存和操作要求，并为之选择合适的个人防护用品；

●The Chemical User Department shall fill in the new material application. After being agreed by the person in charge of the Chemical User Department and the person in charge of EHS through assessment, it shall be submitted to the Procurement Department for purchasing.
由化学品使用部门填写新物料申请，经过使用是使用化学品部门负责人及 EHS 负责人评估同意后，方可交给采购部进行该化学品的采购；

●The purchaser shall notify the chemical supply quantity, packaging, transportation, and

loading & unloading requirements, so as to prevent environmental pollution accident in the transportation, loading and unloading process.

采购负责告知化学品供应商数量、包装、运输及装卸要求，以防止运输及装卸过程中发生环境污染事故。

5.1.2 Pre-procurement Qualification Review (for Hazardous Chemical Suppliers)
采购前资质审核（针对危险化学品供应商）

- Prior to procurement, the Procurement Department and EHS shall review the supplier qualification (refer to the *Supplier HSE Assessment Form*), and confirm that the supplier is qualified for corresponding hazardous chemical safety production license or business certificate.

  购买前，采购部和 EHS 应对供应商进行资质审核（参照《供应商健康安全环保表现评估表》），确认其具有相应的危险化学品安全生产许可证或经营许可证的资格；
- Prior to procurement, it needs to make sure that the precursor, explosive and highly toxic chemical supplier has a compatible precursor, explosive and highly toxic chemical business certificate.

  购买易制毒、易制爆、剧毒化学品前，必须确认易制毒、易制爆、剧毒化学品供应商具备合规的易制毒、易制爆、剧毒化学品经营证书。
- Before procurement, the Procurement Department shall review the qualification of the carrier, and make sure that it has corresponding hazardous chemical road transportation certificate.

  购买前，采购部应对运输商进行资质审核，确认其具有相应的危险化学品道路运输资证。
- Before procurement, priority shall be given to the supplier recycling packing materials while meeting other requirements, so as to achieve the purpose of environmental protection, energy saving, and emission reduction.

  购买前，满足其他要求的同时优先选择包装物回用的供应商，以达到保护环境，节能减排的目的。
- For the procurement of precursor, explosive and highly toxic chemicals, the purchasing specialist needs to unify every quarter the species and quantity of precursor, explosive and highly toxic chemicals used by the Institute, and purchase in a centralized way.

  针对易易制毒、易制爆、剧毒化学品采购，采购专员需每季度针对使用易制毒、易制爆、剧毒化学品的学院统一采购品种和数量，进行季度式集中式采购。

5.1.3 Confirmation and Assessment of Purchase Quantity 购买量的确认与评估

- When this raw material serves as substitute raw material, every purchase quantity must be less than or equal to the quantity of such substitute material, making sure that the inventory of single chemical doesn't exceed 500kg in the warehouse. The inventory of chemicals in the warehouse cannot exceed the maximum allowable storage of this warehouse.

  该原料为替代原料时，每次采购原料的量必须小于或等于该替换原料的量，确保仓库内单一化学品库存量不得超过 500Kg，严禁仓库内化学品存量超过该仓库的最大允许储存量。

- If the raw material subscription exceeds the maximum purchase quantity, the user department shall invite EHS for collaborative risk assessment (in each batch, the maximum purchase quantity of single ordinary chemical shall be controlled within 200kg, within 50kg for single precursor chemical, within 50kg for single explosive chemical, within 50kg for total quantity in single cabinet, and within 150kg for the total quantity of precursor chemicals in a single warehouse).
- 如果原料申购量超过最大采购量时，使用部门应邀请学院 EHS 协同进行危险性进行评估，（每批中单一一般化学品最大采购量不得超过 200kg，易制毒单一化学品不得超过 50kg;易制爆单一化学品不得超过 50kg,且单柜内总量不得超过 50Kg, 单个仓库内易制爆总量不得超过 150kg. ）。
- Procurement or storage of a larger quantity shall be approved and confirmed by Dean, Director of the user department and the person in charge of EHS of the Institute Construction Department.
- 如需更大量的采购或储存，需得到院长、化学品使用部门负责人、以及校园建设部 EHS 负责人同意及确认；
- The laboratory shall put forward regular chemical subscription application to the academic administrator every quarter. The purchase quantity shall be jointly approved by the chemical user department and EHS of the Institute Construction Department.
- 每一季度，实验室定期向学术管理员提出化学品申购申请，由化学品使用部门和建设部 EHS 统一批准购买量；
- Subscription frequency of precursor, explosive and highly toxic chemicals:

