Shenzhen Environmental Electroplating Company

Environmental Instruction

Handling and Storage of Chemicals

(EI-09)

Revision No. : 1

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(EMR)

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Revision History

Revision Date	Description	Sections Affected	Revised By	Approved By
01-01-2006	First issue	- -	- -	Hung Tao

1.0 Purpose

This environmental instruction outlines the practices to be adopted for purchasing, transporting, using, handling of chemicals in an effective way and also in compliance with legal and other requirements, and in an attempt to achieve waste prevention and optimal use of resource that stated in company's environmental policy.

2.0 Scope

This instruction is applicable to the management of chemicals being used in Shenzhen plant (e.g. degreasing agent, Nickel Sulphate, Zinc Chloride, Cyanide salt, etc.) The issues covered in this technical instruction are categorised into:

- Information and labelling;
- Containers;
- Storage and transportation;
- Handling and Spill Prevention; and
- Inspection and Maintenance

Procedures for management of chemical waste are given in the EI-04 Waste Management.

3.0 Procedure

3.1 MSDS – Material Safety Data Sheet

3.1.1 The Plant Manager, in consultation with relevant departments, is responsible for compiling MSDS that are applicable to the Dangerous Good (DG) used by the plants in Mainland China, based upon the relevant legal and other environmental requirements and the current status of chemical usage.

3.1.2 MSDS shall include the following details:

- name of the chemical
- chemical property or chemical composition
- dangerous goods category
- physical and chemical characteristics
- explosive property
- property of hazard
- remarks about storage and usage
- method of emergency handling
- remarks about waste disposal

3.1.3 A copy of MSDS shall be kept at place where the DG is stored and used in the plants in Mainland China, and implemented accordingly.

3.1.4 When new chemical is introduced to the plants, Administration Department shall be responsible for collecting the relevant MSDS from the supplier and submitting to the EMS Committee. Production Department shall be given a copy which shall be resubmitted to EMS Committee after confirming the chemical's storage location and department which will employ such chemical, so that the MSDS can be updated timely.

3.1.5 Plant Manager shall review the MSDS semi-annually, to avoid any omission.

3.2 Procurement Control

3.2.1 Administration Department shall demand the relevant permit of producing such chemical and keep it for reference.

3.2.2 When a new chemical is proposed to the plant, Plant Manager shall call for a meeting for evaluation and complete in the form of Meeting Minutes of Environmental Assessment, the content of assessment shall include the following :

- chemical property
- explosive property
- property of hazard to health
- remarks about waste disposal,

and report to EMR.

3.2.3 Procurement can only be made after approved by EMR.

3.2.4 Environmental Guidelines to the chemical supplier shall be implemented according to EI-02 Green Procurement.

3.3 Labelling of chemicals

3.3.1 Label shall be placed on the container which stores chemical, and DG label shall be put on the container that keeps the DG.

3.4 Management of Chemical Storage

3.4.1 Production Department shall establish the Environmental Management Overview regarding the chemical storage environment and management in accordance to relevant legal and other environmental requirements as well as the MSDS of the plant.

3.4.2 Production Department shall compile Chemical Stock Monthly Report according to the status of chemical storage and usage by Production Department, the report shall be submitted to EMS Committee for reference.

3.5 On-site Chemical Usage Management

3.5.1 On-site chemical storage and usage shall be carried out according to Instruction of on-site chemical storage and usage (EG-EF09-01).

3.5.2 Departments that employ chemical in the operation shall make use of it in an economical manner, given that the quality of production will not be compromised.

3.5.3 A warehouse personnel is responsible for checking the chemicals stored at area of their control, dispensing chemicals based upon first-in-first-out principle. In addition, the warehouse personnel shall closely monitor the storage quantity according to the expiry date to avoid expired chemical.

3.5.4 Storage and Usage Management of Poisonous Chemical (Potassium Cyanide)

Production Department shall carry out the storage and usage management of poisonous chemical (potassium cyanide) in accordance with relevant laws and regulations and MSDS. Poisonous chemical (potassium cyanide) shall be carefully stored and locked up, clearly labeled and with its usage recorded.

3.6 Handling of Expired Chemical

3.6.1 When handling the expired poisonous chemical (potassium cyanide), Production Department shall appoint personnel to pack it up and label. Administration Department coordinates with specialized contractor for transporting it back to the supplier for handling.

3.6.2 For other expired chemicals, the responsible department shall return it back to Production Department and then Administration Department arranges to send it back to the supplier.

3.7 Response to Emergency

3.7.1 When spillage of large quantity of chemical occurs, it shall be handled in accordance with EP-05 Environmental Emergency Preparedness and Response.

4.0 Monitoring and Checking

4.1 EMS Committee is responsible for monitoring the chemical usage by all departments.

4.2 Production Department shall compile Chemical Monthly Report at the beginning of each month, and analysis shall be made on the chemical usage status. The analysis result is kept and submitted to EMR by the end of each year.

4.3 When establishing the company's objectives and targets at the end of each year, the previous programme activities shall be reviewed and new plan shall be incorporated into the relevant objectives and targets to accomplish the purpose of resource conservation.

5.0 Records

Record Description	Record Location/ Retention Responsibility	Minimum Retention Time
MSDS for all chemicals and DGs (Refer to relevant chemical supplier)	Administration Department / Production Department	3 years
Meeting Minutes of Environmental Assessment (Refer to relevant meeting minutes)	Production Department	3 years
Environmental Management Overview (Refer to the relevant overview record)	Production Department	3 years
Chemical Stock Monthly Report (Refer to the Chemical Report)	Production Department	3 years
Lists of chemicals and DGs, including quantities and locations (Refer to Plant Manager)	Production Department	3 years
Instruction of On-Site Chemical Storage and Usage (EG-EI09-01)	Production Department	3 years

6.0 Appendix

Appendix 1: Instruction of On-site Chemical Storage and Usage (EG-EI09-01)

Chemical storage and usage:

- All chemical containers are chemically resistant.
- Ensure that lids on all chemical containers are tightly closed to prevent spillage and leakage.
- Ensure all chemical containers are well-sealed to avoid vaporisation and leakage.
- Place all chemical containers on drip trays.
- Avoid exposure of chemicals to heat or direct sunlight.
- Segregate acids for chemicals that could generate toxic or flammable gases upon chemical reaction.
- Limit the amount of chemical stored.
- Label all containers that contain hazardous materials and provide hazard warning information appropriate for employee protection.
- Do not eating or drinking at the chemical storage place.
- Keep containers closed when not in use.
- Use chemical containers or buckets as secondary containment when transferring chemicals.
- Wear suitable protective clothing, eye mask and gloves while using chemicals.
- Wash hands thoroughly with soap and water after handling any chemical.
- In case of contact with chemicals, wash the affected parts of body immediately with plenty of water or get medical attention if irritation persists.