  易制毒、易制爆、剧毒化学品申购频率：

  Precursor chemicals: purchase based on the actual needs, once a quarter;

易制毒化学品：根据实际需求采购，每季度一次；

Explosive chemicals: purchase based on the actual needs, at most once one quarter;

易制爆化学品：根据实际需求采购，每季度一次；

Highly toxic chemicals: purchase based on the actual needs, at most once one quarter;

剧毒化学品：根据实际需求采购，每季度一次；

- For the transportation application of precursor, explosive and highly toxic chemicals, EHS and the police at the receiving place shall apply for permit purchasing online. The purchaser shall hold the precursor, explosive and highly toxic chemicals purchase permit to purchase from the supplier with the operation qualification of precursor, explosive and highly toxic chemicals.

  易制爆、易制毒、剧毒化学品的运输申请由 EHS 与接收地公安部门进行网上购买许可证申请，采购持易制爆、易制毒、剧毒化学品购买许可证向具备易制爆、易制毒、剧毒化学品经营资质的供应商购买；

5.2 Transportation and On-site Loading & Unloading 运输及场内装卸

- The transport vehicles of hazardous chemicals shall have corresponding hazardous chemical road transportation certificate.

  危险化学品的运输车辆，应具有相应的危化品道路运输经营许可证；

- The driver and the escorting personnel shall have corresponding transportation or escorting qualification (road transportation employee qualification certificate).

  司机和押运人员应具备相应的运输或押运资质(道路运输从业人员资格证件)；

- The chemicals in a mutual conflict in the hazardous nature or extinguishing method cannot be loaded and transported in a mixed way (such as oxygen cylinder and LPG cylinder; oxygen cylinder and acetylene gas cylinder; sodium hydroxide and acids). In case of mixed loading, the chemicals must be loaded in strict accordance with the principle of adaptability.

  危险性质或灭火方法互相抵触的化学品不允许混合装运（如氧气瓶和LPG气瓶；氧气瓶和乙炔气瓶；氢氧化钠和酸类等）配载时，必须严格依据物料相适应性进行配载；

- In the loading and transportation process, the chemicals easy to burn and generate toxic and harmful gases or other potential hazards shall be provided with thermal insulation/waterproof and damp-proof measures.

遇热/遇湿容易引起燃烧、产生有毒有害气体或潜在其它危险的化学品，装运时需要采取隔热/防水防潮措施。

- For the transportation of precursor, explosive and highly toxic chemicals, the corresponding chemical supplier shall select a company with the transportation qualification of precursor, explosive and highly toxic chemicals as stipulated by relevant national laws and regulations.
  针对易制毒、易制爆、剧毒化学品运输，则由相应的化学品供应商选择具备国家法规规定的易制毒、易制爆、剧毒化学品运输资质公司进行运输。

5.3 Storage 储存

5.3.1 Receiving and Delivery of Chemicals
化学品收发货

- The warehouse keeper shall check whether the label (correct, clear and complete) on the package of the arrived chemicals and the quantity are consistent with the purchase quantity.
  仓库管理员核对到货化学品包装上的标签（标签应正确、清晰、完整）和到货数量和采购量一致；
- The safety label and GHS label compatible with the requirements of relevant national standards must be provided on the package of hazardous chemicals.
  危险化学品包装上必须有符合国家标准要求的安全标签GHS标签；
- All chemicals shall follow the principle of “first-in-first-out (FIFO)”, and stored in the appointed area in strict accordance with relevant provisions.
  所有化学品应遵守先进先出的原则，并按规定严格遵循指定区域存储；
- When entering and going out of the warehouse, the warehouse keeper must finish the statistics and recording of the chemical warehousing system according to the standard requirements.
  出入库时，仓库管理人员必须按规范要求完成化学品仓库系统统计和记录；
- The special personnel management mode of two persons and two locks shall be adopted when precursor, explosive and highly toxic chemicals are put in and out of the warehouse.
  易制毒、易制爆、剧毒化学品出入库时，必须严格遵守双人双锁的专人管理模式；

5.3.2 Storage Requirements 储存要求

1. The storage site shall be properly ventilated, and protected against direct sunlight, high temperature, and high voltage. The chemicals that will cause combustion or explosion during mutual contact must be separately stored.
   储存场所应保证通风良好，避免阳光直晒、高温高压，对相互接触能引起燃烧或爆炸的化学品，必须分开存放；
2. Proper storage conditions shall be implemented for the chemicals with different storage characteristics according to the storage and curing requirements.
   针对不同储存特性的化学品应根据其储存养护要求落实应有的储存条件；
3. Smoking, open flames and non-explosion-proof electrical equipment are prohibited in the chemical warehouse.
   化学品仓库严禁烟火，禁止使用非防爆电气设备；
4. The storage site shall be provided with corresponding warning signs adaptive to the risk of the stored chemicals.
   储存场所设置与所存化学品危害性相适应的警示标志；
5. The name of chemical shall be marked on the equipment used to fill chemicals.
   盛装化学品的设备，应标示化学品的名称；
6. The name and flow direction of chemical shall be marked on the chemical transmission pipeline.
   输送化学品的管线，应标示化学品的名称及流向；
7. The hazardous chemical transmission pipeline shall be regularly inspected. Besides, the inspection records shall also be properly kept.
   危险化学品输送管道应定期巡检，并保留检查记录；
8. The chemicals in and out of the warehouse shall be checked and registered, and inspected on a regular basis.
   化学品出入库应当进行核查登记，并定期检查；
9. Based on the chemical nature, the storage site shall be provided with corresponding emergency response facilities, including leakage collecting and intercepting facilities, spray eyewash equipment, gas mask, chemical-proof gloves, and chemical-proof clothes.
   储场所应视化学品性质适当地设置泄漏收集围堵设施、喷淋洗眼器、防毒面具、防化手套、防化服等应急响应设施；
10. Precursor, explosive and highly toxic chemicals must be stored in a special warehouse, and cannot be mixed with other chemicals for storage.
    易制毒化学品、易制爆、剧毒化学品必须专库储存，禁止和其他化学品混合储存；

11. The inventory of precursor, explosive and highly toxic chemicals must be controlled in strict accordance with the requirements of relevant laws and regulations. The maximum inventory of explosive and highly toxic chemicals in a single warehouse shall be controlled within 150kg, within 50kg for the maximum storage in each storage cabinet, and within 25kg for a single package.
    易制毒化学品、易制爆、剧毒化学品必须根据法规要求严格控制之库存量，易制爆、剧毒化学品单库内最大库存不得超过150Kg，每个储存柜最大储存量不得超过50Kg，单一包装不得超过25Kg。

5.3.3 Handling, Loading and Unloading in the Institute 校内搬运和装卸

1. Before handling, loading, and unloading, it needs to check whether the package leaks, and operate according to the notes and storage & transportation signs on the package.
    搬运和装卸前，应先查看其包装是否存在泄漏，按照包装上的注意事项及储运标志操作；
2. In the process of handling, loading, and unloading, proper PPE shall be selected and worn according to the nature of the operated chemicals.
    搬运和装卸时，应根据所操作化学品性质选择并佩戴合适的个人防护用品；
3. The chemicals shall be handled, loaded and unloaded with great care. It is prohibited to drag and roll over, so as to prevent bump and dump. Special transport vehicles shall be used for transportation within the Institute.
    搬运和装卸时，轻拿轻放、严禁拖拉翻滚、防止撞击及倾倒，使用专用的运输车辆进行校内运输；
4. The handling, loading and unloading equipment and tools for combustible and explosive chemicals shall comply with the explosion-proof requirements.
    对易燃易爆化学品，搬运和装卸的设备和工具应符合防爆要求；
5. Proper control measures shall be taken to prevent leakage of the materials with great impacts on the environment and personnel.
    对于环境和人员存在较大影响的物料，必须做好防泄漏的控制措施。

5.4 Use Management 使用管理

1. Chemicals and semi-finished products in the laboratory shall not exceed the amount of usage for two days.
    实验室现场的化学品、半成品不应超过两天的使用量；

2. The chemicals temporarily stored in the laboratory shall be stored in the appointed cabinet at fixed points, in a fixed amount and in good order. Excessive storage is prohibited.
   实验室内暂存化学品应存放至指定的化学品柜中，定点定量，摆放整齐，严禁超量存放；
3. During sub package or use of combustible liquids, the liquid container must be in good static grounding state.
   易燃液体分装或使用时，液体容器必须处于良好静电接地状态；
4. After use, chemicals shall be sealed and packed in time.
   化学品使用后，要及时密封包装；
5. When chemicals are used for operation in the explosion-proof area, all tools must be provided with the explosion-proof function.
   在防爆区域内使用化学品操作时，所用工具必须具备防爆功能；
6. Before using chemicals, all students must receive the training for the knowledge about chemical use, and understand corresponding risks and key control measures.
   学员使用化学品前，必须接受有关化学品安全使用知识培训，了解实验危险和关键控制措施；
7. While operating chemicals, the operator must wear proper PPE according to relevant requirements, and strictly follow relevant operating instructions, so as to prevent relevant accidents (such as fire, explosion, and poisoning) caused by leakage.
   操作化学品时，必须按要求穿戴适当的个人防护用品，并严格遵守相关的操作规程，防止因泄漏引起火灾、爆炸、中毒等事故发生；
8. The service site shall be equipped with corresponding emergency protective equipment.
   在使用现场，应配备相应的应急防护用品；
9. Due to probable hazards caused by the existence/use of hazardous chemicals, the experimental site shall be tested and evaluated on a regular basis.
   对实验场所，因存在/使用危险化学品可能产生的危害，根据需要定期进行检测和评估；
10. For non-experimental type chemicals used in the Institute, the user department must incorporate into post SOP/JHA.
    对校区内使用非实验型化学品，使用部门必须将其纳入岗位的SOP/JHA中；
11. The packing materials of hazardous chemicals used in the Institute must be provided with a GHS label consistent with the content.
    校内使用的危险化学品包装物必须有与内容物一致的GHS标签；

12. Hazardous chemicals used in the Institute must be provided with a material hazard notification card. The occupational health hazard notification card must be posted on site.
校内使用的危险化学品必须具备物料危害周知卡，使用现场必须张贴职业健康危害周知卡；
13. Abnormal spoilage of precursor, explosive and highly toxic chemicals and leakage caused by the broken container in the transportation process shall be immediately reported to the chemical warehouse keeper. Besides, it also needs to write an accident report, and properly record and register the accident.
易制毒、易制爆、剧毒化学品如果发生非正常损耗，如容器运输期间破损导致泄漏，需要立即汇报化学品仓库管理员，提交事故报告，并做好相关事故记录和备案登记；
14. Highly toxic chemicals shall be separately stored in the special storage cabinet with two locks, and managed according to the system of “five duals”, namely dual-person storage, dual-person reception, dual-person use, dual lock and dual account (warehouse reception registration and laboratory use registration).
剧毒化学品应单独存放在双锁的专用储存柜中，实行“双人保管、双人领取、双人使用、双把锁、双本帐（仓库领用登记，实验室使用登记）”的“五双”制度管理；
15. If the precursor, explosive and highly toxic chemicals are lost, stolen and robbed, the case shall be immediately reported to Dean and the local police, and reported to the food & drug supervision and management department of the local people’s government at the county level, the safety production supervision and management department, the competent education department or the competent hygiene department at the same time.
易制毒、易制爆、剧毒化学品丢失、被盗、被抢的，应立即汇报校长和当地公安机关，并同时报告当地的县级人民政府食品药品监督管理部门、安全生产监督管理部门、教育主管部门或者卫生主管部门；
16. In every January, the chemical warehouse needs to submit the copies (with the official seal of the Institute) of the use management records and the transaction records of precursor, explosive and highly toxic chemicals to the competent police for filing.
化学品仓库每年一月份需将上一年度所有易制毒、易制爆、剧毒化学品使用管理台帐和交易记录台帐复印件加盖学校公章后提交至去公安主管部门审查备案；

5.5 Work in Corresponding Flow Nodes 各部门在相应流程节点中的工作:

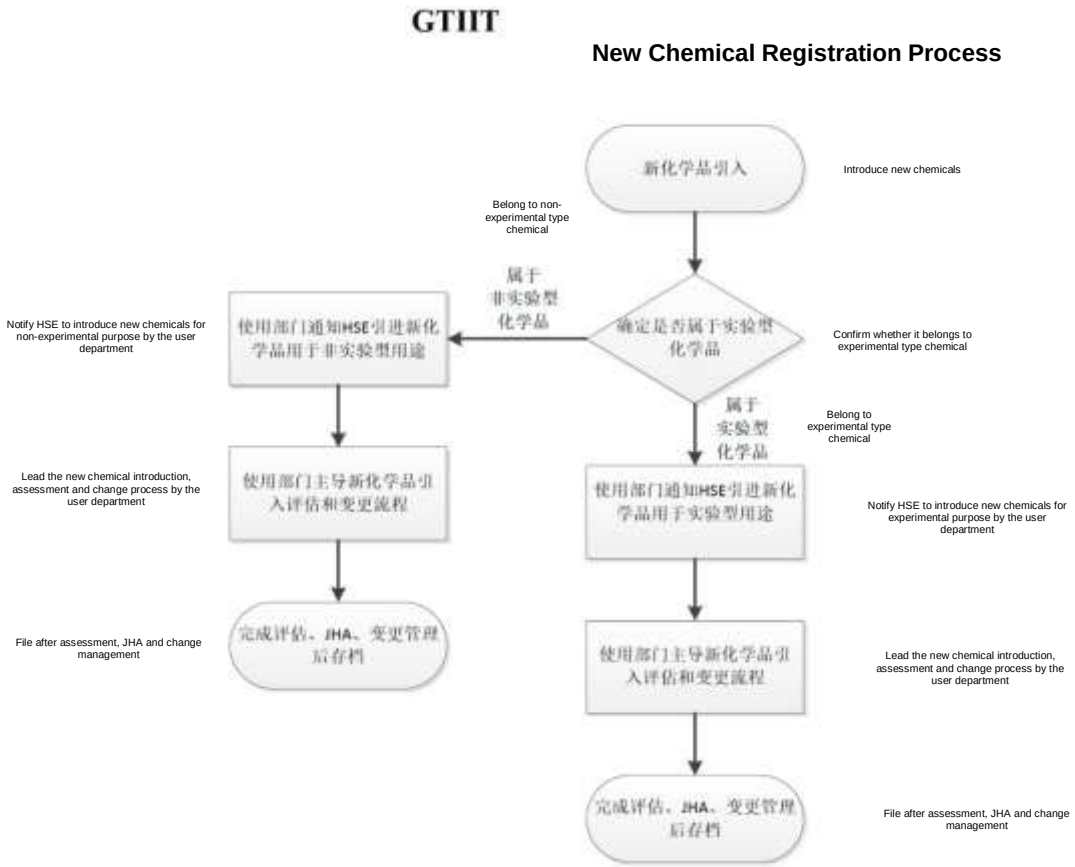

Fig 1-1 New Chemical Registration Process

图1-1 新化学品登记流程

5.5.1 Introduction of New Chemicals 新化学品引入：

- Determine whether the introduced new chemical belongs to experimental type chemical or non-experimental type chemical;
  确定新引入化学品属于实验型化学品还是非实验型化学品；
- The user department and EHS need to judge the use area of this new chemical;
  使用部门和EHS需要判断该新化学品的使用区域；
- Lead by the user department, assist by the Institute Construction Department EHS and the Academic Management Department to assess probable circulation processes of this chemical in the Institute, manage the changes (change management system of the Institute), formulate corresponding control measures for the risks in various use and handling links, and finish change management;

由使用部门主导，建设部EHS、学术管理部门协助完成该化学品可能存在校内的各个流通过程评估，进行变更管理（学院变更的管理制度），并针对各使用和处置环节存在中的风险制定相应的控制措施，完成变更管理；

- Fill in the chemical management list according to the material nature;
  根据物料性质填写Campus Chemical List 化学品管理清单；
- The user department shall finish JHA according to the identified risk.
  使用部门根据辨识出的风险完成工作危害分析JHA；
- The user department and EHS shall assess and give subsequent feedback based on the effect of control measures, making sure effective implementation of continuous improvement in the use and management process of this material.
  使用部门和EHS就控制措施进行的效果进行评估和后续反馈，确保持续型改善工作在该物料的管理和使用中得到有效落实；
- When it is necessary to introduce new precursor, explosive or highly toxic chemicals, an application must be submitted to the local police. After obtaining a corresponding purchase permit, it needs to purchase by a company with the operation qualification of such chemicals.
  如需引入新的易制毒、易制爆或剧毒化学品，必须完成公安局易制毒、易制爆、剧毒化学品申请，取得相应购买许可证后方可找具备易制毒、易制爆、剧毒化学品经营资质的公司进行购买。

Risk Control over the Introduction of New Materials 新物料引入风险控制

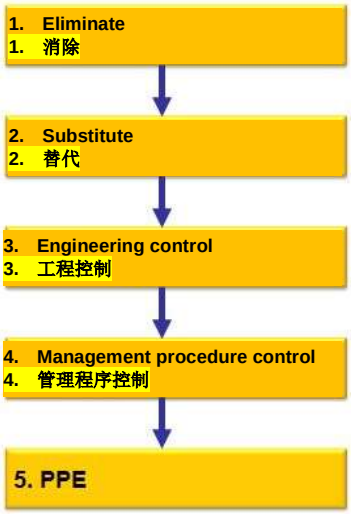

Fig. 1-2 Material Introduction Risk Management Level

图1-2　物料引入风险管理层级

Risk control shall be subject to hierarchical consideration. Priority shall be given to high level control modes, for instance, decreasing progressively from 1 to 5.

对于风险控制需要进行层级考虑，优先考虑高级别的控制方式，如从1-5逐层递减。

- Before using new chemicals (when relevant departments cooperate to finish new material introduction application and registration), it needs to consider whether non-toxic and harmless process or chemicals can be used for production.

  在使用新的化学品前(各相关部门协同完成引进新物料申请和登记时)，需考虑是否可以使用无毒无害的工艺或化学品进行生产；
- If the above requirement cannot be realized, low toxicity or harmless and acceptable process or chemicals can be used to replace the original high-toxicity or harmful process or chemicals for production.

  如果无法实现上一要求，则考虑使用低毒或无害、可以接受的工艺或化学品来替代原有高毒或者有害进行生产；
- If the above requirement cannot be realized, engineering control means (such as robot operation or automatic control) shall be used to eliminate the probability of personal contact hazard factors.

  如果无法实现上一要求，则考虑使用工程控制手段，如机械人操作，或自动化控制，消除人员接触危害因素的可能；
- If the above requirement cannot be realized, the management procedure can be used to control, so as to reduce the personal contact time or relieve the probability, and lower the degree or probability and time of personal exposure in the hazard factors. At the same time, the operator or the contactor shall be provided with proper PPE, making sure that the personal contact hazard factors are within an acceptable range.

  如果无法实现上一要求，则需考虑通过管理程序控制，从而降低人员接触时间，或者解除几率，减少对人员暴露在危害因素中的程度或几率、时间等等，同时需要为操作人员或接触者配备合适的PPE，确保人员接触的危害因素是在可接受范围之内。

5.6 Abandonment of Chemicals 化学品废弃

1. All abandoned chemicals shall be classified, identified and disposed of in strict accordance with the *Waste Management Procedure*.

   所有废弃的化学品应严格按照《废弃物管理程序》进行分类、标识及处置；

2. The chemicals abandoned by the laboratory or the warehouse must be collected by special container, covered and sealed.
   实验室或仓库废弃的化学品，必须使用专用容器收集，加盖密封；
3. After use of raw materials, the packing barrels are recommended to be recycled by the supplier, so as to reduce environmental pollution and after-treatment.
   原料使用后包装桶，首选建议供应商回收循环利用，以减少环境污染与后期处理；
4. In the experiment, it needs to consider the abandonment of precursor, explosive and highly toxic chemicals in advance. In case of abandonment of precursor, explosive and highly toxic articles, a compatible company with corresponding qualification shall be found for treatment in strict accordance with relevant laws and regulations.
   实验时应提前考虑易制毒、易制爆、剧毒化学品的废弃，如涉及易制毒、易制爆、剧毒品废弃，应严格依法依规找符合处理资质的公司进行处理。

5.7 Emergency 应急管理

1. Leakage prevention shall be considered for the use and storage of chemicals. If chemical leakage is caused carelessly, the case shall be handled according to the *Chemical Leakage Management Guidelines*.
   化学品的使用和储存应考虑防泄漏，如果不慎造成化学品泄漏，按《化学品泄漏管理指引》进行处理；
2. Other emergencies (e.g. fire, explosion, and poisoning) shall be operated according to the emergency rescue plan.
   如造成其他紧急情况如火灾、爆炸、中毒等，按照应急救援预案操作；
3. In case of discomfort in the operating process, please stop working immediately, and rush to the site with good ventilation for resting.
   操作过程中若有不适，请立即停止工作，迅速到通风良好的场所休息；
4. The Institute shall formulate a special chemical accident emergency plan according to the practical situation, organize the laboratory for corresponding drill according to the plan, and properly keep relevant records.
   学校根据实际情况编制化学品事故专项应急预案，并根据预案组织实验室进行针对性演练，做好相关记录。

5.8 Training 培训

1. For the chemical purchasing personnel, the training shall include the Regulations, laws & regulations for chemical management and transportation and classification of hazardous chemicals.
   针对化学品采购人员，培训内容应包括此规程、化学品管理和运输的法律法规、危险化学品的分类等内容；
2. For the chemical operators, the training shall include the chemical management system, chemical (safety) label and MSDS common knowledge, SOP related to chemical operation, hazardous characteristics of specific chemicals, HSE impacts, operation safety requirements, PPE wearing and emergency response measures.
   针对化学品操作人员，培训内容应包括化学品管理制度、化学品（安全）标签和MSDS通用知识、化学品操作相关SOP，以及具体化学品的危险特性、安全健康环境影响、操作安全要求、个人防护用品的配戴以及紧急情况处理措施等内容；
3. For the chemical warehousing staff, the training shall include the Regulations, chemical (safety) label and MSDS common knowledge, SOP related to chemical warehousing, hazardous characteristics of specific chemicals, HSE impacts, storage safety requirements, PPE wearing and emergency response measures.
   针对化学品仓管人员，培训内容应包括此规程、化学品（安全）标签和MSDS 通用知识、化学品仓储相关SOP，以及具体化学品的危险特性、安全健康环境影响、储存安全要求、个人防护用品的配戴以及紧急情况处理措施等内容；
4. Before operation, the above staff shall receive corresponding training, and review the training once a year.
   以上员工和员工在操作前，应接受相应的培训，并每年进行一次回顾培训。

5.9 Document Control Archives Management 文控档案管理

1. The initiator shall apply for and register the newly introduced chemicals, finish the chemical introduction registration process, and send the finished application form to the EHS Department. The EHS Department shall assist in registering the chemical management system and filing the assessment data.
   新引入的化学品申请登记由发起人进行将完成化学品引入登记流程，并将完成的申请表其发至EHS部门，由其协助完成化学品管理系统注册和评估资料存档。
2. Establish hazardous chemical archives, including name, storage, production, place of use, quantity, classification of dangerousness, hazard number, category of packing,

registration number, hazardous chemical safety technical specification and safety label (hereinafter referred to as "One Book One Label");

建立危险化学品档案，内容包括：名称及存放、生产、使用地点；数量、危险性分类、危规号、包装类别、登记号、危险化学品安全技术说明书和安全标签（以下简称"一书一签"）等。

3. Identify and classify the dangerousness of products and all semi-finished products, and record the classification results into the hazardous chemical archives;

对产品、所有中间产品进行危险性鉴别与分类，并将分类结果汇入危险化学品档案；

4. Chemical reagents used in the laboratory shall be classified and put into a list.

实验室使用化学试剂应分类并建立清单。

5. The list and MSDS can be inquired in the MSDS file library under the ISO document management system of the Institute.

清单及MSDS可以在学院ISO文件管理系统下的MSDS文件库中查询。

5.10 Precursor, Explosive and Highly Toxic Chemicals 易制毒、易制爆、剧毒化学品：

1. Before procurement, precursor, explosive and highly toxic chemicals must be put on record in the police.

易制毒、易制爆、剧毒等化学品购买前必须在公安机关备案；

2. The principle of "dual-person dual-lock special-warehouse management" shall be implemented for the storage of precursor, explosive and highly toxic chemicals.

易制毒、易制爆、剧毒等化学品的储存实行双人双锁专库管理；

3. The ingress and egress records on precursor, explosive, highly toxic and other chemicals shall be kept for at least three years.

保留易制毒、易制爆、剧毒等化学品的出入库记录至少三年以上；

4. For relevant requirements on procurement, transportation, storage, and abandonment, please refer to various standard requirements.

相关的购买、运输、储存、废弃等要求,请参考各项规范要求执行。

5.11 Articles Prohibited in the Institute 禁止携带进入学院的物品：

Refer to Attachment 3 for the list of specific articles. All articles prohibited in the list cannot be brought into the Institute. When it is necessary, it must be confirmed and approved by the person in charge of the user department and EHS. Before bringing into

the Institute, it needs to apply for a work permit, and operate in strict accordance with the requirements of the work permit.

具体物品名录见附件3， 名录中所有严禁物品不得带入学院，如有必要，必须经使用部门负责人及EHS确认并批准，且带入前必须申请工作许可证，并严格按许可证的要求进行操作。

6.0. Attachments 附件

Attachment 1: GTIIT_EHS_02_09_A01 Chemical List (Non-chemicals/Finished Products)

附件1：GTIIT_EHS_02_09_A01 化学品(非化学品/成品)清单

Attachment 2: GTIIT_EHS_02_09_A02 Purchase Requisition

附件2：GTIIT_EHS_02_09_A02 采购请购单

Attachment 3: GTIIT_EHS_02_09_A03 List of Articles Prohibited in the Institute

附件3：GTIIT_EHS_02_09_A03 禁止携带进入学院物品清单

Attachment 4: GTIIT_EHS_02_09_A04 Institute Chemical Management List

附件4：GTIIT_EHS_02_09_A04 学校化学品管理清单

Appendix I: Storage Quota of Prohibited Hazardous Chemicals in Common Use

附录一：常用危险化学品储存禁忌物配存表

Category and name of hazardous chemical 危险化学品的种类和名称			Quota serial number 配合顺号																			
Hazardous chemicals 危险化学品	Explosive 爆炸品	Explosive material and chemical (articles with different names cannot be stored in the same warehouse) 炸药及爆炸性药品(不同品名的不得在同一库内配存)	1	1																		
		Other explosives 其他爆炸品	2	X	2																	
	Oxidant 氧化剂	Organic oxidant 有机氧化剂	3	X	X	3																
		Nitrite, chlorite and secondary chlorite [2] 亚硝酸盐、亚氯酸盐、次亚氯酸盐[2]	4	△	△	X	4															
		Other inorganic oxidants [2] 其他无机氧化剂[2]	5	△	△	X	X	5														
	Compressed gas and liquefied gas 压缩气体和液化气体	Highly toxic (liquid chlorine cannot be stored with liquid ammonia in the same warehouse) 剧毒(液氯和液氨不能在一库内配存)	6	X	X	X	X	X	6													
		Combustible 易燃	7	X	△	X	△	△		7												
		Combustion-supporting (oxygen and empty oxygen cylinder cannot be stored with grease in the same warehouse) 助燃(氧及氧空钢瓶不得与油脂在同一库内配存)	8	X	△					△	8											
		Non-combustible 不燃	9	X								9										
	Spontaneous combustible articles 自燃物品	Class I 一级	10	X	X	X	△	△	X	X	X		10									
		Class II 二级	11	X	△				X	△	△			11								
	Articles combustible when contact with water (cannot be stored with water-containing goods in the same warehouse) 遇水燃烧物品(不得与含水液体货物在同一库内配存)		12	X	X	△	△	△	△	△	△		X		12							
	Combustible liquid 易燃液体		13	X	X	X	△	X	X		X		X	△		13						
	Combustible solids (H pore forming agent cannot be stored with acid corrosive substances and toxic & combustible ester hazardous goods) 易燃固体(H发孔剂不可与酸性腐蚀物及有毒和易燃酯类危险货物配存)		14	X	△	X	△	△	X		X		X				14					
	Toxic articles 毒害品	Cyanide 氰化物	15	△														15				
		Other toxic articles 其他毒害品	16	△															16			
	Corrosive articles 腐蚀物品	Acid corrosive articles 酸性腐蚀物品 Bromine 溴	17	X	X	X				△			X	△	△	△		X	△	17		
		Hydrogen peroxide 过氧化氢	18	X	△	△							△	△	X	△		X	△		18	
		Nitric acid, nitroso nitric acid, sulfuric acid, fuming sulphuric acid and chlorosulfonic acid 硝酸、发烟硝酸、硫酸、发烟硫酸、氯磺酸	19	X	X	X	X	1)	X	X	△	△	X	X	△	△	△	X	△	△	△	19
		Other acid corrosive	20	X	△	△	△	△	△	△			△		△			X	△		△	△

			articles 其他酸性腐蚀物品																						
			Quick lime and bleaching powder 生石灰、漂白粉	21	△	△		△	△								△					△	X	△	21	
		Alkaline and other corrosive articles 碱性及其他腐蚀物品	Others (hydrazine anhydrous, hydrazine hydrate and ammonia water cannot be stored with oxidant) 其他(无水肼、水合肼、氨水不得与氧化剂配存)	22												△							X			22
	Quota serial number 配存顺号				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

Note: (1) It indicates the capability of quota-based storage if no quota signal.
注：① 无配存符号表示可以配存。
② △ indicates the capability of quota-based storage. The stacking distance shall be at least 2m.
② △ 表示可以配存，堆放时至少隔离2m。
③ X indicates non-capability of quota-based storage.
③ X 表示不可以配存。
④ If notes are available, it shall be transacted according to relevant provisions.
④ 有注释时按注释规定办理。
1） Except nitrate (such as sodium nitrate, potassium nitrate and ammonium nitrate), nitric acid and nitroso nitric acid, others cannot be stored in quota.
1） 除硝酸盐（如硝酸纳、硝酸钾、硝酸铵等）与硝酸、发烟硝酸可以配存外，其他情况均不得配存。
2） Inorganic oxidant cannot be stored with loose powder combustible materials (such as pulverized coal, coke powder, carbon black, sugar, starch and saw dust).
2） 无机氧化剂不得与松软的粉状可燃物（如煤粉、焦粉、碳黑、糖、淀粉、锯末等）配存。